



RAILTEL CORPORATION OF INDIA LIMITED (RCIL)

E-TENDER DOCUMENT (OPEN TENDER- TWO PACKET)

For the Signalling work of

“Provision of supply, installation, testing and commissioning in connection with Electronic interlocking for Upgradation & replacement of lever frames with Electronic Interlocking at Four stations viz. Malsian Shahkot, Nakodar , Nurmahal and Bilga in LNK-PHR section of Firozpur Division” on Northern Railway”.

TENDER No. RCIL-Sig-LNK-PHR-OT-1-02

TENDER DOCUMENT

S.No.	INDEX	Page No.
1	TOP SHEET	3-10
2	SCOPE OF WORK	11-14
2	TENDER NOTICE	15-28
4	VOLUME - I: SPECIAL INSTRUCTION TO TENDERERS ANNEXURE- A TO K, U and AA to AD	29-77
5	VOLUME - II: SPECIAL CONDITION OF CONTRACT	78-86
6	BILL OF QUANTITY	87-121
7	VOLUME- III: TECHNICAL SPECIFICATION & INSTALLATION PRACTICES	122-197
8	VOLUME- IV: GENERAL CONDITION OF CONTRACT ANNEXURE- V to VIB and VII to XVI	198-279

TENDER DOCUMENT
RAILTEL CORPORATION OF INDIA LIMITED
(TOP SHEET)

A. Details to be filled in by RCIL:

Mode of Tender	E-Tender (Two Packet)
Tender Notice No.	TENDER No. RCIL-Sig-LNK-PHR-OT-1-02
Full name of work	Provision of supply, installation, testing and commissioning in connection with Electronic interlocking for Upgradation & replacement of lever frames with Electronic Interlocking at Four stations viz. Malsian Shahkot, Nakodar, Nurmahal and Bilga in LNK-PHR section of Ferozpur Division ” on Northern Railway.
Approx. cost	Rs. 19,59,60,822/- (Rupees Nineteen Crore, Fifty Nine lakhs, Sixty Thousand, Eight Hundred Twenty Two only) inclusive of all Taxes.
Type of work	Signaling work only (Not a composite work)
Completion period	09 Months
Bid security (EMD) amount*	Rs. 20,00,000/- (Twenty Lakhs only)
Cost of Tender Document*	NIL
Validity of offer	90 Days from the date of opening
Sale/availability of tender document on IRPES Website	Tender documents will be available on IREPS website i.e. www.ireps.gov.in from 02.08.2022 to 05.09.2022 .
Last date/Time of upload of tenders	05.09.2022 upto 15:00 hours.
Date and time of opening of tender	On dt. 05.09.2022 at 15:30 hours

Note: *Eligible MSEs are exempted from cost of Tender Documents and EMD. No other exemption will be given.

B. Details to be filled in by tenderer while uploading their offer:

1	Constitution of the firm/ Concern (Tick as applicable)	Sole Proprietorship/ Partnership Firm / Company/ Society/LLP/HUF
2	Full name of Sole Proprietorship/ Partnership firm/ Company / Society/LLP/HUF (as the case may be)	
3	Year of formation/ incorporation	
4	PAN NO.	
5	Registered Office Address	
6	Address on which correspondence regarding this tender should be done	
7	Names of the Proprietor/ Partners etc	
8	Contact No and e-mail id of authorized person under whose digital signature key tender document will be signed/uploaded on behalf of the tendering firm	
9	GSTIN	

Note:

- i. Special attention of tenderers is drawn to clause 2.4.1 of “Instruction to tenderers”, tenderer must upload, the documents mentioned therein pertaining to constitution of firm/ concern.
- ii. Special attention of tenderers is drawn to clause 2.3 of “Instruction to tenderers” and Annexure-V of ITT, GCC attached, they should upload the requisite documents pertaining to their technical & financial eligibility.

Signature of the tenderer
Name of signatory

C. Check List of documents to be uploaded by the tenderer(s) while submitting their offer.

Tenderer must upload following documents along with their offer

1	Cost of tender document (NIL in case of E-tender mode)
2	Requisite Bid security (EMD) amount: Rs. 20,00,000/- (Twenty Lakhs only)
3	All requisite documents/credentials mentioned in clause 2.3 of “Instructions to tenderers” pertaining to his/their technical and financial eligibility. (As applicable)
4	All requisite documents mentioned in clause 2.4 of “Instruction to tenderers” pertaining to constitution of firm/concern. (As applicable).
5	Tenderers are compulsorily required to upload certificate as per Annexure – V of ITT, GCC attached as stipulated in 2.2.6 of “Special Tender Conditions and instruction to tenderers” without which the offer will be considered incomplete and will be rejected summarily.
6	Tenderers are required to upload requisite details in prescribed Performa of Annexure - A to D, F & H without which the offer is liable to be rejected.
Note	After opening of tender, any document/credential pertaining to technical, financial eligibility and available Bid Capacity constitution of firm etc. shall neither be asked nor be entertained/considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained. Scanned copy of the documents, uploaded by the tenderer shall be clear & readable. However, RCIL reserves the right to ask for any clarification on the documents/credentials already submitted by the tenderer along with the offer. Tenderer may have to produce the original Documents in physical form at short notice whenever asked by RAILTEL at any stage of tender evaluation process or even after finalization of tender. In E-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hic-cups and delay in uploading the Documents and payment of Bid security (EMD); etc. Tenderer’s/Prospective Tenderers are advised to upload their offer well in time. RAILTEL will not be responsible for any delay/non submission of offer due to any reason whatsoever Annexure K-Mandatory undertaking Regarding Employment/ Partnership of Retired Railways/RCIL Employees.

D. CHECK LIST OF DOCUMENTS ATTACHED WITH THE OFFER

S.No	Document/ Detail	Required in the form	Attached	
			Yes	No
Constitution of Firm documents (as required in terms of Clause 2.4 of the tender document)				
1	In case of Sole Proprietorship Concern	(Undertaking as per Annexure J-1) Undertaking may be given. If not given as per para 14(ii)(a) of GCC attached, If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm/Partnership firm/Joint Venture/Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.		
2	In case of a “Partnership Firm/Concern”	(i)Notary certified copy of the Partnership Deed.		
		(ii) Document(s) in support of Registration of firm with Registrar/Sub-Registrar of firms which includes Certificate of registration and Register of firm (Form No. may vary from State to State) (as applicable) etc. issued by Registrar of firms.		
		(iii) Notarised/Registered Power of Attorney/in favour of the individual signing the tender document authorized by all the partners to act on behalf of the firm and create liability against the Firm. (Standard Performa as per Annexure J-2 is enclosed for guidance)		
		(iv)An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by RCIL/Railway or any other Ministry / Department of the Govt. of India from participation in tenders/ contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.		

		Note: Authorisation given in POA only will be considered irrespective of any authorization that may have given in Partnership Deed. In case of non- submission of POA or invalid POA, offer is liable to be rejected.		
3	In case of a “Company”	(i) Copies of the AOA / MOA (Article of Association / Memorandum of Association) of the Company (ii) A copy of certificate of incorporation. (iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company (Standard Performa as per Annexure J-3, 4). (iv) An Undertaking that the company is not black listed or debarred by RCIL/Railway or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the company was/is a partner/member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.		
4	In case of a Registered Society & Registered Trust	(i) copy of the certificate of registration; (ii) copy of Deed of formation; and (iii) Notarised copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust.		
5	In case of LLP	(i) A copy of LLP Agreement, (ii) A copy of Certificate of Incorporation; and (iii) A copy of Power of Attorney/Authorization issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP (Standard proforma as per Annexure J-5 & J-6).		

		(iv) An Undertaking that the LLP is not black listed or debarred by RCIL/Railway or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of JV in which the LLP was/is a member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.		
6	In case of HUF	(i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF (Standard proforma as per Annexure J-7). (ii) An undertaking that the HUF is not blacklisted or debarred by RCIL / Railway/ or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which HUF was/ is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.		

Other important documents				
7	Offer Letter	Tender Form as per Annexure-I of ITT, GCC attached		
8	Technical Eligibility Criteria:-	Completion/Performance Certificate in support of 30%/40%/60% (as the case may be) for similar nature of work as per clause 2.3.2.A(v) of tender document.		
9	Financial Eligibility Criteria:-	Contractual payment received as per Annexure-VIB of ITT, GCC attached and as per clause 2.3.2.B of Tender Document.		
10	Annexure-A	Declaration form regarding site etc.		
11	Annexure-B	Declaration regarding constitution of firm		
12	Annexure-C	Plant and Machinery		
13	Annexure-D	Engineers/Personnel		
14	Annexure-E	Not Required		
15	Annexure-F	Bank Detail/RTGS mandate form		
16	Annexure-H	Performa of Completion Certificate		
17	Annexure -K	Mandatory undertaking Regarding Employment/ Partnership of Retired RCIL/Railway Employees		
18	Annexure – G-2 & G-3	If tender submitted on behalf of Partnership Firm, Relevant Annexures G-2 and G-3 as Declaration to be submitted by the tenderer alongwith tender document.		
Document to be submitted as per ITT of GCC Attached				
19	Annexure-V	Annexure to be submitted as per clause 6.1 of ITT, GCC attached Certificate to be submitted by tenderer along with the Tender Document		
20	Annexure-VIB	Annexure to be submitted as per clause 10.2 of ITT, GCC attached		

E. PRECAUTIONS TO BE TAKEN FOR PREPARING LEGAL DOCUMENTS (For guidance to Tenderer):

1. Non -Judicial stamp paper

- (i) Should have been purchased in the name of the Company/firm/executants
- (ii) Should be purchased from the Place/State where the document is being executed.
- (iii) Values of the non-judicial stamp paper (NJSP) should be as mentioned in Tender conditions, where value of NJSP is not mentioned in the tender conditions, value of NJSP should as per the law of the state in which the document is being executed.
- (iv) Date of purchase of Non-Judicial stamp paper should be prior from the date of execution of

document.

2. Signature on the document

- (i) The document should be signed/ digitally signed on each page and also at the appropriate place meant for signature of executants/deponent.
- (ii) Signatory/executants should ensure that on the date of signing the document he/she has valid authority/attorney in his/ her favour for signing.
- (iii) In affidavit declaration clause as well as verification clause both should be signed by deponent/ executants.
- (iv) Where the document requires witnessing, it should be duly signed by witnesses alongwith their names and addresses.
- (v) On Power of Attorney, signatures of the Attorney holder should also be got done and attested by executants.

3. Format of the document

- (i) Where the format has been prescribed by the RAILTEL, the document should be executed in that format.
- (ii) Date and place of execution should be mentioned on the document.

4. Notarization of document

- (i) The document should be duly attested (signed and stamped) by notary public on each page.
- (ii) The seal of the notary public should contain his name, area of practice and Registration number.
- (iii) Notarial stamps of appropriate value wherever required should be affixed on the document

Brief Scope of Work

1. SCOPE OF WORK FOR THE TENDERER:

The scope of work involves following activities :

- 1.1 Indoor Electronic Interlocking Equipments and accessories for EI (each station) at four (04) stations (i.e Malsian Shahkot, Nakodar ,Nurmahal and Bilga) consist of:**
- i. Design, Manufacture and Supply of Electronic Interlocking equipment complete **with hot standby architecture** as per RDSO specification no. RDSO/SPN/192/2019, ver.2 or latest and RDSO issued OEM specifics TANs. Dual VDU as per specifications. Execution of work should be carried as per TAN no.
 - a) **STS/E/TAN/3012, Ver.3.0, Dt. 28.6.2021** (Guidelines for TSSA of EI),
 - b) The minimum requirement for embedded PC for Maintenance terminal should be as per Para. 5.3.2 of RDSO specification no. RDSO/SPN/192/2019 with latest amendments. (Embedded PC for EI)
 - c) **STS/E/TAN/3006, Ver.1.0, Dt. 2.11.2012** (Earthing & Bonding Scheme of EI) &
 - d) **STS/E/TAN/3008, Ver.1.0, Dt. 31.03.2013** (Centralized Architecture of EI).
 - ii. Complete interface equipment between EI & outdoor gears and EI & Dual VDU and Maintenance Terminal (MT).
 - iii. Supply of all type of interfacing Relays (including QBCA Relays for interface of points) including spares as per RDSO specification.
 - iv. Power Supply equipment's as per schedule suitable for EI system supplied.
 - v. Maintenance terminal including internal Data logger as per RDSO specification no. RDSO/SPN/192/2019 with latest amendments.
 - vi. External Data logger as per RDSO specification no. **IRS:S 99/2006** Amdt. 3 or latest one each in EI room along with necessary modems for connectivity to Diagnostic EI room in central cabin.
 - vii. Control Terminal, VDU display & VDU table: Dual VDU for dual operating console comprising of
 - (i)Control Terminal (CPU) industrial grade with all accessories. The minimum requirement for embedded PC should be as per Para. 5.3.2 of RDSO specification no. RDSO/SPN/192/2019 with latest amendments.
 - (ii)VDU display- It consists of 1 no. Monitor of 55 inch size (4K, LED type). For dual VDU, two such monitors are to be provided as VDU display. Monitor shall be of good brands make. These are to be supplied along with keyboard & mouse. All the above items should be suitable for 24X7 application.
 - (iii)VDU Table of suitable size to accommodate the Dual VDU system i.e. Control Terminal, Monitors, Inverter & power supply, communication arrangements along with VDU change over arrangement, SM key box, Counter, Block Instrument/Block Panel and control phones, Dual SSDAC/HASSDAC reset boxes etc as per tentative drg no. RCIL/VDU TABLE/1/22.
 - viii. Maintenance Terminal (MT) along with furniture: The minimum requirement for embedded PC for Maintenance terminal should be as per Para. 5.3.2 of RDSO specification no. RDSO/SPN/192/2019 with latest amendments. The monitor of MT of 42 inch size (4K, LED type) suitable for 24X7 operation along with all accessories for fixing/stand, power supply and A-4 size laser printer etc. The key board & mouse to be supplied for 24X7 operation suitable. The furniture should be of suitable size to accommodate the MT system i.e. Maintenance Terminal, Monitor, On line UPS inverter & power supply, communication arrangement etc.
 - ix. Data logger with accessories and its networking: External data logger with EI equipments including protocol converters and its OFC based networking with other data loggers so as to access the complete station data at central EI building. The data logger shall be provided with Failure Analysis System. The Failure Analysis System consists of PC with INTEL Core i7(11th Gen), 8GB or more RAM, cache 8MB, level 2, 500 GB HDD or SSD or better for data input. It also include supply of 42" LED FULL HD monitor, A-4 size Laser printer, online UPS 1KVA with 30 min backup, computer table and chair. The

data logger failure analyzer should be compatible for configuration the system in case of any alteration in the yard interlocking in future.

- x. Inter connecting cables between equipment's to equipment's and equipment to racks.
- xi. Establishing route diversified OFC based communication with 100% standby between EI central cabin and I/O gatherers or Object Controllers in 1 no. EI huts only OFC shall be supplied by RCIL.(Applicable in case of Distributed EIs)
- xii. Provision of Lightning & Surge Protection device suitable for EI installation at all EI buildings (Central EI building EI huts).
- xiii. Provision of earthing and bonding system for EI equipments as per RDSO specifications **RDSO/SPN/197 Version 1.0 or latest** and RDSO TAN no. **STS/E/TAN/3012 Version 3.0 dt. Dt. 28.6.2021** and **STS/E/TAN/3007 dt. 2.11.2012.** for EI installation at all EI buildings (Centralised EI).
- xiv. Measuring instruments required for installation, testing & commissioning (General and EI specific, both) along with tool kit as per tender schedule.
- xv. The scope of work also includes Installation, testing and commissioning of system completely. The installation of the equipment including software loading and required data input etc. will be done by the contractor in the RCIL/Railway premises. Testing and commissioning of EI system will be done by the contractor jointly with RCIL/ Railway Engineer. This includes FAT, SAT and other testing. The Contractor shall depute competent Engineer from **OEM** and qualified staff for the same.
- xvi. Counter box having non resettable counters is to be provided.
- xvii. Tenderer should note that the interface equipment/device to the field signalling gears and VDU to be supplied should be complete and compatible with the signalling equipment, in use for Relay Interlocking on Northern Railway. The contractor shall ensure that the interface equipments match with the outdoor signaling equipment provided, be it through provision of any additional equipment required and/or any work required to be done.
- xviii. Supply of material as mentioned in tender schedule. Any other material / equipment / accessories required for installation & commissioning of the complete EI system to function efficiently.

1.2 Outdoor Signaling work for EI at stations:

- i. Trenching and laying of cables in station area and in block section along the track with bricks and involving track crossing & road crossing, as per standard practices & drawings.
- ii. Laying & fixing of perforated GI pipes, HDPE pipes with provision of concrete cable markers etc.
- iii. Termination of Signaling cable on CT rack to connect outdoor functions either directly or through location boxes to the EI in Centralised EI huts/Central EI panel building.
- iv. Making RCC foundations for signals, apparatus cases, wiring of Signals & necessary wiring in apparatus cases, Point machines, etc.
- v. Supply of the material as mentioned in the tender schedule.
- vi. Supply and installation of Electric Lifting Barrier gates along with installation of Sliding Barrier Gates.
- vii. Installation and wiring of track circuits including Relay wiring.
- viii. Erection, preparation and wiring of location boxes.
- ix. Installation and testing of Point machines.
 - x. Installation/erection, wiring of color light signals, shunt signals, route indicators etc.
 - xi. Wiring and cut in Relays for signal lighting circuits including Relay wiring.
 - xii. Testing of all indoor and outdoor gears and selection table test with operating/indication panel/signal simulation boards and other associated activities, as per SIP of station/s. including block working with adjacent stns.
- xiii. Dismantling and Releasing of the old signals posts which include dismantling of signal fittings electrical and mechanical both. Dismantling and Releasing of point gears complete with fittings. Dismantling of signalling material from old panel room

& Relay room, equipment & battery room and depositing the dismantled material in the store of **Dy. CMM/Shakurbasti, the Store Depot of Northern Railway**, or any other store of Northern Railway as per site engineer by the contractor at his own expenses.

- xiv. Any additional requirement for repeater Relays to suit 25KVA traction /RE system.

(The scope is not exhaustive. For full details, please refer to the schedule)

Note: The contractor shall submit along with his tender document a PDC of tentative activities chart/ PERT chart, to how the tendered work will be executed by him in the given DOC.

- 1.3** For EI work, any alteration in the Interlocking Plan may be required during the course of execution of this work shall be carried out by the Contractor expeditiously without any extra cost wherever additional equipment is not required. In case of any increase in the quantity of cards/modules/Relays/equipment due to alterations in the SIP, **the payment shall not be made extra** by RCIL for such items, however, the contractor shall submit full justification as to how the quantity of such items has increased consequent to change in SIP. It may please be noted that no additional payment shall be made for changes in the circuit design.

1.4 DOCUMENTATION for EI work:

- a) The contractor shall undertake to supply all necessary documents as per RCIL/Railway requirement as per technical specification No. – RDSO/SPN/192 of 2019, Ver. 2.0 with latest amendment for EI Equipment/logic to be supplied. The documents Relating to field gears shall be supplied as per schedule of works.
- b) Only Tentative approved Signaling Interlocking Plan(SIP) will be issued by Railway. VDU Layout, Selection table and Circuit diagram and other standard diagrams as per Northern Railway practice and other connected indoor & outdoor work details shall be prepared by contractor and submitted to RCIL/Railway for approval.
- c) Six Sets of complete documents as laid down in the Technical Specifications of Electronic Interlocking System (EI) as per Para 10.2 of technical specification no. RDSO/SPN/192/2019, Ver.2.0 with latest amendment along with completion Documents shall be supplied by the contractor along with drawings as per schedule **item no. 103** of schedule. along with a soft copy of the same on suitable storage device.
- d) Six sets of documents containing system / equipment details, site installation details/drawings, maintenance manual operation procedure etc. in bound book for the station of tender schedule.

This shall also include:

- i. Wiring Diagrams.
- ii. Selection table.
- iii. VDU Layout.
- iv. Application Program Listing
- v. Relay/Cable Termination particulars
- vi. Input / output assignment details
- vii. Relay layout and contact analysis chart
- viii. Equipment disposition layout
- ix. Any other drawing as required by the RCIL/ Railway as per practice.

The original tracings are to be prepared by the contractor on reproduction film and required prints are to be taken. After execution of the work SIX (6) sets of all such plans per station shall be prepared by the Contractor and given duly bound as per Para above. The drawings shall comply to technical specification of drawing as per **Appendix-3 of Volume –III** of tender document. Diagrams including tracings will be handed over to RCIL/Railway. One set of Drawings in soft copy on Auto CAD format has to be given on a suitable storage format.

1.5 TRAINING for EI work

- a) The contractor shall provide adequate training at the manufacturer's premises or site of work to RCIL/Railway personnel in planning, design, installation, operation and maintenance of the equipment and EI system supplied under the contract. Training should be given by competent authorised Engineer of OEM.
- b) The contractor shall undertake to train RCIL/Railway personnel nominated by RCIL/ Railway in different aspects of equipment design, functioning, field installation, testing, commissioning, operation, maintenance and repair, covering both hardware and software as Relevant.
- c) The training should be comprehensive so as to impart full knowledge to Railway/RCIL personnel deputed for the training to independently execute the installation, operation, maintenance and repair of all equipment. The training course should, apart from formal classroom training, include hands on practical experience and visits to working installation of the Electronic System offered in Present Tender Case. The contractor shall make all necessary arrangement for the same. The place of training shall be at the manufacturer's premises in India as applicable or work site. Contract shall be closed only after imparting training to RCIL/ Railway Personnel.
- d) The contractor shall at every stage of testing and commissioning provide all facilities for adequate training to RCIL/Railway personnel who may be deputed to work on the project.
- e) The contractor shall impart training as per schedule of work. However, the cost of all travel other than to and fro fare to the nearest place of training, to the place of training, boarding and lodging of the trainees shall be borne by the Contractor.

1.6 IPS system will be supplied, installed, wired and commissioned by contractor for indoor (other than EI system) & outdoor signaling works. 110V, DC supply from IPS shall be provided for powering the EI equipment by contractor. The Contractor shall design, supply as part of item no.1 of schedule, install and commission the power supply so as to cater for EI indoor load as per Drg No. RCIL/IPS/4-Line/RE/2/22.

1.7 The tenderer shall undertake study / survey of signalling systems / practices used in Northern Railway and make his own arrangement of the interlocking work involved in integration of the indoor equipment with outdoor equipment so as to make the entire system successful / functional. Any equipment / design / component needed will be supplied by the contractor without any extra cost.

1.8 EI SPARES: The following materials will be considered as essential spares

- a) All Units including PM, I/O cards which may include, circuit packs / boards, modules, terminals, power supply, ancillary equipment, interconnecting couplers / connectors/ cables of each type, which may be lowest level of field replaceable module / assembly/device - **10% of the quantities used in the equipment subject to a minimum of one.** For any other essential spare / module / assembly / device needed, but not included by the contractor, the supply of the same will be made by the contractor, at his cost to the RCIL.
- b) The contractor shall include in his tender the details of essential spares, their quantity and unit prices as per Schedule of works. The total cost of essential spares based on the unit prices quoted by the contractor shall be included in the tender evaluation.
- c) Supply of EI spare shall be under taken after commissioning of EI system.

1.9 The Work of Block instruments and HASSDAC should also be commissioned with Commissioning of EI at 4 Stations. Adjacent station work should also be carried out by the contractor.

RailTel Corporation of India Limited**E- T E N D E R N O T I C E****TENDER No.** RCIL-Sig-LNK-PHR-OT-1-02**DATE:** 02.08.2022

GGM/Signal/ RCIL/IT park/ Shastri Park/ Delhi, (a Public Sector Enterprise under Ministry of Railway) invites open e-tender under Two Packet System on the prescribed form for the following work:

1	Name of work	“Provision of supply, installation, testing and commissioning in connection with Electronic interlocking for Upgradation & replacement of lever frames with Electronic Interlocking at Four stations viz. Malsian Shahkot, Nakodar ,Nurmahal and Bilga in LNK-PHR section of Firozpur Division on Northern Railway.”
2	Approximate cost of the work	Rs. 19,59,60,822/- (Rupees Nineteen Crore, Fifty Nine lakhs, Sixty Thousand, Eight Hundred Twenty Two only) inclusive of all Taxes.
3	Bid security (EMD)	Rs. 20,00,000/- (Twenty Lakhs only)
4	Similar Nature of Work	Any Relay Interlocking or Electronic Interlocking or Automatic Block Signalling or Intermediate Block Signalling/Intermediate Block Hut work involving indoor & outdoor work (Cable laying & 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 30/40/60% (as the case may be) criterion of similar nature of work. Note: 2- a).Submission of ‘Undertaking by the tenderer’ 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.

5	Completion Period	09(nine) months from the date of issue of Letter of Acceptance.
6	Validity of offer	90 days from the date of opening of tender.
7	Website where tender bid can be submitted	Bids are to be submitted online only. Tenderer/s must register on Indian Railway E-Procurement System (IREPS) site i.e. www.ireps.gov.in for participating in e-tender system. Necessary changes, Corrigendum/Addendum if required, would be posted on this site only. Tenderers will be able to submit their original/revised bids up to closing date & time only. Manual bids/offers are not allowed against this tender. Any manual offer received shall be ignored.
8	Cost of the Tender Document	NIL
NOTE: In case the intended date for opening of tenders is declared a holiday, the tenders will be opened on the next working day at the same time.		
1. Qualifying Criteria: The tenderer should meet minimum eligibility criteria as given below: (i) Technical Eligibility Criteria: The tenderer must have successfully completed any of the following (by any Government organizations) 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. Note for Technical Eligibility Criteria: Work experience certificate from private individual shall not be considered. However, in addition to work experience certificates issued by any Govt. Organization, 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 opening 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 detail s 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.		
(ii) Financial Eligibility Criteria: As a proof of sufficient financial capacity and organizational resources, the tenderer(s) should have received the total payments against satisfactory execution of all completed/ongoing works of all types (not confined to only similar works) during the last three financial years and in the		

current financial year {up to the date of inviting of the tender} of a value not less than as indicated below.

The tenderer must have minimum average annual contractual turnover of 1.5 V/N crores; 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.

The tenderers shall submit requisite information as per Annexure-VIB, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.

Note:

- (i) The latest Audited Balance Sheet for contractual payments received should be submitted along with the tender failing which payment received shall not be considered.
- (ii) In case the figure of contractual payment is not directly available in Audited Balance Sheet, the CA should obtain this figure from the Audited Account based on which the Balance Sheet has been prepared.

1.1 Definition of Similar Nature of Work:

Definition of Single similar work

Any Relay Interlocking or Electronic Interlocking or Automatic Block Signalling or Intermediate Block Signalling/Intermediate Block Hut work involving indoor & outdoor work (Cable laying & 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 30/40/60% (as the case may be) criterion of similar nature of work.

Note: 2- a).Submission of ‘Undertaking by the tenderer’ 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

Validity of Offer: 90(Ninety) days from the date of opening.

2. Submission of Tender Documents & Opening-

The tenders may be uploaded up to 05.09.2022 along with scanned copy of all the requisite document (as per Annexure 1& 2).

Technical cum Commercial will be opened on 05.09.2022.

Tenderer may have to produce the original Documents at short notice whenever asked by RAILTEL at any stage of tender evaluation process or even after finalization of tender.

In E-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hiccups and delay in uploading the Bid security (EMD) and Documents etc. Tenderer's / Prospective Tenderers are advised to upload their offer well in time. RAILTEL will not be responsible for any delay/non submission of offer due to any reason whatsoever.

Note

1. Special attention is invited for the tenderers:

Tender will be summarily rejected in case of non-submission of Annexure – K and Annexure-V of ITT, GCC attached.

2.1 Instructions regarding GST

Works contracts shall be treated as supply of services as per schedule-II GST Act. GST Act and Rules issued from time to time by the Government/ concerned authorities shall be applicable.

The successful Contractor/ suppliers/ service providers/ parties immediately after the award of tender shall register their firms under GSTIN (GST Identification Number) and submit immediately after the award of contract, without which no payment shall be Released to the Contractor. The Contractor shall be responsible for deposition of applicable GST to the concerned authority.

3.0 In case tender value more than Rs.10 crore (Two packet)

Two Packet System

- (a) Technical Bids (online) containing Earnest Money along with documents to be submitted online and Authority to sign and other specified 'on line document's of all the Tenderers will be opened first and checked. If any of the document(s) so furnished are not as per tender stipulations PACKET B (Financial Bid) will not be opened and the bid is treated as rejected.
- (b) The Employer will scrutinize the Technical Bids accepted for evaluation to determine whether each Tenderer
 - (i) has submitted 'Authority to sign' above duly signed and witnessed .
 - (ii) meets the Qualification Criteria stipulated in EQC and
 - (iii) Conforms to all terms, conditions and specifications of the Tender Document without any modifications or conditions.
- (c) If required, the Employer may ask any such Tenderer for clarifications on his Technical Bid. The request for clarification and the response from the Tenderer will be in writing. If a Tenderer does not submit the clarification/document requested, by the date and time set in the Employer's request for clarification, the bid of such Tenderer is likely to be rejected. Tenderers whose Technical Bids are not found acceptable will be advised of the same and their Earnest Money and PACKET B (FINANCIAL BID) will remain unopened. Tenderers whose Technical Bids are found acceptable will be advised accordingly and will also be intimated in writing of the time and date and place where and when the PACKET B (Financial Bid) will be opened.
- (d) At the appointed place, time and date, in the presence of the Tenderers or their representatives who choose to be present, the Employer will open the FINANCIAL BID on IREPS portal.

NOTE:

- 1. The Tenderers who desires to participate against e-tenders, are advised to electronically register themselves on website www.ireps.gov.in for which they would require to obtain Class III digital certificate (if already not obtained) issued by CCA under IT Act-2000.
- 2. All other terms and conditions in respect of above tender are given in the tender document.

3. Only e-tenders will be accepted and tenders submitted in any other form will be summarily rejected.
4. After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF etc. shall be neither asked nor considered, if submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in RAILTEL's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted.

Scanned copy of the Documents to be uploaded along with offer

SNo	Subject/Context	Required Documents/Form	Action if required documents not submitted along with the tender
1.	Constitution of Firm documents (as required in terms of Clause 2.4 of the tender document) As per Clause 2.4.1.1 of Instruction to the tenderer,		
A	In case of Sole Proprietorship Concern	Undertaking as per Annexure J-1) Undertaking may be given. If not given As per para 14(ii)(a) of GCC attached, If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm/ Partnership firm /Joint Venture/ Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.	After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF etc. shall be neither asked nor considered, if submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in RAILTEL record/office files etc. or in RAILTEL/Railway will be taken for consideration of the tender, if no such mention is available in tender offer submitted. Note: If all the requisite documents pertaining to the constitution of the firm/sole proprietorship/partnership firm/company/Society/LLP/HUF etc., as specified in clause 2.4.1 above, are not submitted, offer will be considered as incomplete and shall be summarily rejected.
B	In case of a “Partnership Firm/Concern”	(i) Notary certified copy of the Partnership Deed. (ii) Document(s) in support of Registration of firm with Registrar of firms which includes Certificate of registration and Register of firm (Form No. may vary from State to State)(as applicable) etc. issued by Registrar of firms.	

	(iii)Notarised / Registered Power of Attorney in favour of the individual signing the tender document authorized by all the partners to action behalf of the firm and create liability against the Firm. (Standard Performa as per Annexure J-2 is enclosed for guidance)	
	(iv)An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by RAILTEL/Railway or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.	
	Note: Authorisation given in POA only will be considered irrespective of any authorization that may have given in Partnership Deed. In case of non-submission of POA or invalid POA, offer is liable to be rejected.	

(C)	In case of a “Company”	(i) Copies of the AOA / MOA (Article of Association/ Memorandum of Association) of the Company	
		(ii) A copy of certificate of incorporation.	
		(iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company (Standard Performa as per Annexure J-3, 4).	
		(iv) An Undertaking that the company is not black listed or debarred by RAILTEL/Railways or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the company was/is a partner/member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.	
(D)	In case of a Registered Society & Registered Trust	(i) copy of the certificate of registration;	
		(ii) copy of Deed of formation; and	
		(iii) Notorized copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust	
(E)	In case of LLP	(i) A copy of LLP Agreement,	
		(ii) A copy of Certificate of Incorporation; and	

		(iii) A copy of Power of Attorney/Authorization issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP (Standard proforma as per Annexure J-5 & J-6).	
		(iv) An Undertaking that the LLP is not black listed or debarred by RAILTEL/Railways or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of JV in which the LLP was/is a member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.	
(F)	In case of HUF	(i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF. (Standard proforma as per Annexure J-7). (ii) An undertaking that the HUF is not blacklisted or debarred by RAILTEL/RCIL/Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which HUF was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.	

COVERING NOTE

Annexure-2

Scanned copy of Document required to be uploaded along with the offer

SN	Detail of documents	Summarily/Liable to be rejected
1.	Tender Form as per Annexure-I of ITT, GCC attached	Summarily Rejected
2.	Technical Eligibility Criteria:- Completion/Performance Certificate in support of 30%/40%/60% similar nature of work as per clause 2.3.2.A(v) of tender document.	Summarily to be Rejected Note: As per Note(i) of para 7 of Check List and in para 1 of Covering note
3.	Financial Eligibility Criteria:- Contractual payment received as per Annexure- VIB and as per clause 2.3.2 (B) (i) of Tender Document.	“After opening of the tender, any document/credential pertaining to the technical & financial eligibility and available bid capacity, constitution of firm etc. shall neither be asked nor be entertained/considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained”
4.	Annexure-A (Declaration form regarding site etc.)	Liable to be rejected
5.	Annexure-B(Declaration regarding constitution of firm)	Liable to be rejected
6.	Annexure-C (Plant and Machinery)	Liable to be rejected
7.	Annexure-D (Engineers/Personnel)	Liable to be rejected
8.	Annexure-E(Work executed in last seven years)	Not Applicable
9.	Annexure-F (Bank Detail/RTGS)	Liable to be rejected
10.	Annexure-H(Performa of Completion Certificate)	Liable to be rejected
11.	Annexure-K Mandatory undertaking /Certificate Regarding Employment/ Partnership of Retired RAILTEL/Railway Employees.	Summarily Rejected
12.	Annexure – G-2 & G-3	Liable to be rejected If tender submitted on behalf of Partnership Firm, Relevant Annexures G-2 and G-3 as Declaration to be submitted by the tenderer along with tender document.
13.	Annexure-U (Integrity Pact) Mandatory	Summarily Rejected.
Document to be uploaded as per ITT of GCC Attached		
13.	Annexure-V as per clause 6.1 of ITT, GCC Attached certificate to be submitted by tenderer along with the tender documents	Summarily Rejected
14.	Annexure-VIB as per clause 10.2 of Annexure-I of ITT, GCC Attached	Summarily Rejected

FOR THE SPECIAL ATTENTION OF THE TENDERERS

1. **The tenderers are requested to carefully peruse the Tender Documents, and upload all requisite documents/credentials along with the offer. Scanned copy of the documents, uploaded by the tenderer shall be clear & readable. Documents submitted/uploaded previously or along with another tender currently under consideration SHALL NOT be considered while evaluating the present tender.**
2. The tenderer(s) shall visit the site of work and acquaint himself/themselves with the conditions of work viz. approach roads and accessibility, nature of soil/rock, availability of materials, electric power, water for work and drinking purposes, site for labour camps, stores, godowns, extent of lead/lift in work, availability of skilled and unskilled labour etc. that may be encountered in the course of execution of work. In short, he/they should familiarize himself/themselves fully with the conditions of the site and FURNISH A CERTIFICATE TO THIS EFFECT, in the Proforma appended as Annexure-A.
3. Tenderer(s) to please note that after opening of tender, any document/credential pertaining to technical & financial eligibility, constitution of firm etc. shall neither be asked nor be entertained/ considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained. Scanned copy of the documents, uploaded by the tenderer shall be clear & readable. However, RCIL reserves the right to seek any clarification on the documents/credentials already submitted by the tenderer along with the offer.
4. Tenderer may have to produce the original Documents in physical form at short notice whenever asked by RCIL at any stage of tender evaluation process or even after finalization of tender.
5. In E-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hic-cups and delay in uploading the Documents and payment of Bid security (EMD) (EMD) etc. Tenderer's/Prospective Tenderers are advised to upload their offer well in time. RCIL will not be responsible for any delay/non submission of offer due to any reason whatsoever.
6. Each page of the tender papers will be treated as signed/ accepted by the tenderer(s) or such person(s) on his/their behalf who is/are legally authorized to sign for him/them.
7. The tenderer(s) may note that the RCIL reserves its right to either accept or reject any Bid/s without assigning any reasons whatsoever and tenderer(s) shall have no claim(s) on this account.
8. Public Procurement (Preference to Make in India):- The tenderer shall comply with Public Procurement Policy order 2017 or latest amendment – details of which is elaborated in Clause No. 2.3.4 of “Special Tender Conditions and Instruction to tenderer(s)”

9. Prospective tenderer(s) may contact RailTel Corporation of India Limited, Registered office, 6th floor, 3rd Block, Delhi Technology park, Shastri park, Delhi-110053 for obtaining further clarifications, if required **during working hours**.

OFFER LETTER

Tender No. RCIL-Sig-LNK-PHR-OT-1-02

Name of Work “Provision of supply, installation, testing and commissioning in connection with Electronic interlocking for Upgradation & replacement of lever frames with Electronic Interlocking at Four stations viz. Malsian Shahkot, Nakodar ,Nurmahal and Bilga in LNK-PHR section of Firozpur Division” on Northern Railway”.

To
Group General Manager,
RailTel Corporation of India Limited,
Shastri Park
New Delhi-110053

1. I/We _____ have read the various conditions to tender attached hereto and agree to abide by the said conditions. I/We also agree to keep this offer open for acceptance for a period of _____ days from the date fixed for closing of the tender and in default thereof, I/We will be liable for forfeiture of my/our “Bid security (EMD) (EMD)”. I/We offer to do the work for Railway/RCIL, at the rates quoted in the attached bill(s) of quantities and hereby bind myself/ourselves to complete the work in all respects within _____ months from the date of issue of letter of acceptance of the tender.
2. I/We also hereby agree to abide by the General Conditions of Contract, with all correction slips up-to-date (attached) and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by RCIL in the annexed Special Conditions/Specifications, Standard Schedule of Rates (SSOR) with all correction slips up-to-date for the present contract.
3. A Bid security (EMD) of ₹ _____ has already been deposited online/ submitted as Bank Guarantee bond. Full value of the Bid security (EMD) shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:
 - (a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;
 - (b) I/We do not execute the contract documents within seven days after receipt of notice issued by the RCIL that such documents are ready; and
 - (c) I/We do not commence the work within fifteen days after receipt of orders to that effect.
4. (a) I/We am/are a Startup firm registered by Department of Industrial Policy and Promotion (DIPP) and my registration number is valid upto (Copy enclosed) and hence exempted from submission of Bid security (EMD).
5. We are a Labour Cooperative Society and our Registration No. is with and hence required to deposit only 50% of Bid security (EMD).

6. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Witnesses:-

Signature of the Tenderer(s)

Date:

1.

Address of the Tenderer(s)

2. -----

(Complete postal address)

VOLUME – I

SPECIAL INSTRUCTIONS TO TENDERER/S

INSTRUCTION TO TENDERER(S)

1.0	DETAILS OF WORKS: “Provision of supply, installation, testing and commissioning in connection with Electronic interlocking for Upgradation & replacement of lever frames with Electronic Interlocking at Four stations viz. Malsian Shahkot, Nakodar, Nurmahal and Bilga in LNK-PHR section of Ferozpur Division” on Northern Railway”.
2.0	TENDER DOCUMENTS: The following document will form parts of tender /document having • Top sheet, • Tender Notice, • Addendum/Corrigendum, if any, • Covering Note • Tender form (First sheet) • Instructions to tenderer/s along with Related Annexures, • Special Conditions of Contract (SCC) • Bill of Quantities. • General Conditions of Contract (GCC) • This Bid shall contain all the documents as listed Annexure-1 & Annexure-2 of Tender Notice. • Tenderers are requested to ensure that all such documents and Annexures duly filled in are uploaded, complete in all respects failing which his/their offer is likely to be rejected/summarily rejected, as applicable. NOTE • Instruction to Tenderers, General Conditions of Contract and Technical Specifications attached shall be followed for this Tender • All general and detailed drawings pertaining to this work which will be issued by the Engineer or his representatives (from time to time) with all changes and modifications.

2.1	SUBMISSION OF TENDERS:
2.1.1	The offer is to be uploaded online upto 05.09.2022 by 1500 hrs along with scanned copy of all the requisite document (as per Annexure 1 & 2 of tender notice). Tenderer may have to submit the original Documents in physical form at short notice whenever asked by RCIL at any stage of tender evaluation process or even after finalization of tender. In E-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hic-cups and delay in uploading the Documents and submission of Bid security (EMD), as applicable etc. Tenderer's/Prospective Tenderers are advised to upload their offer well in time. RCIL will not be responsible for any delay/non submission of offer due to any reason whatsoever.
2.1.2	Cost of Tender Documents- NIL
2.1.3	In case the intended date for opening of tenders is declared a holiday, the tenders will be opened on the next working day at the same time
2.2	COMPLETION OF TENDER DOCUMENTS :
2.2.1	Only one single % above/below/at par on the total advertised value shall be filled by the Tenderer(s) through online mode (IREPS portal). Every possible fluctuation, in the rate of labour, material and general commodities, and other possibilities of each and every kind which may affect the rates, should be considered and kept in view before quoting the rates and no claim on this account shall be entertained by the RCIL under any circumstances except the price escalation payable as per price variation clause, if any, provided separately in the tender documents."
2.2.2	The quantities shown in the attached Bill of Quantities are given as tentative and are approximate only and are subject to variation according to the needs of the RCIL. The RCIL does not guarantee work under each item of the BOQ. The tenderer(s) shall quote rates / rebates only at specified place in Tender Form supplied by RCIL. The EI system shall be normally suitable for 3/4 line expandable up to 20% of no. of signalling gears without any added cost and further +ve variation above 20% in signalling gears from the given SIP, it will be compensated above 20%, the cost of peripherals thus increased shall be paid as per break up submitted by tenderer at the time of bidding. No extra cost for such variance in design & drawing if any shall be acceptable till PAC. System must be compatible with working in RE area.
2.2.3	Each page of the tender papers will be treated as signed/ accepted by the tenderer(s) or such person(s) on his/their behalf who is/are legally authorized to sign for him/them and to enter into commitments on their behalf.
2.2.4	The rates, rebates and/or other financial terms, if any, quoted by tenderer in the Relevant fields of the Financial Bid page will only be the ruling terms for deciding the inter-se ranking, and any such condition having financial repercussions, if quoted by them anywhere else including attached documents shall not be considered for deciding inter-se ranking

2.2.5	Additional conditions or stipulations, if any, must be made by the tenderer/s in a covering letter with the tender. The RCIL reserves the right not to consider conditional tenders and reject the same without assigning any reason. Only those additional conditions which are explicitly accepted by the RCIL shall form part of the contract.
2.2.6	The tenderers shall upload a certificate stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the certificate to be submitted by the Tenderer is enclosed as Annexure-V of ITT, GCC attached . Non submission of certificate by the Tenderer shall result in summarily rejection of his/their bid and it shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self attested by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document. It will not be obligatory on the part of Tender Committee to scrutinize beyond the submitted document of tenderer as far as his qualification for the tender is concerned.
2.2.7	(a) The RCIL reserves the right to verify all statements, information and documents submitted by the Tenderer in his tender offer, and the Tenderer shall, when so required by the RCIL, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification by the RCIL shall not Relieve the Tenderer of its obligations or liabilities hereunder nor will it affect any rights of the RCIL there under. (b) In case of any information submitted by tenderer is found to be false forged or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender Bid security (EMD) besides banning of business for a period of upto five years. (c) In case of any information submitted by tenderer is found to be false forged or incorrect after the award of contract, the contract shall be terminated. Bid security (EMD), Performance Guarantee and Security Deposit available with the RCIL shall be forfeited. In addition, other dues of the contractor, if any, under this contract shall be forfeited and agency shall be banned for doing business for a period of up to five years. (as per clause 11 of Part-I GCC attached)
2.2.8	Tenderer may have to submit the original Documents in physical form at short notice whenever asked by RCIL at any stage of tender evaluation process or even after finalization of tender.
2.2.9	In E-tender, all submissions of documents are to be uploaded on IREPS portal. There may be last minute hic-cups and delay in uploading the Documents and submission of payment of Bid security (EMD), as applicable etc. Tenderer's/Prospective Tenderers are advised to upload their offer well in time. RCIL will not be responsible for any delay/non submission of offer due to any reason whatsoever
2.2.10	Tenders containing erasures and / or alterations of tender documents are liable to be rejected. Any correction made by tender(s) in his/their entries must be attested by him / them.

2.2.11	The works are required to be completed within a period of 9 (Nine) months from the date of issue of acceptance letter.
2.3	CREDENTIALS TO BE UPLOADED/SUBMITTED ALONGWITH TENDER DOCUMENTS: (ELIGIBILITY CRITERIA)
2.3.1	Tenderer(s) should upload documents and certificates to show that he/they has/have satisfactorily carried out works of the type involved in the construction of the work being tendered for. He/they should also produce proof of the satisfaction of the RCIL of his/their technical ability and financial stability to undertake the work of the magnitude tendered for.
2.3.2	The tenderer(s) shall upload with his/their tender a list of serviceable machinery, tools and plants, equipment's and vehicles he/they has/have in hand for executing the work & those, he/they intends/intend to purchase.
2.3.2 (A)	The tenderer(s) must upload along with his/their tenders:-
(i)	Statement showing similar works executed by him/them
(ii)	Certificates of successful completion of his/their work
(iii)	A statement of all payments received against all successfully completed work/ works in progress of all types (not necessarily similar in type to work in this tender) for three preceding financial years and the current financial year up to the date of inviting of the tender should be uploaded, as per Annexure- VIB, duly certified by Chartered Accountant. Contractual payment received should be based on Audited Balance Sheets. Note: (a) The Audited Balance Sheet for contractual payments received should be submitted along with the tender failing which payment received shall not be considered. (b) In case the figure of contractual payment is not directly available in Audited Balance Sheet, the CA should obtain this figure from the Audited Account based on which the Balance Sheet has been prepared
(iv)	A list of their Engineering Organization and equipment, construction Tools and Plants available with them.

(v)	Technical Eligibility Criteria
	(a) The tenderer must have successfully completed any of the following (From Govt. Organisation) during last 07 (seven) years, ending last day of the month previous to the one in which tender is invited. i. Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or ii. Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or iii. One similar work each costing not less than the amount equal to 60% of advertised value of the tender.
	NOTE FOR TECHNICAL ELIGIBILITY CRITERIA: 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 turn over 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 opening 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.
2.3.2 (B)	Financial Eligibility Criteria:
(i)	As a proof of sufficient financial capacity and organizational resources, the tenderer(s) should have received the total payments against satisfactory execution of all completed/ongoing works of all types (not confined to only similar works) during the last three financial years and in the current financial year {up to the date of inviting of the tender} of a value not less than as indicated below: The tenderer must have minimum average annual contractual turnover of 1.5 V/N crores; 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. The tenderers shall submit requisite information as per Annexure-VIB, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet. Note: 1. The Audited Balance Sheet for contractual payments received should be submitted

	alongwith the tender failing which payment received shall not be considered. 2. In case the figure of contractual payment is not directly available in Audited Balance Sheet, the CA should obtain this figure from the Audited Account based on which the Balance Sheet has been prepared.
(ii)	For judging the technical eligibility, only those works which had been executed for any Government Organization shall be considered and the tenderer(s) will submit the certificate to this effect from the Officer concerned duly signed under the official seal. <u>It should be noted that credentials for the judging technical eligibility works executed for Private Individual/ Private Organization shall not be considered.</u> However for judging technical eligibility, in addition to credentials issued by any Government Organization, credentials issued by Public listed company having average annual turn over 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 opening 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 credentials issued by public listed company, the tenderer shall also submit along with 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 shall be enclosed in support of above. Completion Certificate/Experience Certificate issued by Competent Authority in favour of tenderer duly stating Name & Final cost of the Work, Date of Completion etc. as per Annexure –H must be uploaded along with the offer.
(iii)	Value of a completed work done by a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying his/her compliance to the above mentioned technical / financial eligibility criteria in the tender under consideration. NOTE:- RCIL may at its discretion invite the tenderer for online verification of Form 26AS, whenever considered necessary.
(iv)	If a tenderer(s) has completed a work of similar nature where cement and steel was issued by the Department free of cost, tenderer(s) must upload the completion certificate indicating cost of these materials and total cost of the work (including cost of cement/steel) shall be considered to decide eligibility or otherwise.
(v)	The list of personnel / organization on hand and proposed to be engaged for the tendered work. Similarly list of Plant & Machinery available on hand and proposed to be inducted and hired for the tendered work.
(vi)	Tenderer(s) has to satisfy the eligibility criteria for technical capability and competence as well as for financial capacity and organizational resources.
(vii)	If the tenderer(s) is a Partnership Firm, the conditions and the technical & financial eligibility criteria will be applicable as per guidelines given in Annexure G-1.

2.4	CONSTITUTION OF THE FIRM:
2.4.1	(i) The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / Company / Registered Society / Registered Trust / HUF etc. The tenderer(s) shall enclose the attested copies of the constitution of their concern, and copy of PAN Card along with their tender. Tender Documents in such cases are to be signed by such persons as may be legally competent to sign them on behalf of the firm, company, association, trust or society, as the case may be. (ii) Following documents shall be submitted by the tenderer:
(A)	Sole Proprietorship firm:
	(Undertaking as per Annexure J-1) Undertaking (An Undertaking that the company is not black listed or debarred by RCIL/Railway or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract) may be given. If not given As per para 14(ii) of GCC attached, If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm/Partnership firm/Joint Venture/Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.
(B)	Partnership Firm:
	The tenderer shall clearly specify that the tender is submitted on behalf of a partnership firm. The following documents shall be submitted by the partnership firm, with the tender: 1. A Notarised copy of the Partnership Deed. 2. Document(s) in support of Registration of firm with Registrar/Sub-Registrar of firms viz. Certificate of registration and copy of Register of firm (Form No. may vary from State to State) (as applicable) etc. issued by Registrar of firms. 3. A Notarised or Registered Power of Attorney in favour of the individual signing the tender document and create liability against the Firm. (Standard Performance as per Annexure J-2) 4. An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by RCIL/Railway or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract. Note: Authorisation given in POA only will be considered irrespective of any authorization that may have given in Partnership Deed. In case of non-submission of POA or invalid POA, offer is liable to be rejected.

(C)	Joint Venture (JV): Not Applicable
(D)	Company: If the tender is uploaded on behalf of a Company registered under Companies Act-2013, the tenderer must submit/upload along with the tender the following documents on or before close of uploading of tender & before opening of tender (D2): 1. Copies of the MOA /AOA (Memorandum of Association /Article of Association) of the Company; 2. A copy of certificate of incorporation. 3. A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company (Standard Performa as per Annexure J-3,4). 4. An Undertaking that the company is not black listed or debarred by RCIL/Railway or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the company was/is a partner/member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.
(E)	Registered Society & Registered Trust: The tenderer must upload following, 1. copy of the certificate of registration; 2. copy of Deed of formation; and 3. A copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust.
(F)	LLP (Limited Liability Partnership) Firm: If the tender is submitted on behalf of a LLP Firm registered under LLP Act-2008, the tenderer shall upload alongwith the tender- 1. A copy of LLP Agreement, 2. A copy of Certificate of Incorporation; and 3. A copy of Power of Attorney/Authorization issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP (Standard proforma as per Annexure J-5 & 6). 4. An Undertaking that the LLP is not black listed or debarred by RAILTEL/Railway or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of JV in which the LLP was/is a member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.

(G)	In Case of HUF: 1. A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF (Standard proforma as per Annexure J-7). 2. An undertaking that the HUF is not blacklisted or debarred by RAILTEL/Railway or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which HUF was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.
2.4.1.1	(i) After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF etc. shall be neither asked nor considered, if submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in RAILTEL record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted. (ii) No change in the constitution of the firm sole proprietorship/partnership firm/company/ Registered Trust/Registered Society/LLP/HUF shall be permitted after opening of the tender except where necessitated due to the operation of succession laws etc. in which case prior permission should be taken from RAILTEL and in any case the minimum eligibility criteria should not get vitiated. (iii) The RAILTEL will not be bound by any change in the composition of the firm made subsequent to the submission of tender. RAILTEL may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor. Note: • If all the requisite documents pertaining to the constitution of the firm/sole proprietorship/partnership firm/company/ Registered Trust/Registered Society/ LLP/HUF etc., as specified in clause 2.4.1 above, are not submitted, offer will be considered as incomplete and shall be summarily rejected. • Standard Proforma/Affidavit J-1 to J-7 are given as per Constitution of Firm requirement in respective clause of Sole Proprietorship firm/Partnership firm/Company Registered Trust/Registered Society/LLP/HUF for guidance purpose.

2.4.2	The tenderer whether sole proprietor / a company or a partnership firm / registered society / registered trust / HUF etc if they want to act through agent or individual partner(s), should submit along with the tender, a copy of power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person specifically authorizing him/them to submit the tender, sign the agreement, receive money, co- ordinate measurements through contractor's authorized engineer, witness measurements, sign measurement books, compromise, settle, Relinquish any claim(s) preferred by the firm and sign "No Claim Certificate" and refer all or any disputes to arbitration. The above power of attorney shall be submitted even if such specific person is authorized for above purposes through partnership deed / Memorandum of Understanding / Article of Association or such other document, failing which tender is liable to be rejected.
2.5	INCOME TAX DEDUCTION:
2.5.1	As per Income Tax Act, Tax will be deducted for sums paid for carrying out the work under this contract.
2.5.2	Labour Cess:1% labour cess shall be deducted from each RA bill to be deposited with concerned labour Commissioner/State Govt.
3.0	Bid security (EMD)
3.1	The tenderer(s) shall keep the offer open for a period of 90 days from the date fixed for closing of the tender in which period tenderer(s) cannot withdraw his/their offer subject to period being extended further, if required, by mutual agreement from time to time. It is understood that the Tender Documents have been sold/issued to the tenderer(s) and tenderer(s) is/are being permitted to in consideration of stipulation on his/their part that after submitting his/their offer, he/they will not resile from his/their offer or modify the terms and conditions thereof in a manner not acceptable to RCIL. Should the tenderer(s) fail to observe/to comply with the foregoing stipulation or fail to undertake the contract after acceptance of his/their tender, the entire amount deposited as Bid security (EMD) for the due performance of the stipulation and to keep the offer open for the specified period, shall be forfeited to the RCIL. If the tender is accepted, the amount of all Bid security (EMD) will be retained as part Security Deposit for due and faithful fulfilment of the contract. The Bid security (EMD) of unsuccessful tenderer(s) will, save as herein before provided be returned to the unsuccessful tenderer(s) within a reasonable time, but RCIL shall not be responsible for any loss or depreciation that may happen to the Bid security (EMD) for the due performance of the stipulation and to keep the offer open for the period stipulated in the Tender Documents while in RCIL possession nor will be liable to pay interest thereon.
3.2	The Bid security (EMD) of the requisite amount is required to be deposited through e gate way. Note
	(i) Tenders uploaded/submitted with Bid security (EMD) in any form other than those specified shall not be considered.
	(ii) Any request for recovery from outstanding bills for Bid security (EMD) against present tender will not, under any circumstances, be entertained.

	(iii) No interest will be payable on the Bid security (EMD) and Security Deposit or the amount payable to the contractor under the contract.
4.0	ACCEPTANCE OF TENDER
4.1	(i) IF THE TENDERER (S) DELIBERATELY GIVES WRONG INFORMATION/CREDENTIALS/DOCUMENTS IN HIS/THEIR TENDERS AND THEREBY CREATE(S) CIRCUMSTANCES FOR ACCEPTANCE OF HIS/THEIR TENDER, RCIL RESERVES THE RIGHT TO REJECT SUCH TENDER AT ANY STAGE, BESIDES, SHALL SUSPEND THE BUSINESS upto FIVE YEARS”. (ii) If on verification of credentials, at the evaluation stage, it is found that the tenderer has submitted forged/fake documents in support of his offer, his Bid security (EMD) Deposit shall be forfeited besides suspending business with him/them upto five years.
4.2	The successful tenderer/s shall be required to execute an agreement with RCIL for carrying out of the work as per Tender condition of Contract. The cost of stamp for the agreement will be borne by the RCIL.
4.2.1	The contractors operations and proceedings in connection with the works shall at all times be conducted during the continuance of contract in accordance with the laws, ordinance, rules and regulations for the time being in force and the contractor shall further observe and comply with the bye-laws and regulations of the Govt. of India, State Govt. and of Municipal & other authorities having jurisdiction in connection with the works or site over operations such as these are carried out by the contractor/s and shall give all notice required by such bye-laws and regulations. The Hospital and medical regulations in force for the time being shall also be complied with by the contractor/s and his workmen.
4.3	The tenderer/s shall not increase his/their rate in case the RCIL Administration negotiates for reduction of rates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and rates originally quoted will be binding on the tenderer/s.
4.4	Non-compliance with any of the conditions set forth herein is liable to result in the tender being rejected.

Integrity Pact Program

Bringing the practices in RailTel Corporation of India Limited up to the internationally acclaimed best practices for raising integrity levels in procurement of works and services, RailTel is implementing the Integrity Pact Program in line with the recommendation of Central Vigilance Commission(CVC).

The Integrity Pact Program envisages an 'Integrity Pact', an agreement between the prospective Bidders & Contractors and RailTel, committing the persons/ officials of both parties, not to exercise any influence on any aspect of the contract.

Coverage:

The Integrity Pact Program will cover the following tenders/procurements:

All tenders relating to procurement of OFC, quad cable, pre-fab shelters, electronic equipments and its installations and/or commissioning etc and other item(s) or activity/activities proposed to be carried out or required by the Company for the value exceeding Rs.15 crores at a time including for repair and maintenance of cable /network and any other items required for special works assigned to RailTel

Implementation:

The accompanying 'Integrity Pact' will be issued along with the bidding documents and will also be uploaded on the website.

Bidder of Indian origin shall submit the Integrity Pact (in 2 copies) on a non judicial stamp paper of Rs. 100/- duly signed by the person signing the bid. Bidder of foreign origin may submit the Integrity Pact on its company's letter head, duly signed by the person signing the bid.

If the bidder is a partnership or a consortium, the Integrity Pact shall be signed by all the partners or consortium members.

The 'Integrity Pact' shall be returned by the Bidder duly signed along with the Bid in a separate envelope, duly super scripted with 'Integrity Pact'.

On behalf of RailTel, the Integrity pact will be signed by the concerned representative of the Projects department in the Bid Opening Committee immediately on receipt of Integrity Pact signed by the Bidder at the time of Bid opening. One copy of the Integrity Pact shall be retained by RailTel and the 2nd copy will be issued to the representative of the bidders during bid opening. If the Bidders representative is not present during the Bid opening, the 2nd copy shall be sent to the bidder by post/courier.

Bidder's failure to submit the Integrity Pact duly signed along with the Bid shall lead to outright rejection of the Bid.

The bidder shall not change the contents of the Integrity pact.

All the pages of the Integrity Pact are to be signed by both RailTel and the Bidder.

Independent External Monitors (IEMs):

1. CMD of RailTel is the authority to appoint Independent External Monitor(s) to oversee Integrity Pact Program's implementation and effectiveness with respect to the tenders/procurements to which Integrity Pact Program applies. For this purpose, CVC would nominate IEMs for RailTel from the panel of IEMs maintained by it. The Terms and Conditions of their appointment would be decided by CMD, RailTel in line with CVC guidelines in the matter.
2. In all tenders covered under the Integrity Pact, particulars of all IEMs, including their email IDs should be mentioned.
3. A copy of such Tender Document shall be forwarded to both IEM's promptly after publishing of the same, Information regarding the contracts awarded against the said Tender shall be provided to the concerned IEM at regular intervals as decided in consultation with CVO. Additional details/documents, if any, shall be furnished to the concerned IEM/IEMs, as and when sought by them.
4. IEM/IEMs shall provide their opinion on the complaints received by them to CMD, RailTel at the earliest. They may however send their report directly to the CVO in case of suspicion of serious irregularities requiring legal/administrative action.

LIST OF ANNEXURES OF TENDER DOCUMENT

ANNEXURE	ANNEXURE DETAILS	As per GCC/SCC clause no.
A	Declaration for site visit.	Clause 6a(i) of Part-I
B	Details regarding constitution of firm.	Clause 14 of Part-I
C	Details of Plant & Machinery	Clause 11 of Part-I
D	List of Engineers/Personnel	Clause 11 of Part-I
E	Statement of work executed/completed.	Clause 10.1 of Part-I
F	Real Time Gross Saving (RTGS)/National Electronic Fund	Clause 46.(5) of Part-II
G-1	Guidelines for submitting tenders by Partnership Firms and their Eligibility Criteria.	Clause 18 of Part-I
G-2	Declaration by an existing Partnership Firm	Clause 10.5 & 18 of Part-I
G-3	Declaration by newly formed Partnership Firm	Clause 10.5 & 18 of Part-I
H	Completion Certificate.	Note of Clause 10.1 of Part-I
J-1	Affidavit by Sole Proprietorship Firm.	Clause 14 of Part-I
J-2	Power -of-Attorney for signing of bid on behalf of partnership firm.	Clause 18.10 of Part-I
J-3	Power -of-Attorney for signing of bid (when Tenderer is company incorporated under companies Act)	Clause 14(e) of Part-I
J-4	Board's Resolution of company incorporated under companies Act for submitting Tender by company (To be printed on company's letter head)	Clause 14(e) of Part-I
J-5	Power -of-Attorney for signing of bid (when Tenderer is LLP Firm incorporated under LLP Act)	Clause 14(f) of Part-I
J-6	Partner's Resolution of LLP Firm incorporated under LLP Act for submitting Tender by LLP firm	Clause 14(f) of Part-I
J-7	Affidavit by HUF	Clause 14(b) of Part-I
K	Declaration regarding retired railway staff/officer	Clause 16 of Part-I
L	Standard Indemnity bond for On Account Payment	Payment Terms Clause of SCC
M	Acknowledgment for receiving materials from RAILTEL.	Clause 33(1) of Part-II

ANNEXURE – A

PROFORMA

DECLARATION

I/We hereby solemnly declare that I/We visited the site of the work (as on top sheet) personally and have made myself/ourselves fully conversant of the conditions therein and particular the following :-

1. Topography of area.
2. Soil strata at site of work.
3. Sources and availability of construction materials.
4. Rates for construction of material, water, electricity including all local taxes, royalties, octrois etc.
5. Availability of local labour (both skilled and unskilled) and Relevant labour rates and labour laws.
6. The existing roads and approaches to the site of work and requirements for further service roads/approaches to be constructed by me/us
7. The availability and rates of private land etc. that shall be required by me/us for various purposes.
8. Climatic conditions and availability of working days.

I/We have quoted my/our rates for various items in the schedule of items, quantities and rates taking into account all the above factors also.

Signatures of the Tenderer/s

Annexure-B**Constitution of Firm**

1	Constitution of the firm/ concern. (Tick as applicable)	Sole Prop./ Partnership Firm/ Company/Society/LLP/HUF
2	Full name of the Sole Prop./ Partnership Firm/ Company/Society/LLP/HUF	
3	Year of formation/ incorporation	
4	(a) PAN No.	
	(b) GST No	
5	Registered Office Address	
6	Address on which correspondence regarding this tender should be done	
7	E- mail id	
8	Names of the proprietor/ partner etc	

Signature of Tenderer

ANNEXURE – C**Details of Plant and Machinery already available with the firm.**

S.No.	Particulars of equipment	No .of Unit.	Kind & make	Capacity	Date by which the plant would be available for use on this work	Age & condition
1	2	3	4	5	6	7

Signature of the Tenderer/s

ANNEXURE –D

List of engineers/personnel already available/ proposed to be employed for deployment on this work:

S.No.	Name & Designation	Qualification	Professional experience	Organization with whom working	Date by which personnel will be available for this work.
1	2	3	4	5	6

Signatures of Tenderer/s

ANNEXURE-E

NOT APPLICABLE

ANNEXURE-F

**Real Time Gross Saving (RTGS)/National Electronic Fund Transfer (NEFT)
Model Mandate Form**

1. Tenderer name
2. Particular's of Bank Account:
 - a) Name of the Bank:
 - b) Name of the Branch. Address
 - c) Telephone No.
 - d) RTGS/NEFT IFS Code.
 - e) Type of the account (S.B. Current or Cash Credit) With code (10/11/13).
 - f) Ledger and Ledger folio number.
 - g) Account number (as appearing on the Cheque book) in lieu of the bank certificate to be obtained as under,
 - h) please attach a blank cancelled cheque or a photocopy of a cheque or front page of your savings bank pass book issued by your bank for verification of the above particulars)

3. Date of effect

I hereby declare that the particulars given above are correct and complete.
If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold the user institution responsible.

Date
(.....)

Signature of the Tenderer

Certified that he particulars furnished above are correct as per our records.
Bank's Stamp

Annexure G-1**Guidelines for submitting tenders by Partnership Firms and their Eligibility Criteria**

1. The Partnership Firms participating in the tender should be legally valid under the provisions of Indian Partnership Act.
2. The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have been registered with the Registrar of firms and the partnership deed should have been notarized prior to date of tender opening as per the Indian Partnership Act. Tenderer shall upload document(s) in support of registration of firm with registrar of firms viz which includes Certificate of registration and copy of Register of firm (Form No. may vary from State to State) (as applicable) etc. issued by Registrar of firms.
3. Separate identity/name should be given to the partnership firm. The partnership firm should have PAN/ TAN number in its own name and PAN/TAN number in the name of the any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.
- 4.1. Once the tender has been submitted, the constitution of firm shall not normally be allowed to be modified/alterd/terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc, in which case prior permission should be taken from RCIL and in any case the minimum eligibility criteria should not get vitiated. The reconstitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the RCIL and the tenderer shall have no claims what so ever. Any change in the constitution of Partnership Firm after opening of tender shall be with the consent of all partners and with the signatures of all partners as that in the Partnership deed. Failure to observe this requirement shall render the offer invalid and full Bid security (EMD) shall be forfeited.
- 4.2 If any partner/s withdraw from the firm after opening of the tender and before the award of the tender, the offer shall be rejected and Bid security (EMD) of the tenderer will be forfeited. If any new partner joins the firm after opening of tender but prior to award of contract, his/her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to this share in the previous firm. In case the tenderer fails to inform RCIL beforehand about any such changes/modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of contract conditions, liable for determination of contract under Clause 62 of General Condition of Contract.
- 4.3 A partner of the firm shall not be permitted to participate either in his individual

capacity or as a partner of any other firm in the same tender.

- 4.4 The tender form shall be submitted only in the name of partnership firm. The Bid security (EMD) shall be deposited by partnership firm through e payment gateway along with the tender in terms of the provisions contained in GCC of tender document.
5. One or more of the partners of the firm or any other person(s) shall be designated as the authorized person(s) on behalf of the firm, who will be authorized by all the partners to act on behalf of the firm through a “Power of Attorney”, specifically authorizing him/they to submit & sign the tender, sign the agreement, receive payment, witness measurements, sign measurement books, make correspondences, compromise, settle, Relinquish any claim(s) preferred by the firm, sign “No Claim Certificate” , refer all or any dispute to arbitration and to take similar such action in respect of the said tender/contract. Such “Power of Attorney” should be Notarized/Registered submitted/uploaded along with tender.
6. On issue of Letter of Acceptance (LOA) to the partnership firm, all the guarantees like Performance Guarantee, Guarantee for various Advances to the Contractor shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable.
7. On issue of Letter of Acceptance (LOA), contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner.
8. In case, Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement:-
 - a) Joint and several liabilities – The partners of the firm to which the Letter of Acceptance (LOA) is issued, shall be jointly and severally liable to the RCIL for execution of the contract in accordance with general and special conditions of the contract. The partners shall also be liable jointly and severally for the loss, damages caused to the RCIL during the course of execution of the contract or due to non-execution of the contract or part thereof.
 - b) Duration of the partnership deed and partnership firm agreement – The partnership deed/partnership firm agreement shall normally not be modified, altered, terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any change carried out by partners in the constitution of the firm without permission of RCIL, shall constitute a breach of contract liable for determination of contract under clause 62 of General Conditions of Contract.
 - c) Governing Laws – The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws.

- d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner and that of the RCIL.
- 9 The tenderer shall clearly specify that the tender is submitted on behalf of a partnership concern. The following documents shall be submitted by the partnership firm, with the tender-
- (a) Tenderer shall upload document(s) in support of registration of firm with registrar of firms which includes Certificate of registration and Register of firm (Form No. may vary from State to State) (as applicable) etc. issued by Registrar of firms. Tenderer shall also upload Notary certified of Partnership Deed.
 - (b) A copy of Power of Attorney (Notarized or Registered) in favour of the individual to tender for the work, sign the agreement etc. and create liability against the firm.
 - (c) An undertaking by all the partners of the partnership firm that they are not black listed or debarred by RCIL or any other Ministry/Department of the Govt of India/any State Govt from participation in tenders/contract as on the date of opening of bids either in their individual capacity or in any firm in which they were/are partners. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of General Conditions of Contract.

10 Evaluation of eligibility of a partnership firm:

Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfillment of the eligibility criteria laid down in Clause 2.3.2A(v) & 2.3.2B of eligibility criteria by the partnership firm.

Annexure-G-2**DECLARATION BY AN EXISTING PARTNERSHIP FIRM**

(Fill the Relevant para (1.1, 1.2 & 1.3) and strike off the para which is not Relevant under Partnership Firm)

1.0 I.....S/o Shri, the authorized signatory of partnership firm M/s...do hereby solemnly affirm and declare as under:

1.1 That, we are an existing Partnership Firm in the name and style of M/s -----, since -----(MM/YY), having GST Registration no._____,PAN/TAN No.-----. There has been no change in the Partner(s) of our firm during last 07 (Seven) years ending last day of the month previous to the one in which tender is invited.

OR

1.2 That, we are an existing Partnership Firm in the name and style of M/s -----, since -----(MM/YY), having GST Registration no. -----, PAN/TAN No.-----. Following of our partner(s) has/have quit the Partnership firm during last 07 (Seven) years ending last day of the month previous to the one in which tender is invited with details as under:

S.No	Name of quitting Partner(s)	Share of Partner(s) who has/have quitted	Date of Quitting (MM /YY)

AND / OR

1.3 That, we are an existing Partnership Firm in the name and style of M/s -----, since -----(MM/YY), having GST Registration no._____,PAN/TAN No.-----. Following partner(s) has/have joined our Partnership Firm during last 07 (Seven) years ending last day of the month previous to the one in which tender is invited with details as under:

S.No.	Name of joining Partner(s)	Share of joining Partner(s)	
		In the present firm	In the previous firm from where he/they has/have quit and joined the present firm

1.4 In case of Para 1.2 and 1.3 , following documents as applicable are required to be submitted along with bid:-

- (i) Copy of previous Partnership Deed(s).
- (ii) Copy of Dissolution Deed(s) of previous partnership deed(s).
- (iii) Proof of surrender of PAN No(s) (in case of dissolution of previous partnership firm).

Declaration by the Tenderer:-

I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will be liable to be rejected.

**Name and Signature of tenderer
along with Seal**

Annexure-G-3**DECLARATION BY NEWLY FORMED PARTNERSHIP FIRM**

I.....S/o Shri, the authorized signatory of partnership firm M/s.....do hereby solemnly affirm and declare as under:

1. That, we are the newly formed partnership firm in the name and style of M/s.....Registered with Registrar of firm vide Registration No....., dated
2. In this newly formed Partnership Firm, we are no. of partners. The details of the previous proprietary firm or previous dissolved partnership firm or previous splitted partnership firm(s) wherein any of the partners of the present firm was a proprietor / partner and proposed to use credentials obtained in such previous propriety firm (s) / partnership firm(s) is as under:-

S.N.	Name of person in the newly formed partnership firm	Detailsof Previous proprietary/ Partnership Firm	Share in newly formed partnership firm	Share in previous partnership firm	Remarks
1.					
2.					
3.					

3. That, following Relevant documents are Annexed with bid:-
 - (i) Copy of previous Partnership Deed(s).
 - (ii) Copy of previous Dissolution/splitting Deed(s) of previous partnership deed(s).
 - (iii) Proof of surrender of PAN No(s) (in case of dissolution of partnership firm).

Declaration by the Tenderer:-

I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will liable to be rejected.

**Name and Signature of tenderer
along with Seal**

Annexure-H**COMPLETION CERTIFICATE**

The work of “----- (Full name of the work) -----” has been Completed with following details:-

1	Name & complete address of the contractor.	
2	Nature of entity (sole prop/ partnership firm/ company)	
3	In case of Sole proprietorship, the name of	
(a)	sole proprietor	
(b)	In case of partnership firm, the names & shares of various partners/ members.	
4	Date of Acceptance/LOA	
5	Agreement No. & date	
6 i)	Original Agreement Cost	
ii)	Final Agreement Cost	
7	Total payment made along with financial year- wise break-up	
8	Original date of completion (DOC)	
9	(a)Actual date of completion (b)Whether extension to DOC given with penalty or without penalty	
10	Brief description of nature & scope of work	
11	Performance of contractor (Satisfactory/unsatisfactory)	

It is certified that the above work has been completed successfully in accordance with provisions of contract.

Name & Signature
Issuing authority with seal

Date of issue of certificate: -----

Case File No.: -----

Annexure-J-1**UNDERTAKING BY SOLE PROPRIETORSHIP FIRM**

I.....S/o Shri aged about years
R/o.....do
hereby solemnly affirm and declare as under:

1. That I am running a business in the name and style of M/S.....
which is a sole proprietorship firm and which has got GST registration
No.....
2. That I am the sole proprietor of the said firm M/S
.....
3. That the Head office of the above named firm is situated
at.....
4. That I/ my Firm is not blacklisted or debarred by RCIL or any other
Ministry / Department of Govt. of India from participation in tender on the date
of opening of bids, either in individual capacity or as a member of the partnership
firm or JV in which he was / is a partner/member. Concealment / wrong
information in regard to above shall make the contract liable for determination
under Clause 62 of the General Conditions of Contract.

Signature of tenderer

Annexure-J-2**POWER-OF-ATTORNEY FOR SIGNING OF BID ON BEHALF OF PARTNERSHIP FIRM**

(to be executed non judicial stamp paper of appropriate value as per law of state concerned-Non Judicial stamp paper should be purchased in the name of partners of the firm)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS WE

(1)..... S/o Shri.....R/o.....

(2)..... S/o Shri.....R/o.....

(3)..... S/o Shri.....R/o.....

(4)..... S/o Shri.....R/o.....

all are the partners of a partnership firm namely M/S.....

..... (Name of firm) hereinafter referred to as 'firm', which is registered at Registration No.....by Registrar of Firms..... The firm is having its head office at.....

(hereinafter to be referred as the 'Firm').

AND WHEREAS we all the above named partners have on.....(date) given our consent on behalf of firm to participate in the tender No. issued by RCIL for the work namely “.....”

We the above named partners of above named firm do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. S/o Shri.....(address).....& Mr./ Ms. S/o Shri.....(address)..... as our true and lawful attorney (hereinafter referred to as “Attorney”) of the firm to jointly or severally exercise all or any of the following powers for and on behalf of M/S (name of firm) in connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of the RCIL on behalf of the firm.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc. on behalf of firm.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the firm in connection with completion of aforesaid tender work and to enter into liability against the firm.
4. To sign, execute the contract with RCIL for and on behalf of the firm.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

We on behalf of firm undertake that it shall not cancel or amend this power of Attorney

without obtaining previous written consent of RCIL .

We on behalf of firm hereby agree that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the firm and we hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

That we/our Firm is not blacklisted or debarred by RCIL or any other Ministry / Department of Govt. of India from participation in tender / contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

Specimen signatures of the Attorney are appended below.

IN WITNESS WHEREOF this deed has been signed and sealed by us the under named, on this..... day of..... 20.... , in presence of:

WITNESSES:

1. Signature Name: Address:	Executants Partners (Name) (Signature) 1..... 2. 3. 4.
2. Signature Name: Address:	

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name..... Signature.....

(2) Name..... Signature.....

Executed and Signed before me on this.....day of At
.....(place).

(seal and signature of Notary Public)

Notes:

1. In this format space has been provided for entering details of four partners& two attorney holders however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by executants.
4. The power of attorney should be **Notarized/ Registered**.

Annexure-J-3**POWER-OF-ATTORNEY FOR SIGNING OF BID**

(when Tenderer is company incorporated under companies Act)

(to be executed non judicial stamp paper of appropriate value as per law of state concerned-Non Judicial stamp paper should be purchased in the name of the company)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/s
 (name of company & CIN number) is a Company registered under the Companies Act, 2013, and having its registered office at..... (hereinafter called the 'Company').

AND WHEREAS by its resolution No..... passed in the meeting held on..... of the Board of directors of the company the company (company name) have decided to participate in the tender No..... issued by RailTel Corporation Of India Ltd. for the work namely

“ ”
 I.....(name and designation) the authorised representative of M/S (name of company) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. _____(designation)_____ (address)_____ & Mr./ Ms. _____(designation)_____ (address)_____ w

ho is/are presently holding the above mentioned position in the company as our true and lawful attorney (hereinafter referred to as “Attorney”) of the company to jointly or severally exercise all or any of the following powers for and on behalf of M/S (name of company & CIN number) in connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of the RailTel Corporation Of India Ltd.. on behalf of the company.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.
4. To sign, execute the contract with RailTel Corporation Of India Ltd.. for and on behalf of the company.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The company agrees and undertakes that in the event of any change in the constitution of the company the rights and obligations of the company shall continue to be in full force without any effect thereof.

The company undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of RailTel Corporation Of India Ltd..

AND the Company hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the Company and the Company hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

That our Company is not blacklisted or debarred by RCIL or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the Company was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

IN WITNESS WHEREOF this deed has been signed and sealed by Shri.....(name and designation), on this..... day of..... 20...., in presence of:

WITNESSES:

- | | |
|--|--|
| <p>1. Signature
Name:
Address:</p> | <p>Executants' Signature &
Seal of company:
Name:
Designation:</p> |
| <p>2. Signature
Name:
Address:</p> | |

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name Signature.....

(2) Name..... Signature.....

Executed and Signed before me on this.....day of At(place).

(seal and signature of Notary Public)

- Notes: 1. In this format space has been provided for entering details of two authorized persons/attorney holders however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by executants.
4. Executant and Power of Attorney holder should not be the same person.

Annexure-J-4**Board's Resolution of company incorporated under companies Act for submitting Tender by company (To be printed on company's letter head)**

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE BOARD OF DIRECTORS OF (Company Name)

_____(CIN _____) (hereinafter referred to as company) HELD ON (Date) _____ AT (Address) _____

Whereas the Board has been described about NIT No..... issued by RailTel Corporation of India Limited for the work namely “_____”. Board discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the company (company name) shall participate in the above tender. Resolved further that the Board authorizes, Mr./ Ms. _____ & Mr./ Ms. _____ (name and designation) of the company, to jointly or severally sign and submit all the necessary papers, letters, forms, quotes, bids etc, negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.

Resolved further that Board authorizes Mr./Ms. _____ (name and designation) of the company to execute Power of Attorney in terms of this resolution in favour of _____ Mr./Ms. _____ & Mr./Ms. _____ the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the company.

For the Organization,
(Seal of company & Signature of authorized person)

Name:

Designation: _____

Place:

Dated:

Executed and Signed before me on this.....day of At
.....(place).

(Seal and signature of Notary Public)

- Notes:** 1. In this format space has been provided for entering details of two authorized persons however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by authorized signatory(s).
4. Any person / director should not be authorized to execute Power of Attorney in his own favour.

Annexure : J-5**POWER-OF-ATTORNEY FOR SIGNING OF BID (when Tenderer is LLP Firm incorporated under LLP Act)**

(to be executed non judicial stamp paper of appropriate value as per law of state concerned-Non Judicial stamp paper should be purchased in the name of the LLP Firm)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S (name of LLP & LLPIN number) is a LLP Firm registered under the LLP Act, 2008, and having its registered office at..... (hereinafter called the 'LLP').

AND WHEREAS by its resolution No..... passed in the meeting held on..... of the Partners of the LLP the LLP..... (LLP name) have decided to participate in the tender No. issued by RailTel Corporation of India Limited for the work namely “ .. ”

I.....name and designation) the authorised representative of M/S (name of LLP) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute, nominate, appoint and authorize Mr./Ms. (designation)..... (address)..... & Mr./Ms./Mr./Ms. (designation)..... (address)..... who is/are presently holding the above mentioned position in the LLP as our true and lawful attorney (hereinafter referred to as “Attorney”) of the LLP to jointly or severally exercise all or any of the following powers for and on behalf of M/S (name of LLP & LLPIN number) in connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of the RailTel Corporation India Limited on behalf of the LLP.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.
4. To sign, execute the contract with RCIL/Railway for and on behalf of the LLP.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The LLP agrees and undertakes that in the event of any change in the constitution of the LLP, the rights and obligations of the LLP shall continue to be in full force without any effect thereof.

The LLP undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of RailTel Corporation Of India Ltd..

AND the LLP hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the LLP and the LLP hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

That our LLP is not blacklisted or debarred by RCIL or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of JV in which the LLP was / is a member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

IN WITNESS WHEREOF this deed has been signed and sealed by
 Shri.....(name and designation), on this..... day
 of..... 20...., in presence of:
 WITNESSES:

- | | |
|--|---|
| <p>1. Signature
 Name:
 Address:</p> | <p>Signatures of authorized representative & Seal of LLP:

 Name of authorized representative(Executant):
 Designation:</p> |
| <p>2. Signature
 Name:
 Address:</p> | |

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name Signature.....

(2) Name.....Signature.....

Executed and Signed before me on this.....day of At
(place).

(seal and signature of Notary Public)

Notes:

1. In this format space has been provided for entering details of two authorized persons/attorney holders however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document)..
3. Each page of the document should be signed by executants.

Annexure : J-6**Partner's Resolution of LLP Firm incorporated under LLP Act for submitting Tender by LLP firm (To be printed on Firm's letter head)**

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE PARTNERS OF _____

(LLP Name) having LLPIN _____ of 20..... (hereinafter referred to as LLP)
HELD ON (Date) _____ AT (Address) _____

Whereas the Board has been described about NIT No. _____
issued by RailTel Corporation Of India Ltd. for the work namely

“ _____ ”.

Partners discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the LLP (LLP name) shall participate in the above tender .

Resolved further that the LLP/Partners authorize(s), Mr./ Ms. _____ & Mr./ Ms. _____ (name and

designation) of the LLP, to jointly or severally sign and submit all the necessary papers, letters, forms, quotes, bids etc., negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.

Resolved further that LLP/Partners authorize(s) _____)
Mr./Ms. _____ (name and designation) of the LLP to
execute Power of Attorney in terms of this resolution in favour of
Mr./Ms. _____ & Mr./Ms. _____

the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the LLP.

For the Organization,

(Seal of LLP & Signature of authorized person)

Name of authorized person:

Designation:

Place

Dated:

Executed and Signed before me on this.....day of At
.....(place).

(Seal and signature of Notary Public)

Notes:

1. In this format space has been provided for entering details of two authorized persons however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document)..
3. Each page of the document should be signed by authorized signatory(s).

Annexure-J-7**AFFIDAVIT BY HUF**

(to be executed non judicial stamp paper of appropriate value as per law of state concerned-Non Judicial stamp paper should be purchased in the name of HUF

I.....S/o Shri aged about years
R/o.....and as Karta of my Hindu

Undivided (HUF) affirm on oath and declare as under:-

1. That I am Karta of our HUF which is known as -----(HUF)
2. That as on today, name of coparceners (including name of Karta) of our above said HUF, their father name and their addresses are as under:-

S.No.	Name of Coparceners	Name of Father	Address
1.			
2.			
3.			
4.			
5.			

3. That the above said HUF is in existing since----- (Date of incorporation of HUF).

4. That I, in the position of KARTA of Hindu Undivided (HUF) am submitting the tender on behalf of HUF and declare that the acts done and documents executed by me shall be binding on the HUF, M/s-----

5. That I/HUF Firm is not blacklisted or debarred by RCIL or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which he was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

DEPONENT

Verification:

Verified at.....on this day of.....that the contents of my above affidavit are true and correct to the best of my knowledge and belief and nothing material has been concealed therefrom.

DEPONENT

Karta of HUF-M/s-----

(seal and signature of Notary Public)

- Notes:** 1. The document should be notarized at its place of execution (Place of signing the document).
2. Each page of the document should be signed by executants.

ANNEXURE-K**DECLARATION/UNDERTAKING**

I/We (Name and Designation of tenderer/Authorized Person of tender) do hereby declare as under :

That I/We are an individual/ Partnership firm/Company/ Society and :

That I/We are not a retired Engineer of the gazetted rank or any other gazetted officer working before retirement, whether in the executive or administrative capacity or whether holding a pensionable post or not, in the Engineering or any other department of any of the RCIL/ Railway owned and administered by the President of India for the time being, That I/We being partnership firm / company / registered society / registered trust etc have none of our partners a retired Engineer or retired gazetted officer as aforesaid.

That I/We being an incorporated company have not any such retired Engineer or retired officer as one of directors.

That I/We do not have in our employment any retired Engineer or retired gazetted officer retired from government service (at least 1 year prior to the date of submission of the tender)

That I/We being an individual contractors, do not have a Member (s) of or in the case of partnership firm/ company / registered society / registered trust etc. have one or more of partner(s) /shareholder(s) or member(s) of of the partner(s) /shareholder(s) employed in gazetted capacity in the Engineering or any other department of the Railway.

OR

2 (a) That I am a Retired Engineer of the Gazetted rank participated in the tender in individual capacity as (Name of the firm) with following details :

Name	Date of retirement	Post held, Place and Railway unit from which retired	Details of permission taken if such retired Engineer or Gazetted Officer had not retired from Govt. Office at least 1 year prior to the date of submission of tender

2 (b) That I/We are a Partnership firm/Company/Society and have following retired Railway Gazetted Officer as our Partner(s)/ Director(s)/Employee :

S. No.	Name	Position in tendering entity i.e. Partner/Director Employee	Date of Retirement, Post held, Place and Railway unit from which retired	Details of permission taken if such Retired Engineer or Gazetted Officer had not retired from Govt. Office at least 1 year prior to the date of submission of Tender

2 (c) That I/We are an Individual/Partnership firm/Company/Registered Society/Trust and have following partner(s) /Share Holder(s) not having share of more than 1% or member(s) of of the individual tenders/ partner(s) /Share Holder(s) employed in Gazetted capacity in the Indian Railway :

S. No.	Name of the gazetted Railway Officer who is/are partner(s) /Share Holder(s) or member(s) of Share Holder(s) of tenderer	Post held and Place of Posting	/ Unit	Details of Share holding or Relationship with individual/ share holder of the tenderer

Note :

Strike Off (1) or (2) as applicable.

In case (1) is applicable and any of the 2(a), (b) or (c) is not applicable NIL may be filled.

Place:-

(Signatures of Authorized signatory)

Name of the tendering firm

Dated:

ANNEXURE- L**STANDARD INDEMNITY BOND FOR ON ACCOUNT PAYMENT**

We M/s. _____ hereby Undertake that we held in our custody for and on behalf of the RCIL hereinafter referred to as the “Purchaser” and as has property in trust for him all imported and indigenous materials which have been handed over to us against the contract for the works in the section.

_____ To _____ Stations on RCIL/Railway vide letter for acceptance of Tender No. _____ date _____ and materials such as _____ handed over to us by the purchaser for the purpose of execution of the said contract, until such time the materials are duly erected or otherwise handed over to him. We shall be entirely responsible for the same custody and protection of the said materials against all risk till they are duly delivered as erected equipment to the purchaser, or as he may direct otherwise and shall indemnify the purchaser against any loss or damaged deterioration whatsoever in receipt of the said materials while in our possession and against disposal or surplus materials. The said materials shall at all times be open to inspection by any officer authorized by the ED/RCIL, New Delhi or his successor.

Should any loss, damage or deterioration of materials, occur or surplus materials disposed off and refund becomes due, the purchaser shall be entitled to recover from us the full cost and compensation determined in terms of the contract for such loss or damage if any, along with the amount to be refunded without prejudice to any other remedies available to him by deduction from any sum due or any sum.

Date _____ **day of** _____ **(month & year).**

Signature of witness

Name of witness in Block letters.

Address

(Contractor).

For and on behalf of
M/s.

Annexure-M**ACKNOWLEDGMENT FOR RECEIVING MATERIALS FROM RAILTEL.**

To,
The Executive Director
RailTel Corporation Of India Ltd.
Delhi

Date:

Sir,
SUB: Receipt of materials/Cables from RCIL

It is hereby acknowledged that the following materials/cables as detailed have been received in full and in good condition by me at No..... and the work coming under the agreement No.....
.....
Dated

Sr. No.	Description of materials	Qty./Nos.	Remarks if any
1.			
2.			
3.			

Signature of Engineer's

Signature of Contractor.

Representative with designation

Witnessed By:

Annexure-U

RailTel Corporation of India Limited, herein after referred to as “The Principal”.

And

.....,herein after referred to as “The Bidder/Contractor”

Preamble

The Principal in tends to award, under laid down organizational procedures, contract/s for The Principal values full compliance withal relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relations with its Bidder(s)and/or Contractor(s).

In order to achieve these goals, the Principal will appoint an Independent External Monitor(IEM), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section1-Commitments of the Principal

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - a. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - b. The Principal will during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s)confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the process or the contract execution.
 - c. The Principal will exclude from the process all known prejudiced persons.
2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section2-Commitments of the Bidder(s)/Contractor(s)

1. The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- a. The Bidder(s)/contractor(s) will not, directly or through any other persons or firm, offer promise or give to any of the Principal's employees involved in the tender process or the execution of the contractor to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage during tender process or during the execution of the contract.
- b. The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- c. The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/Contractors will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the bidder(s)/contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" as annexed and marked as Annexure A.
- e. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payment she has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3: Dis-qualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process **& exclude him from future business dealings as per the existing provisions of GFR, 2017, PC ACT 1988** or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings" and **any other Financial Rules/Guidelines applicable to the Principal**. Copy of the "Guidelines on Banning of business dealings" is annexed and marked as Annex-"B".

Section 4: Compensation for Damages

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.
2. If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to be terminated the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 5: Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last three years with any other company in any country conforming to the anti corruption approach or with any other public sector enterprise in India that could justify his exclusion from the tender process.
2. If the bidder makes incorrect statement on this subject, he can be disqualified from the tender process for action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

Section 6: Equal treatment of all Bidders/Contractors/Subcontractors.

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all sub contractors assigned commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
2. **The Principal Contractor shall take the responsibility of the adoption of IP by the sub-contractors. It is to be ensured that all sub-contractors also sign the IP.**
3. **In case of a Joint Venture, all the partners of the Joint Venture should sign the Integrity pact.**
4. The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions

Section 7: Criminal charges against violation by Bidder(s)/Contractor(s)/Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Sub contractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8: Independent External Monitor /Monitors

1. The Principal appoints competent & credible Independent External Monitors for this pact as nominated by the Central Vigilance Commission (CVC) Government of India, from the panel of IEMs maintained by it. The task of the Monitors is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, RailTel.
3. The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all project documentation of the Principal including that provided by the Contractor.
4. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractor(s) with confidentiality.
5. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

Note: However, the documents/records/information having National Security implications and those documents which have been classified as Secret/Top Secret are not to be disclosed.

6. For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
The advice of the IEM panel is restricted to resolving issues raised by a bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders.
7. The panel of IEMs are expected to submit a joint written report to the CMD, RailTel within 30 days from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
8. Monitor shall be entitled to compensation on the same terms as being extended to /provided to Independent Directors on the RailTel Board.
9. The IEMs would examine all complaints received by them and give their recommendations / views to the CMD, RailTel at the earliest. They may also send their report directly to the CVO in case of suspicion of serious irregularities requiring legal /administrative action. Only in case of very serious issue having a specific, verifiable vigilance angle, the matter should be reported directly to the Chief Vigilance Commission.
10. The word 'Monitor' would include both singular and plural.
11. In the event of any dispute between the management and the contractor relating to those contracts where Integrity Pact is applicable, in case, both the parties are agreeable, they may try to settle dispute through mediation before the panel of IEMs in a time bound manner. If required, the organizations may adopt any mediation rules for this purpose. In case, the dispute remains unresolved even after mediation by the panel of IEMs, the organization may take further action as per the terms & conditions of the contract. However, not more than five meetings shall be held for a particular dispute resolution. The fees/expenses on dispute resolution shall be equally shared by both the parties.

Section 9: Pact Duration

Integrity Pact, in respect of a particular contract, shall be operative from the date IP is signed by both the parties till the completion of contract. After award of work, the IEMs shall look into any issue relating to execution of contract, if specifically raised before them. However, the IEMs may suggest systemic improvements to the management of the organization concerned, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.

In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the contract has been awarded.

If any claim is made / lodged by either party during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged /determined by CMD of RailTel.

Section 10: Other Provisions

1. This agreement is subject to Indian Law, Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.
2. Changes and supplements as well as termination notices need to be made in writing.
3. If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
4. Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. The parties signing the IP shall not approach the Courts while representing the matters to the IEMs and he/she will await the decision in the matter.
6. Principal contractor shall take the responsibility of the adoption of IP by the sub-contractor
7. **The Integrity pact shall be deemed to form apart of contract and parties shall be bound by it's provision.**
8. **Issues like warranty/guarantee etc. should be outside the purview of IEMs.**

(For & on behalf of the Principal)
(Office Seal)

Place_____

Date_____

Witness 1:

(For & On behalf of Bidder/Contractor)
(OfficeSeal)

(Name & Address)

Witness 2:

(Name & Address)

VOLUME – II

SPECIAL CONDITIONS OF CONTRACT

SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract (SCC) shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Conditions	Reference to GCC	Data
TWO Packet System of Tendering	7A (Part 1)	Tender value more than Rs.10 crore ,Two packet system is applicable.
Pre Bid Conference	7B (Part 1)	NOT APPLICABLE
Assignment or Subletting of Contract	7.0 (Part 2)	1. Contractor should not sublet more than 50% of the Letter of Acceptance (LoA) value and 2. The Contractor should not Sublet the work without Prior written approval of RCIL.
Commencement of works	19.2	Within 30 (Thirty) days from the date Contractor receives Letter of acceptance.
Performance Guarantee	16.(4)(b)(ii)	The Performance Guarantee should be furnished by the successful contractor after letter of acceptance has been issued, but before signing of the agreement. The agreement should normally be signed within 30 days after issue of LOA and Performance Guarantee should also be submitted within this time limit, failing which a penal interest of 15% per annum shall be charged for the delay period i.e. beyond 30 (thirty) days from the date of issue of LOA. The instruments for Performance Guarantee should be valid for four months beyond the warranty period. A separate advice of the BG will invariably be sent by the BG issuing bank to the RCIL's Bank through SFMS and only after this the BG will become acceptable to RCIL. It is therefore in own interest of bidder to obtain RCIL's bank IFSC code, its branch and address and advise these particulars to the BG issuing bank and request them to send advice of BG through SFMS to the RCIL's Bank. In accordance with the above para and General conditions of contract, using the Performance Security Form included in GCC attached as Annexure- XVII.
Bonus clauses	17c	NOT APPLICABLE

Conditions	Reference to GCC	Data
Payment for Plant and Materials in Event of Suspension	36	NOT APPLICABLE
Variations in extent of Contract	42.(2)	a. The quantities quoted in the Schedule are not firm and may be varied at the time of awarding and during the currency of the contract. b. The quantity indicated in the Schedule of Requirements is the estimated quantities in respect of the work and may change depending on the detailed survey/system design. On this and other developments, the purchaser may exercise the option of increase / decrease of the quantity of items of Schedule of Requirements by plus 25% (Twenty five percent) or minus 25% (twenty five percent) of the value of the contract respectively within the scope of the work. c. Quantity may also vary beyond 25% as per the following - - Quantity variation beyond 25% up to 40% will be 2% rebate, above 40% to 50% with 4% rebate and beyond 50% rates will be negotiated by RCIL with Contractor. - Variation beyond 50% shall be avoided and would be permitted only in exceptional & unavoidable circumstances.
Works to be Measured	45(i)	Measurement of the work completed as per Tender conditions are recorded in Measurement Books issued by RCIL and jointly signed by authorized representatives of the contractor and RCIL.
Measurement of Works by Contractor's Authorized Representative	45(ii)	NOT APPLICABLE
Payment in Applicable Currencies	13.4	INR only is applicable
Price Variation Clause	46A	Not applicable
Advance payment	46.4	Not applicable
Mobilization advance payment	46.4 a&b	Not Applicable

Conditions	Reference to GCC	Data	
Inspection & Testing		For all items having RDSO Specifications viz EI, OFC, HA SSDAC, UFSBI, Point machine, IPS, Data logger , various type of Relays, integrated LED signal modular terminals, Tag blocks, maintenance free earth etc., procurement shall be as per relevant RDSO Specifications from RDSO approved vendors and shall be inspected by RDSO. Items for which RDSO Inspection is not mandatory, shall be inspected by RITES/Authorized representative of RCIL.	
Tools, Plant and Materials supplied by RCIL.	33(1)	A. RailTel shall supply only following Outdoor S&T cables: i).U/G Signalling Cable 12CX1.5sqmm ii). U/G Signalling Cable 6CX1.5sqmm iii).U/G Signalling Cable 2CX2.5sqmm iv). U/G Signalling Power Cable 2CX25sqmm aluminum conductor v).6 Quad X 0.9mm dia vi) PIJF 10 pair B. Except this all the material will be supplied by the contractor for successful commissioning of the stations. All the cables as mentioned above will be supplied by RailTel from Mohali CWC store. Contractor has to make his own store in the PHR-LNK section to keep material supplied by the Contractor under this work. RailTel will not make any arrangement for the material supplied by the Contractor under this work.	
Deployment of Qualified Engineers at Work Sites by the Contractor:	26A	Deployment of Qualified Engineers at Work Sites by the Contractor is tabulated below	
The minimum requirement to be on the role of the bidder for each package is given below :			
Designation	Qualification	No. of Personnel	Experience
Project Manager	Graduate in Engg.	1	Min. 10 Years of which 5 years should be on EI Project Work
System Design Specialist (Signalling)	Graduate/Diploma in Engg.	1	Min. 10 Years of which 5 years should be in the design of PI/RRI/EI/Auto signaling
Site Engineer (Signalling)	Graduate/Diploma Engr	6	Min. 5 Years of which 2 year should be on PI/RRI/EI/Auto signaling
Payment terms : Cl. 46.1 to 46.5; Payment terms are given below :			

Conditions	Reference to GCC	Data
PAYMENTS: Payments to the contractor would be made through EFT/ECS as per the conditions below. DEDUCTION FROM ON ACCOUNT PAYMENT BILLS: All costs, damages or expenses, which RCIL may have paid or incurred, which under the provisions of contract are Contractor's obligations will be deducted by RCIL from progress payment Bills/Invoice of contractor, as and when it is understood that such an expenses has been incurred or paid for. All such claims of RCIL shall, however, be duly supported by appropriate and certified vouchers, receipts or explanations as are available to enable the contractor to identify such claims. The contractor will be entitled to be paid from time to time. Payment shall be made on submission of following documents to RCIL :- (i) Tax Invoice (IRN GST Invoice) or declaration for non applicability of IRN. (ii) Material BG for equivalent amount - The material shall be issued against the Bank guarantee of equivalent value. The amount of such security in the shape of Bank guarantee etc. should at no time be less than the cost of the material issued/ supplied to the contractor .Such materials shall be issued /supplied by RCIL only after ensuring receipt of Bank guarantee adequate to cover the cost of the items supplied. Proforma for supply of plant and material attached as Annexure. The BG against issued material shall be released after installation of material and certification by the engineer. (iii) Delivery Challan (iv) Packing list. (v) Factory Test Report. (vi) Consignee receipt (vii) Warranty certificate of OEM (viii) Insurance certificate for transit insurance (ix) Contractor's All Risk Insurance Policy, with RCIL as beneficiary. (x) Indemnity bond to indemnify RCIL against any damages to RCIL/Railway property. (xi) Inspection certificate in Original (xii) A certificate duly signed by the firm certifying that equipment/ materials being delivered (xiii) Certificate for GST input credit. ON ACCOUNT" payment shall be made separately for each item/sub item of work given in the Schedule of work. The bill shall be submitted by the contractor for each items of work which has been executed by him. The "ON ACCOUNT" payment shall not exceed 90% of the total on account payment due to the contractor on the rates indicated in the Schedule of work. For this purpose, the payment to the contractor at each on account stage shall be restricted to 90% of the amount calculated on the basis of rates indicated in the Schedule of work. Subject to any deduction which the RCIL will be authorized to make under the terms of contract that may be applicable while accepting the tender, the Contractor shall be entitled for payment as Tabulated below:-		

A	Items involving supply but installation being included in separate item.	a) 80% of accepted rate on supply of material and acceptance at RCIL store. b) 10% of accepted rate after installation and testing of item supplied. c) 5% after Handing over of the station to Railways and issue of Provisional Acceptance Certificate. d) 5% after warranty Period is over (Final Acceptance of the work)
B	Items involving supply, installation & commissioning	a) 90% of accepted rate on supply, installation and testing of items. b) 5% after Handing over of the station to Railways and issue of Provisional Acceptance Certificate. c) 5% after warranty Period is over (Final Acceptance of the work)
C	Items involving only installation & commissioning	a) 90% of accepted rate on installation and Commissioning. b) 5% after Handing over of the station to Railways and issue of Provisional Acceptance Certificate. c) 5% after warranty Period is over (Final Acceptance of the work)
D	Items involving only supply (No installation & commissioning is required by contractor)	a) 90% of accepted rate on supply and acceptance of material at RCIL store. Note: 90 % Payment will be made after receipt of the equipment duly inspected by the nominated inspection authority and no loss certificate by the Consignee. b) The balance 10% of remaining supply items (not installed) will be paid on return to store at the time of final material reconciliation after PAC of the last station commissioned including Spares/T&P items not installed.

1. FINAL PAYMENT

On the basis of Final Acceptance Certificate issued by the Engineer for all the works covered in this contract, the final bill for the balance payment shall be submitted by the contractor along with "NO CLAIM CERTIFICATE". The Final Acceptance Certificate shall be issued by Engineer only when:

- i) He has accepted the work wholly.
- ii) The maintenance period is over.
- iii) All the released materials are handed over by the contractor correctly and stocked as indicated.
- iv) Material reconciliation done and all the unused RCIL materials returned to RCIL Stores in good condition.

2. FINAL SETTLEMENT

On expiry of the warranty period and issue of the certificate of final acceptance of the entire installations, the security deposit will be refunded or Bank Guarantee released to the Contractor after adjustment of any dues payable by the contractor.

Note: 1. Bill Passing Authority – JGM/RP/CO/RCIL.

Bill Paying Authority – Addl GM/Finance/CO/RCIL

2. Provisional Acceptance Certificate (PAC) - After completion of installation, testing and successful commissioning of EI System at the stations, a 'Provisional Acceptance Certificate' (PAC) will be issued after observance period of one month.

3. Final Acceptance Certificate (FAC) - The Final Acceptance Certificate shall only be issued by the Engineer after the completion of all activities in accordance with Conditions of Contract, Technical Specifications & Requirements and Special Condition of Contract. After issue of Provisional Acceptance Certificate (PAC), the contractor will maintain the system for a period of minimum 12 (Twelve) months to make it stable and ensure smooth functioning during period of warranty. If the system is found in perfect working condition after 12 (Twelve) months as stipulated in para 3 & 4 (Warranty and Warranty Maintenance) and clear, complete & successful commissioning of the total system is certified and accepted by the Engineer-in-Charge associated with this work, Final Acceptance Certificate shall be issued.

The Final Acceptance Certificate shall be issued by the Engineer-in Charge only when he has accepted the work as per scope after conducting the acceptance tests as per the details given in the technical specification. The work shall be considered physically completed after issue of Final Acceptance Certificate by the Engineer-in Charge and Performance Bank Guarantee may be released.

Conditions	Reference to GCC	Data

Conditions	Reference to GCC	Data
3. WARRANTY: <u>The warranty for this tender will be for a period of one year.</u> Warranty for a period of <u>one year</u> shall be applicable from the date of issue of Provisional Acceptance Certificate(PAC), which will be considered as date of commissioning of complete system for the purpose of Warranty. This includes Warranty Maintenance clause as given in Para 4 below. Since the essence of the equipment being provided is the reliability & provenness for trouble free working at site, the Successful Tenderer shall confirm that in case the equipment provided do not meet the RCIL requirement and end objective, they shall replace and take away the equipment at no cost to the RCIL. Any payment done by RCIL shall be refunded back. i. The Successful Tenderer shall guarantee that all material & equipment to be supplied and installed as per this contract shall be free from defect and fault in design, material, workmanship and manufacture and shall be of the highest grade and consistent with established and generally accepted standard for materials of the type ordered and in full conformity with the contract specification. ii. During the period of Warranty the Successful Tenderer shall be responsible to the extent expressed in this clause for any defects that may develop under the conditions of usage of equipment as prescribed by the OEM/Successful Tenderer and under proper use, arising from faulty materials, design or workmanship on the plant or from faulty installation of the equipment under the supervision of the Successful Tenderer. In case of any dispute arising as to the correctness of the defects pointed out, the RCIL decision in this regard shall be final who shall state in writing as to what portion is faulty. iii. During period of Warranty, the Successful Tenderer shall remain responsible to arrange replacement and for setting right at his own cost any equipment supplied by him which is of defective manufacture or defective design or defective material/component become unworkable due to any cause whatsoever. The decision to attend to any damage or defect in work shall be final and binding on the Successful Tenderer. iv. If it becomes necessary for the Successful Tenderer to replace or renew any defective portions of the system under this clause, the provision of the above clauses shall apply to the replaced/renewed equipment till original warranty period of all equipment. If any defect is not remedied within reasonable time such that it leads to deterioration of performance parameters of the system latest, the RCIL may proceed to do the work at Successful Tenderer's risk and expenses, but without prejudice to any other rights, which the railway may have against the Successful Tenderer in respect of such defects. v. If the replacement or renewals are of such a character as may affect the efficiency of the system, the Railway shall have the right to give the Successful Tenderer within one month from such replacement or renewal notice in writing that test on completion will be carried out at his cost. Should such tests show that the plant sustains the guarantee in the contract; the cost of the tests shall be borne by the purchaser. Should the guarantees not be sustained, the cost of the tests shall be borne by the Successful Tenderer. vi. Until the completion of work, the Successful Tenderer's representatives, whose names shall have previously been communicated in writing to the RCIL, shall have the right to entry with permission of RCIL, at his own risk and at all reasonable working hours upon all necessary parts of the works for the purpose of inspecting the working and the records of the plant and taking notes there from and if he desires at his own risk and expense, making any tests, subject to the approval of the purchaser which shall not be unreasonably withheld. vii. All inspections, replacement or renewals carried out by the Successful Tenderer during the warranty period shall be subject to the same condition of the contract. viii. All replacement and repairs and design change that the railway shall call upon the Successful Tenderer to deliver or perform under this warranty shall be delivered and performed by the Successful Tenderer within one month, promptly and satisfactorily. ix. The decision of the RCIL in regard to Successful Tenderer's liability and the amount, if any, payable under this warranty shall be final and conclusive. x. Due to analysis of failures, if any design deficiency is pointed out by the RCIL, the Successful Tenderer shall rectify it at his own cost. xi. Change in system design due to yard modifications if any shall be carried out free of cost during the currency of the contract i.e. till the end of warranty period.		

Conditions	Reference to GCC	Data
------------	---------------------	------

4. WARRANTY MAINTENANCE:

Cost of warranty maintenance shall be included in the tender cost by the tenderer. Fault rectification and regular preventive maintenance of the total installation is to be done by the Successful Tenderer within the warranty period of one Year under warranty maintenance. The Successful Tenderer shall not be paid for this activity. During this period, the system availability of complete system should be comparable to requirement of specification. The normal day-to-day operations and diagnosis to the extent possible will be done by the RCIL, based on the guidelines & training provided by the supplier. For this purpose, Successful Tenderer shall prepare a maintenance plan and make available the services of qualified maintenance engineer stationed at the locations (approved by RCIL), for supervision of complete system's maintenance work. The maintenance engineer of the Successful Tenderer will visit all the stations at least twice in a month for ensuring implementation of maintenance plan and attend to any fault on the systems. No separate charges shall be paid for visit of engineers for attending to faults and repairs or towards the supply of spare parts. The Successful Tenderer shall inform names of qualified Service Engineers deputed at the location approved by RCIL and their contact numbers, so that they can be contacted during failure. The failure is to be attended and rectified within least possible time from the time of reporting of failure. The maintenance philosophy is to replace faulty units/modules after quick analysis of monitoring. For this purpose, sufficient spares modules/cards should be made available to ensure required system availability. The penalty as mentioned in table below ages, will be applicable for any default on account of non-availability of System/ Subsystem/ Modules.

S.No.	System Nomenclature	Penalty Rate		Remarks
		Failure affecting Train Operations	Failure not affecting Train Operations	
1	EI	Rs. 1000/- per hour	Rs. 1000/- per day	Penalty is for Failure Per System/Module of the System
2	IPS	Rs. 1000/- per hour	Rs. 1000/- per day	
3	UFSBI/HASSDAC	Rs. 1000/- per hour	Rs. 1000/- per day	

The actual repair shall be undertaken in a suitable centralized repair centre. The firm shall provide procedure & full details of testing instruments for repair activity.

The Successful Tenderer shall also submit the proposal specifying the man power deployment for fault control centre location and other details as to how the tenderer(s) proposes for carrying out the proper repairs under warranty maintenance. He shall also indicate what spares will be kept in different locations. The infrastructure planned to be created by the tenderer(s) to his obligations under warranty maintenance and his action plan to deal with the various situations arising out of hardware and software fault shall be clearly indicated.

BILL OF QUANTITIES

Name of Work: Upgradation of signalling from std-I to std-IIR with EI at 4 stations (i.e. Bilga, Nurmahal, Nakoder and Malsian Shahkot) in LNK - PHR section of FZR Division on Northern Railway

SN	Item Description	Unit	Qty.	Rate	Amount (Rs)
	Schedule A - EI WORK				
1	'Design, Manufacture & Supply of Electronic Interlocking (EI) system (with Centralised arrangement) for way side stations as per approved Signal Interlocking Plan in "Hot Standby Architecture". EI system shall be provided to operate Dual VDU (55 inches LED) Control Terminal as per RDSO Specification No. RDSO/SPN/192/2019 Ver2.0 with latest amendment, as per special condition of contract and technical specifications including all relevant and latest RDSO Technical Advisory Note etc. and from RDSO approved source only for the stations mentioned in the scope of work. It mainly consist of Microprocessor Equipment's, Interface Equipment's, EI Vendor specific interfacing Relays, In-built event logger, In-built power supply Equipment's. Racks (EI rack). Indoor cables, Wires, Fuses, Fixtures, Mounting arrangement 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(SIP) and selection table of Station/Yard. This item also includes supply of following :- (a) Supply of documents/manuals for EI system as per RDSO/SPN/192/2019 Ver 2.0 with latest amendment. (b) Supply and provision of protective devices like surge and lightening protection devices compatible to RE standard as recommended by OEM/RDSO.(Inspection by RDSO). Note: It includes supply of all the material which is required to make complete EI system to be functional and as recommended by RDSO in RDSO Specification no. RDSO/SPN/192/2019 Ver 2.0 with latest amendments. The technical requirements are attached in technical specification. Supply of RDSO approved type of Relays are covered separately. In case of requirement of vendor specific relays for EI system being supplied, the same shall be supplied by tenderer and cost required for such relays shall be included in the cost of the EI system under this item and number and type of such relays shall be indicated separately. The EI system shall be normally suitable for 3/4 line expandable up to 20% of no. of signalling gears without any added cost and further +ve variation above 20% in signalling gears from the	Stn	4	1,66,11,226.05	6,64,44,904.19

	given tentative SIP, it will be compensated above 20%, the cost of peripherals thus increased shall be paid as per break up submitted by tenderer at the time bidding. No extra cost for such variance in design & drawing if any shall be acceptable till PAC. System must be compatible with working in RE area.				
2	Supply of the following essential spares to the extent of 10% of the quantities installed (Subject to minimum 1 No., Standard procedure of rounding off will be followed for assessing the actual quantity) as per RDSO specification and Technical Advisory Note(latest): (Inspection by RDSO). (i) Each type of Input/output cards, (ii) Each type of vendor specific relays, (iii) DC-DC converter of all voltages, (iv) Switches, connectors, fuses, couplers. Breakup of spares along with unit cost to be submitted by the renderer in financial bid. Break up of spare without unit cost to be submitted in technical bid also.	Lot	4	17,14,930.22	68,59,720.88
3	Supply and transportation of Q-Series Neutral Line Relay QN1(8F/8B), 50 V for EI interface and confirming to BRS-931A or latest(Inspection by RDSO).	Nos	323	7,175.76	23,17,770.48
4	Installation, testing and commissioning of EI System with "Hot Standby Architecture as supplied under item no. 1 above stations mentioned in the scope of work. It includes transportation of material from store depot to the site, erection and grouting of EI Relay Racks, fixing and wiring of all the interfacing relays (vital & non-vital), installation and wiring of Microprocessors equipment, interfaced equipment, power supply equipment and all other associated accessories to make complete EI system to be functional as per RDSO specification and Technical Advisory Note(latest). This include (i).simulation arrangement, (ii)all installation and wiring material with RDSO source if applicable. (iii). Arrangement of both side goomty with all arangement required for NI period. It shall also consists of the following but not limited to: 1. Grouting, cutting of floors . walls etc. refilling of same, re plastering , required CC/masonry works, this includes digging of cable pit (minimum inside size of 3 mtr x 2 mtr x 1 mtr) and width of wall shall not be less than 200mm as per instructions given by engineer in charge. It includes supply and filling of sand before and after coiling of cables, covering top of the cable pit by stones and brick masonry work for sides and there after plastering. . 2. Termination of indoor cables on disconnecting terminals on Din rail, painting I lettering on	Stn	4	10,71,000.00	42,84,000.00

	Equipment Rack, Relay Rack/Termination Rack 3. Fixing of racks PBT terminals Disconnect Type/Wago terminals, ND Fuses, Bus Bars, Eyelets, hylam strips of required thickness (12mm, ISi mark) as per length required at site etc. 4. Fixing of VDU , all types of Relays, Wiring and testing as per wiring diagram . 5. Installation, wiring & testing of Relay Rack/Equipment Rack/CT Rack. 6. Testing of earthing arrangement as per latest ROSO guidelines I Technical Advisory Note. Note: (i) For Technical requirements refer technical specification, RDSO technical notes and Northern Railway Circulars. (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. All the guidelines/ directives issued by RDSO and Northern Railway from time to time shall be followed.				
5	Supply, installation, testing and commissioning of embedded fanless PC based VDU Control Terminal as per RDSO Specification no. RDSO/SPN/192/2019 Ver 2.0 with latest amendment & latest RDSO TAN . The display size of VDU shall be 55 inch LED. Suitable furniture like table etc required for mounting the VDU shall be provided by the contractor with prior approval of Railtel Engineer site incharge. This also includes the necessary furniture for keeping the VDU, Counterbox, BPAC panel, HASSDAC reset Box, Magneto telephones, gate telephone, VHF set 25 watt, control telepnnes, PA System, ASM's registeres any other item required & all accesories like power supply, VDU PC, communication switches, OFC and other cables termination accessories. (As per drawing of VDU cum Block Instrument and other equipment shown in Tender Document) (Inspection by Consignee). Furniture for VDU & other equipment shall be as per Drg. No. RCIL/VDU Table/1/22.	Nos.	10	8,25,000.00	82,50,000.00
6	Supply, installation, testing and commissioning of embedded fanless PC based Maintenance Terminal as per RDSO Specification no. RDSO/SPN/192/2019 Ver 2.0 with latest amendment & latest RDSO TAN. The display size of VDU shall be 42 inch LED. Suitable furniture like table etc required for mounting the VDU shall be provided by the contractor. Drawing of table	Nos.	5	7,70,000.00	38,50,000.00

	required prior approval of Railtel Engineer site incharge. One laser printer along with power backup ups not less than 20 minutes shall also be supplied and installed by contractor.with A-4 size color laser printer, UPS & with all necessary communication arrangement. This also include furniture i.e. table & chair for keeping MT with all accessories.(Inspection by Consignee).				
7	Supply, installation, testing & commissioning of off line domestic sine wave type inverter of 1000VA or above with suitable rating tubular batteries and UPS make of Su-kam, Luminious, Microtech or other reputed brand for the backup of VDUs of EI as per latest TAN.(Inspection by Consignee).	Nos.	8	36,480.26	2,91,842.08
8	Supply of work station note book. It also includes supply of Laser Printer. The work station should be capable of reconfiguring the system in case of any alteration in yard interlocking in future.(Inspection by Consignee).	Stn	4	92,575.80	3,70,303.20
9	Training for Railway Tech./JE/SE/SSE by OEM in design installation testing and commissioning, maintenanceand trouble shooting of EI system complete including supply of hard/soft copies of course module for each trainees. Competency certificate to trainee to be issued by OEM.All arrangement including classroom, lab, equipment measuring instrument for the trainee should be satisfactorily arranged by the contractor at their own cost. (Job=Training of one Tech/JE/SE/SSE for one day) Inspection site incharge.	Mand ays	80	772.91	61,832.80
10	Provision of Ring Earth for EI system which includes supply of all components of earthing & bonding system like earth electrode, earth enhancement material, earth pit, equi-potential earth busbar, connecting cables and tape/strips and other associated accessories in accordance with RDSO Spec.No. RDSO/SPN /197/2016 or latest consisting minimum 10 Nos. of earth pits connected in a ring to achieve less than 1 Ohms earth resistance for connecting EI equipments, relay racks, panel, power equipments as per Signal Engineering Practice. Diagram of ring earth should be supplied to RCIL for Approval before execution. All related material as recommended by RDSO in Specn. No. RDSO/SPN/197/2016 or latest, will be supplied by the contractor as per Latest TAN.(Inspection by RDSO).	P/stn	4	1,62,684.39	6,50,737.56

11	Supply of active lightening 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 seconds. A non resettable type counter should also be supplied to count the number of lighting occurrences. It also includes supply of electrolytic copper tape of 25mm X 2mm of better to connecting class A devices to the earth pit. This includes installation, testing and commissioning of Class A device on top of the building. This device should be installed at suitable height on top of the building using a GI mask as per the instruction of RCIL engineer at site. The device should be connected to earth pit using a copper tape of 25mm X 2mm or better. This copper tape should be run firmly only the side of mask with the help of spacers. It shall also be ensured that the down conductor shall not touch the building throughout. The down conductor shall be connected to the earth electrode using exothermic welding. A counter shall be installed at appropriate space to count the number of occurrences. All the accessories like spares, welding material etc. required for installation shall be arranged by the contractor.(Inspection by RDSO).	Set	8	59,710.89	4,77,687.12
12	Supply of Microprocessor based data logger with 512 Digital & 32 Analog Inputs as per specification no. IRS:S 99/2006 (amdt. 3) with latest amendments and shall be suitable to work with electronic interlocking system . It includes all interfacing equipments like protocol converter unit etc . It also includes design, supply and installation of all software required as standard practice of NR and as per specification no. IRS:S 99/2006 or latest. Digital input to be taken from EI through protocol converter and in addition one digital input card to be provided for digital input of important ir-interface relays. This also includes supply of E-1 (RS-232 to E-1 Converter) for networking of Datalogger, power supply of adequate capacity, battery and fault diagnostic software for failure analysis, Door Proximity switches (4-no.) with 2 way rigid connector for wire termination between proximity switches and Datalogger Tag blocks as per specs .. Complete Data Logger & Processor Module shall be placed in President I Rittel rack of suitable size to be supplied. This also includes supply of one no. of Computer, one no. Computer Table(Godrej make), , UPS, Printer and one no. Operator Chair (Godrej make)- as per technical specification(Inspection by RDSO). Note: Data Logger will be installed, wired, tested	Each	4	5,77,072.65	23,08,290.60

	and commissioned by OEMs engineer as per guidelines issued by RDSO. The Pre-commissioning check list issued by RDSO for Data Logger System will be prepared by OEMs engineer and signed jointly with Rly Site Engineer. Before commissioning of Data Logger, OEM will submit Site Installation Certificate to Railway mentioning that Data Logger has been installed, wired, tested and commissioned by approved vendor of RDSO i.e by OEM.				
13	Installation, wiring, testing and commissioning of Data Logger as per spec . IRS: S-99/2006 with Amdt-2 or latest, including but not limited to the following : 1. Supply and loading of diagnostic software for failure analysis. 2. Interface wiring between Relay Rack to Datalogger for all the digital & Analog inputs as per standard Railway practice. 3. Relay Room Door locking checking arrangement , commercial power supply monitoring arrangement & DG Sets, 4. Interlinking & Networking of Datalogger with adjoining stations and IBSs. 5. Modification to Software & Hardware, if required, and networking with other Data Loggers along with fault logic design at Control Centre. 6. Training as per Railway Practice. 7. Software programming of Datalogger to enable Preventive maintenance of S&T assets, 8. Failure analysis, GUI of Yard Layout, extract of report in common language, accident analysis as per ROSO Guideline. 9. All installation & wiring material including supply of Relay Room Door locking checking arrangement shall be supplied by contractor & shall be procured from ROSO approved sources, wherever applicable.	Job	4	27,077.26	1,08,309.04
14	Preparation of Design & Drawings documents: Designing SIP, ST, VDU diagram, SWR, Application logic, Interface circuits, SWRD of El to suit proposed Yard Layout. Note SWR should be in 10 copies English/Hindi DIGLOT form as per Railway practice.	Stn.	4	77,350.00	3,09,400.00
15	Supply, installation, testing and commissioning of NDT type fuses of different ratings as per specifications IRS-S-78/92 or latest on relay rack or any other place and wiring the same as per standard practice and as per instruction of site engineer.(Inspection by RDSO).	Nos.	300	186.91	56,073.00

16	Supply fixing and wiring of Fuse Auto Changeover System (FACS main system) as per RDSO/SPN/209/ 2012 Rev. 2.0 with latest amendments. One automatic changeover unit comprise 32 nos of external Non Deteriorating Type or 'G' type fuses of various Ampere Rating, working voltage- 24 VDC which are in signalling circuits. System shall have 8 cards with monitoring arrangement of 4 fuses in one card. Installation , wiring, Testing and ommissioning of Fuse Alarm System,it consists of fixing of modules of fuse alarm system on existing relay rack, wiring from existing fuses to modules, soldering, lacing etc. working to be executedwithout affecting the functioning of the existing Circuits/Gears and the work shall be supplied by the contractor. Inspection by- RDSO for supply portion.(Inspection by RDSO).	pe modul e	24	40,179.46	9,64,307.04
17	Design & supply of Relay racks, wire coils and relay wiring accessories. This includes indoor wiring of vital I/Os from EI system upto CT rack alongwith design of circuits & preparation of wiring Diagrams.(Inspection by Consignee).	rh/rr	4	10,70,470.61	42,81,882.44
18	Supply, Installation, Testing and commissioning of Automatic Fire Detection & Alarm System (AFDAS) for Signalling installations as per specn no. RDSO/SPN/217/2016 Ver 1.0 or latest consisting of probe type bimetallic heat detector with base, UV & IR flame detectors with base, heat & smoke multisensor with base, aspirating type smoke detectors with base, linear heat sensing (LHS) cables, LHS interface module, LHS cable end of line box with modular junction box, monitor module for LHS cable alarm input to fire panel, addressable hooter, fire alarm control panel with sufficient input ports for connecting various sensors/detectors along with their interfaces, if any, and shall have sufficient output ports for controlling fire extinguishing system, operating/switching off electrical units and having provision for remote monitoring network along with software , intelligent addressable Manual call points, audio visual alarm , fire survival circuit integrity cables etc. The AFDAS shall also consist of fire suppression system as per RDSO specification . The fire alarm panel should also consist of switched mode power supply system , battery backup and charger, display board which will have character display with touch key pad, RS- 232/485 Networking Circuit, USB 2.0 Port, Programmable inputs, NAC's and Programmable relays, and loop card circuits , necessary software for display of fire alarm , necessary interconnecting cables etc. Power supply Board will have SMPS fully protected board,	No	4	13,13,212.60	52,52,850.40

	battery backup with built in charger as per RDSO specification(Inspection by RDSO).				
19	Supply, installation, wiring, testing and commissioning of L.C.Gate telephone with inbuilt recorder in 1+6 configuration with central supply as per RDSO specification no. RDSO/SPN/TC/51/2011 or latest. (Inspection by RDSO).	Set	8	87280.75	6,98,246.00
20	Supply of powder coated Main Cable Termination rack complete with scaffolding , fixtures & accessories including square bars for mounting 8-way terminal/modular terminal & blocks, ladders, string rods, frame, base assembly, insulators, J bolt, Ubolts & fasteners (Bakelite strips) , Rack arrangement etc. as per extant practice on n Rly for El. Rack should be made of first class steel powder coated painting and rack manufacturer's certificate should be submitted. All runway for cables I wires shall be provided with PVC sleeve of proper size. All above material including modular terminals shall be supplied by Contractor(Inspection by Consignee).	Nos.	13	45,416.35	5,90,412.55
21	Fabrication, supply and fixing of relay racks of size 2200mmx690mm (as per approved Drg. No. NR/S&T/CON/4.3/97A) made of angle iron size 45mmx45mmx6mm along with outer frame made of angle iron size 65mmx65mmx8mm, fitted with M.S. square bars duly galvanized, descriptions strips to accommodate Plug-in type relays/groups/Point contractor/ECR . All fixing material like antilting device, hylam sheets if required, bolts & nuts, washers, insulators, shoe, angle irons, flats, L-bolts, Catenary wires and cement concrete etc. will be supplied by the contractor. This includes cleaning, priming by red oxide, painting & description etc. with ISI mark paints. Inspection by- Consignee for supply portion.(Inspection by Consignee).	No	2	18,659.79	37,319.58
22	Training of Railway personal with supply of hard/soft copies of course material.	Mandays	59	986.40	58,197.60
23	Supply and transportation of Q-Series Neutral Line Relay (QNA1 Type), 8F/8B along with plug board(base plate), connectors, retaining clips etc and confirming to BRS-931A or latest.(Inspection by RDSO).	Nos	72	3,694.11	2,65,975.92
24	Supply and transportation of Q-Series Neutral Line Relay (QNA1 Type), 12F/4B along with plug board(base plate), connectors, retaining clips etc and confirming to BRS-931A or latest.(Inspection by RDSO).	Nos	142	3,694.11	5,24,563.62
25	Supply and transportation of Q-Series Neutral Line Relay (QNA1 Type), 4F/4B along with plug board(base plate), connectors, retaining clips etc and	Nos	35	4,848.03	1,69,681.05

	confirming to BRS-931A or latest.(Inspection by RDSO).				
26	Supply and transportation of Q-Series Neutral Line Relay QN1(8F/8B), along with plug board(base plate), connectors, retaining clips etc and confirming to BRS-931A or latest(Inspection by RDSO).	Nos	25	6,600.00	1,65,000.00
27	Supply and transportation of Q-Series Neutral Line Relay (QNN1 Type), 6F/2B along with plug board(base plate), connectors, retaining clips etc and confirming to BRS-931 or latest.(Inspection by RDSO).	Nos	20	4,616.98	92,339.60
28	Supply and transportation of Q-Series Neutral Line Relay (QSPA1 Type), 8F/4B along with plug board (base plate), connectors, retaining clips etc and confirming to BRS: 930, 931A, 932A, 933A, 934A, 935A, 937A, 943, 960 & RDSO/SPN/84 ver.2.0. (Inspection by RDSO).	Nos	120	5,161.03	6,19,323.60
29	Supply and transportation of Contactor Unit (QBCA1 Type), 24 V DC, 2F(HD).2F/4B complete with plug board (base plate), connectors, retaining clips etc and confirming to BRS-943 and RDSO Spec no. IRS S-34 & S-23 or latest.(Inspection by RDSO)	Nos.	130	8,300.00	10,79,000.00
30	Supply and transportation of Q-Series Neutral Line Relay (QL1 Type), 11F/4B along with plug board(base plate), connectors, retaining clips etc and confirming to BRS-931A or latest.(Inspection by RDSO).	Nos	86	8,300.00	7,13,800.00
31	Supply and transportation of Q-Series Neutral Line Relay (QECX1 Type), along with plug board(base plate), connectors, retaining clips etc and confirming to BRS-931A or latest.Relay plug in type style AC LED all aspects.(Inspection by RDSO).	Nos	125	4,924.61	6,15,576.25
	Schedule B - BLOCK WORKING				
32	Supply, installation & commissioning of block proving with axle counter (BPAC) using UFSBI for single line suitable for 25KV electrified area as per RDSO specification No. IRS:S-105/2012 with latest amendment. (a) ELECTRONIC SIGNALLING EQUIPMENTS : Universal Fail Safe Block Interface for single line suitable for 25KV electrified area, complete with all accessories as per RDSO's specification RDSO/ SPN/ 147-2005 & IRS Specification No. IRS:S-105/2012 Ver.0 (or latest). (2 (two) numbers per block section). It comprises of Auto Changeover facility for 1 Quad & OFC working. Necessary MODEM for Quad and OFC should be supplied along with Auto-Changeover arrangement. (b)Relay rack with due locking & sealing arrangement including necessary relays (QN1, QNA1, QL1, Timer etc.) to suit single line	Set	6	1386227.74	83,17,366.44

	UFSBI and wiring as per wiring diagram RDSO's drawing No. RDSO/S/32020 (latest amendment). (c)Block panel complete with accessories as RDSO Drg. No. RDSO/S/32019 (latest amendment)- 02 Nos. (d)Block telephone with accessories as per RDSO's specification No. RDSO/SPN/ 191/2006.- 02 Nos. The Block Phone should Work without any interruption after Auto changeover.(Inspection by RDSO).				
33	Supply, installation of OFC integrated access device 1U height or 1.5 U height /19" rack mountable for LVCD /Digital axle counter purpose;optical module integrated in the unit supporting dual core OFC and one 100Mbps Ethernet port for surveillance/ smoke detector; optical distance support to be 20 kms; unit to support one E&M module supporting four 2W/4W (each port configurable) to support axle counter / UFSBI/Control phone/ EC/RTU/ and one TELNET/SNMP port; unit to support DC/AC power supply ; unit to support change over mechanism between quad and optical fiber for E&M option;one number cable to be provided along with unit for E&M ; FABIO/2CX/OFC/DC & Module 2W/4W four port : Make :TEAM ENGG/FABIO/WAVES or similar /TANSY. One Set for one block section, (Inspection by- Consignee).	Set	6	2,49,861.00	14,99,166.00
34	Supply of Digital Axle Counter Single Track section High availability (HASSDAC) with two detection point with dual track sensor, complete set as per RDSO Spec. No. RDSO/SPN/177/2012 Version 3 or latest amendment or specification, complete set each consisting of :(a) Start Fed (SF) System-1 no. (b) End Fed (EF) System - 1 no. (c) Rest Box -2 no. (d) Reset Filter -2 no. (e) Display unit -2 no. (f) Relay Box 1VR 1PR (each box consisting of Q relay series 1000 Ohm 6F/8B-2 no.) - 4no. (g) Transmitter (Tx) coil/sensor - 4 no. & Receiver (Rx) coil/sensor -4 no., with mounting arrangement for rail contact & double rail contact with 15 mtr. Integral cable. (h) Deflectors to safe guard rail contact - 8 nos. (i) Tool Kit 1 no. or with 100% redundancy on cross approval of all equipment SSDAC as per RDSO specification RDSO/SPN/177/2012 (Ver.3)(Inspection by RDSO). Note: The supply and provision of unit maintenance free earth has been covered separately.	Set	6	8,52,561.97	51,15,371.82

35	Installation, wiring, testing & commissioning of central unit of Digital Axle Counter Single Track section High Availability (HASSDAC) with two detection points set as per RDSO Spec. no. RDSO/SPN/177/2012 Ver. 3 or latest amendment or specification or with 100% redundancy on cross approval of all equipment SSDAC as per RDSO spec. no. RDSO/SPN/177/2012 (Ver.3) of RDSO/SPN/177/2003 (Ver.1) Amdt. 2 including its associated all indoor equipment, indication panel and wiring the same to integrate with the relay circuits as per the instructions of RCIL Engineer at site and as per latest TAN. This includes laying & termination of cable, if any from panel room to axle counter room/relay room in existing ladder. Installation /programming/ configuration/ commissioning of Axle counter equipment to be carried out in accordance with latest guide line issued by Railway/RDSO preferably by authorized representative of OEM.	Set	6	22,833.64	1,37,001.84
36	Supply, installation & commissioning of maintenance free earth suitable kit as per RDSO specification RDSO/SPN/197/2008 and Drg No. SDO/RDSO/E&B/002 dated 19.09.2008 or latest with latest amendments. Earthing kit consist of: 1. Earthing electrode of 17mm dia and 3 meter long-01 no. 2. MEEB (300mmX25mmX6MM) -01 no. 3. SEEB (150mmX25mmX6mm)-01 no. 4. Earth enhancing compound- 30 Kg (minimum). This include provision of earth connection from MEEB to S&T equipment i.e. cable sheath, apparatus case, IPS, data logger, MSDAC, SSDAC etc. with PVC earth wire of size 16/25Sq.mm through copper lugs of suitable size. PVC wire shall be supplied by contractor. Note: At certain locations it may not be possible to achieve earth resistance of less than 1.0 ohm with one earth electrode/pit due to soil resistivity. In such case provision of loop earth consisting of more than one earth pit shall be done. For inter-connection of two earth pits copper tape of size 25x2 sq. mm shall be provided by contractor. The number of pits required shall be decided based upon the resistance achieved for the earth pit already installed. The procedure mentioned above for one earth pit shall be repeated for other earth pits. The other earth so installed for the purpose of loop earthing arrangement shall be counted as separate earth. Inspection by- RDSO for supply portion.(Inspection by RDSO).	Lot	36	25,404.53	9,14,563.08

37	Wiring of relays in relay room/relay huts as per appd wiring diagrams. All wiring material including resistances and condensers etc. except cables/wires to be supplied by contractor (Supply of cables & wires covered separately). It also includes dressing, bunching, lacing and fixing of relay bases.	Nos (Per Relay)	160	373.82	59,811.20
	Schedule C - POWER SUPPLY				
38	a) Supply of SMPS based Integrated Power Supply (IPS) system suitable up to 3/4 line station with 'Q' Series Relay conforming to RDSO/SPN/165/2012 with latest amendment along with battery bank (55+5) 110V DC/300 AH along with remote indication panel. Total no. of modules and their ratings/capacity of each type of supply shall be as per Drg No. RCIL/IPS/4-Line/RE/2/22. It covers supply of Tool Kit containing all type of tools required for maintenance of IPS set as per RDSO specification no. RDSO/SPN/165/2012 with latest amendmen. The length of cables required from IPS to Battery bank 25 Sqmm flexible Copper Wire Red & black as per RDSO specification will be supplied by OEM .The vendor shall submit IPS configuration with load calculation sheet and shall obtain RCIL engineer approval before supply.(Inspection by RDSO). b) Installation,Wiring,Testing & commissioning of Integrated Power supply system conforming to specn. RDSO/SPN//165/2012 (Ver.3) or latest as per RDSO pre-commissioning checklist. This includes Installation and commissioning of 55 no. LMLA Batteries of IRS: S-88/2004 as per extant practice of NRLY along with installation of Remote indication panel in SM/ASM's room. Any masonary work,if required, will be carried out by contractor's own material. The 25 sq mm wire shall be used for connecting Batteries from IPS, 16 sq.mm Power cable is to be used for wiring of 110V DC & 110V AC and for 10 sq.mm power cable for rest of the supplies. All connectors,wiring material, ladders, DWC pipes etc as per site requirement are to be arranged by contractor as per instructions of RCIL engineer at site. The contractor will provide Supply & fitting of exhaust fan in IPS room with wire mesh and flap cover to protect the room against dust. The item includes transportation ,loading and unloading of complete IPS system with Batteries from store to site of installation. All wiring will be done by using flexible multi strand copper wires of suitable size as recommended by RDSO in IPS's pre commissioning checklist. This includes extending various power supplies up to bus bars in Relay room and upto Battery room. IPS	Nos.	4	18,36,823.31	73,47,293.24

	should be connected to ring of earth of EI. This also includes supply of all types of wires/Distribution board required for interconnection from IPS to Relay rack, CT rack etc as per RDSO guidelines/Railway practice NOTE:- IPS will be installed ,wired ,tested and commissioned by OEMS's engineer as per guidelines issued by RDSO. The pre-commissioning checklist issued by RDSO for IPS will be prepared by OEM's engineer and signed jointly with site engineer. Before commissioning of IPS ,OEM will submit site installation certificate by mentioning that IPS has been installed ,wired,tested and commissioned by approved vendor of RDSO i.e by OEM				
39	Supply, wiring, installation, testing and commissioning of Earth Leakage Detector (ELD) 16 Channels as per RDSO Specn. RDSO/SPN/256/2002 or latest including on job training at site will be given by OEM engineer for installation and maintenance of ELD.(Inspection by RDSO).	Nos.	4	1,69,588.45	6,78,353.80
40	Supply, installation, wiring, testing and commissioning of Diesel Generator Set 20 KVA, Single Phase, 230 V, 1500RPM, 50Hz, 30BHP (minimum) mounted with air cooled double cylinder diesel engine with acoustic enclosure complete silent type DG sets confirming to RDSO Specn. No. IRS(S) 69/86 with latest amendment. (CPCB Noise and Emission Complaint) Kirloskar make engine/alternator. This also include supply of standard AMF control panel, supply of 12V/120 AH battery set along with battery charger of suitable rating for charging the batteries to ensure self starting arrangement of DG Sets. This include Supply and installation of Change over switch 200 Amp. 3 Phase, 415VAC, 50Hz (Side Handle) four pole, Make Havel's IHCFFE 200 or superior. It also includes supply of start/stop buttons, Volt/Ampere/Frequency meters and 63 AMP MCB(minimum). (Inspection by Consignee). Note: DG set will be procured from OEM or authorised dealer of OEM's with the warranty certificate of minimum 1 year .ALL masonry work required for installation of DG set will be done by contractor under supervision/instructions issued by site engineer in charge of RCIL.	No.	4	4,47,312.50	17,89,250.00
Schedule D - CABLING					

41	Digging of 1 mtr deep and 0.3mtr wide trenches in all type of soils, including soft rock as per approved cable route plan and back filling the trench after laying of cables. It includes clearing of roots of trees and bushes and temporary obstructions on the selected cable route, ramming of soil and planting of cable marker at every 50 mtrs and at every locations where direction of trench changes. The item includes covering of laid cables by sieved soil up to 5 cm before covering by bricks. Where digging of 1 mtr depth is not possible or depth is reduced/increased as per instructions given by engineer in charge then payment will be decreased/increased proportionately to the depth of trench. Note: Cable trenching between Station Limit (i.e. from Distant to Distant Signals) should be done as per approved Cable Route plan. If above mentioned minimum distances are not available at site then trenching will be done by contractor as per instructions issued by site engineer.	CUM	25600	80.23	20,53,888.00
42	Excavating and refilling of trench 0.3 Mtr. Wide & 1 Mtr. Deep from bottom of rail flange across the track or 0.5Mtr. from ground level which ever is more as per approved Drg no. NR/S&T/CON /1-2/97. Earth should be rammed so as not form a drain. This includes removal and refilling of ballast and restoration of surface under normal traffic conditions.	Mtr.	750	104.28	78,210.00
43	Excavation and refilling of trench 0.3 mtrs wide and 0.8 mtrs deep on pitched/stone/bricks paved surface, road/crossing/platform etc and restoring the surface to its original condition.	Mtr.	750	115.99	86,992.50
44	Supply,Laying & installation of 100 mm B class perforated GI pipe for cable protection at culverts/Bridges including Cutting,suitably concreting at both ends,GI clamps,flats etc. All material to be supplied by contractor. The work shall be done as per instruction of Engineer	Mtr.	300	1,589.84	4,76,952.00
45	Supply and laying of 2nd class bricks in the trench and laying as per Drg. No. (NR/S&T/Con./1.1/97A) and as per instruction of the site Engineer.	Nos	14700 0	8.47	12,45,090.00
46	All work of horizontal boring and trenchless cabling along with supply,transpotation and insertion of double wall corrugated pipe -(ISI marked) conforming to RDSO Spec no. RDSO/SPN/204/2011 or latest, and the laying of cable in the boring under the track / road etc as per instruction of site engg. by using pipe of size 120 mm outer dia, 103.5 mm inner dia in which required number of cables to be crossed. The depth of horizontal boring should be minimum 1.0 mtr. from rail flange/road level. Inspection by- RITES for supply portion.(Inspection by Consignee).	Mtr.	1600	2,045.40	32,72,640.00

47	All work pertaining to Horizontal Directional Drilling (HDD)/Boring and trenchless cabling. It includes supply, transportation and insertion of self lubricated HDPE Pipe and laying of cables in boring under the track/road by using different sizes of pipes depending on total number of cables will be crossed. The depth of horizontal boring should be minimum 1 mtr from rail flange/road level. This item will be used for track crossing of running lines - By using self lubricated HDPE Pipe of 200/175 mm outer/inner dia).(Inspection by Consignee).	Mtr.	1300	3,454.12	44,90,356.00
48	Supply, transportation and laying of Double Wall Corrugated (DWC)-HDPE pipe/duct in the cable trench as decided by site engineer in charge. It includes supply and insertion/laying of Double Wall Corrugated -HDPE pipe/duct as per RDSO Specn. No. RDSO/SPN/204/2011 or latest and conforming to ISI Spec. No.IS-14930, Part-II. The DWC-HDPE pipe/duct will be ANTI RODENT type and shall include supply and installation of accessories of DWC-HDPE duct/pipes like plastic coupler (push fit type with O-ring), end caps, T-Joints etc. The DWC-HDPE pipe/duct will be inspected by RDSO. The contractor will submit the test reports of DWC pipe-Size 200 mm outer dia. and 175 mm inner dia. (Inspection by Consignee).	Mtr.	1100	410.44	4,51,484.00
49	Laying of S&T cables of various cores/pairs/quads in trenches/ GI Pipes/ RCC Pipes/ DWC Pipes/ Trunking etc including laying of cables in track crossings and road crossings. It includes provision of labels on each cable of coloured plastic adhesive tapes or any other identifiable marker to give the cable number at each termination point G.P. The contractor will do meggering of all the cables(main & tail) before laying as well as after laying under the supervision of engineer in charge. Meggering test report of each cable will be signed jointly by authorized site representative of contractor and RCIL site engineer in charge. Contractor will arrange to transport the material from RCIL Store. Note: The length of the cables laid will includes length of the cables which have been coiled for termination purposes.	Kms.	480	7,390.78	35,47,574.40
50	Testing & meggering of all types of outdoor cables after its laying and termination on both ends under supervision of RCIL Engineer in presence of Railway representative. This also includes preparation of test report for core to core and core to earth on prescribed proforma for each core of the cable separately after termination of cable. This also includes dressing & lacing of cable on both ends.	Per Condr	10520 .4	14.84	1,56,122.74

	Performa for testing & material for lacing to be supplied by the contractor.				
51	Fabrication, supply & fixing of cable marker of 1:3:6 concrete(Inspection by Consignee).	Nos.	435	1,338.03	5,82,043.05
	Schedule E - APPARATUS CASES				
52	Casting,Concreting and curing of foundation and erection of App.Cases (single) of size (1160mmx760mm) at surface and 650mm deep as per drg.No. NR/S&T/CON/2.7/97. A layer of 3mm of bitumen compound has to be provided between foundation and location box to prevent ingress of water in the base of location box. All material such as cement,sand,aggregate and anchor,App.case (single) will be supplied by railways. Contractor is required to execute all type of repair worksof foundations if required during inserting the cable for termination.(Inspection:Site Incharge)	Nos.	160	6,319.15	10,11,064.00
53	Casting,concreting and curing of foundation and erection of half App.Cases of size (670mmx670mm) and 650mm deep as per drg.No. NR/S&T/CON/2.8/97. A layer of 3mm of bitumen compound has to be provided between foundation and location box to prevent ingress of water in the base of location box. All material such as cement,sand,aggregate and anchor bolt shall be supplied by contractor. App.case half will be supplied by railway. Contractor is required to execute all type of repair works of foundations if required during inserting the cable for termination.(Inspection:Site Incharge)	Nos.	120	5,539.53	6,64,743.60
54	Supply and installation of Apparatus Case Single (Full) as per Northern Railway Drg. along with two E Type locks and each fitted on both doors for locking arrangement.(Inspection by RITES). Note: E type lock will be as per RDSO Drg. No. SA-3376, 3377 & RDSO Specn. No. IRS:-S-30/64 or latest (Ward number of E Type locks will be given by Engineer in Charge). It includes installation of Apparatus cases on CC foundation with grouted bolts, fitting of E type locks, fabrication of slotted angle frame and fixing in the location box. This also includes filling space below location box with sand and earth work, if required. It cover supply & fixing of telephone sockets, location lamp holder, switch and lamp etc.	Nos.	160	28,953.54	46,32,566.40

54.1	Preparation of App. Case single involving wiring of relays. it includes - (i) Preparation & fixing of bakelite hylum sheet 910x800x6mm and teak wooden shelf 900x450x25mm duly fixed by angle iron piece of different size inside all the app. Cases. Hylum board shall be fixed on an angle iron frame of 25mmx25mmx3mm. Angle iron frame will be fixed in location boxes secured by nuts & bolts. (ii) Fixing of fuses, ARA terminal shelf type Q series relays and other type relays on square bars fixing and jamming of cables with 2 inch thick salwood plank provided at the bottom. This will include opening, pasting and jamming armour of each cable in the hole drilled separately for each cable through the salwood plank & all cable entry points on location boxes, location huts, JB's relay room/battery room to be closed with suitable masonry works covered with sand and plastering. (iii) Description for terminal drawing of circuits, inside app. Case. Painting from out side as well inside with red oxide and aluminum paint is covered separately. Size of lettering will be 100mm or as per instructions of Engineer at site. (iv) All materials including hard wood shelf, hylum board, salwood plank, angle iron square bar, wire and wiring material as per the IRS specn., non deteriorating type HRC fuses, bases, nuts and bolts and other items shall be supplied by the contractor. Relays, ARA terminals only shall be supplied by the RailTel. (Inspection :Engg representative.)	Nos	30		
54.2	Preparation of App. Case single not involving wiring of relays. it includes - (i) Preparation & fixing of bakelite hylum sheet 910x800x6mm and teak wooden shelf 900x450x25mm duly fixed by angle iron piece of different size inside all the app. Cases. Hylum board shall be fixed on an angle iron frame of 25mmx25mmx3mm. Angle iron frame will be fixed in location boxes secured by nuts & bolts. (ii) Fixing of fuses, ARA terminal shelf type Q series relays and other type relays on square bars fixing and jamming of cables with 2 inch thick salwood plank provided at the bottom. This will include opening, pasting and jamming armour of each cable in the hole drilled separately for each cable through the salwood plank & all cable entry points on location boxes, location huts, JB's relay room/battery room to be closed with suitable masonry works covered with sand and plastering. (iii) Description for terminal drawing of circuits, inside app. Case. Painting from out side as well inside with red oxide and aluminum paint is covered separately. Size of lettering will be 100mm or as per instructions of Engineer at site. (iv) All materials including hard wood shelf, hylum	Nos	95		

	board, salwood plank, angle iron square bar, wire and wiring material as per the IRS specn., non deteriorating type HRC fuses, bases, nuts and bolts and other items shall be supplied by the contractor. Relays, ARA terminals only shall be supplied by the RailTel. (Inspection :Engg representative.)				
54. 3	Preparation of App. Case to be used as battery box (not requiring shelf and hylum of size 910x150x6mm only is reqd.): This includes fixing of fuses, ARA terminal and jamming of cables with 2 inch thick salwood plank provided at the bottom. This will include opening, pasting and jamming armour of each cable in the hole drilled separately for each cable through the salwood plank and all cable entry points on location boxes, location huts, JB's relay room/battery room to be closed with suitable masonry Works covered with sand and plastering. Wiring description for terminal drawing of circuits, inside app. Case. Painting from out side as well inside with red oxide and aluminum paint is covered separately. Size of lettering will be 100mm or as per instructions of Engineer at site. All materials including hylum board, salwood plank, wire and wiring material, catenary wires, nuts and bolts and other items shall be supplied by the contractor and shall be as per the RDSO specn.(as applicable).	Nos	35		
55	Supply and installation of Apparatus Case Half as per As per Northern Railway Drg. along with two E Type locks and each fitted on both doors for locking arrangement. Note: E type lock will be as per RDSO Drg. No. SA-3376, 3377 & RDSO Specn. No. IRS:-S-30/64 (Ward number of E Type locks will be given by Engineer in Charge). It includes installation of Apparatus cases on CC foundation with grouted bolts, fitting of E type locks, fabrication of slotted angle frame and fixing in the location box. This also includes filling space below location box with sand and earth work, if required. It cover supply & fixing of telephone sockets, location lamp holder, switch and lamp etc.(Inspection by RITES).	Nos.	120	22,363.42	26,83,610.40

55.1	Preparation of App. Case half involving wiring of relays: Preparation & fixing of bakelite hylum sheet 450x800x6mm and bakelite shelf 450x450x25mm duly fixed by angle iron piece of different size inside all the app. Cases. Hylum board shall be fixed on an angle iron frame of 25mmx25mmx3mm. Angle iron frame will be fixed in location boxes secured by nuts and bolts. This includes fixing of fuses, ARA terminal, Q series relays and other type relays on square bars fixing and jamming of cables with 2 inch thick salwood plank provided at the bottom. This will include opening, pasting and jamming armour of each cable in the hole drilled separately for each cable through the salwood plank and all cable entry points on location boxes, location huts, JB's relay room/battery room to be closed with suitable masonry Works covered with sand and plastering. Wiring description for terminal drawing of circuits, inside app. Case. Painting from out side as well inside with red oxide and aluminum paint is covered separately. Size of lettering will be 100mm or as per instructions of Engineer at site. All materials including Bakelite shelf, hylum board, salwood plank, wire and wiring material, non deteriorating type HRC fuses with bases, catenary wires, nuts and bolts and other items shall be supplied by the contractor and shall be as per the RDSO specn.(as applicable).	Nos	35		
55.2	Supply of apparatus case steel RE half with 'E' type locks and key ward No 42 & handle as per Drg No. RE/S&T/ALD/SK/220/82 & 221/82 with Alt.B .Inspection by- RITES.	Nos	65		
55.3	Preparation of App. Case half not involving wiring of relays: Preparation & fixing of bakelite hylum sheet 910x800x6mm and Backelite shelf 900x450x25mm duly fixed by angle iron piece of different size inside all the app. Cases. Hylum board shall be fixed on an angle iron frame of 25mmx25mmx3mm. Angle iron frame will be fixed in location boxes secured by nuts and bolts. This includes fixing of fuses, ARA terminal, fixing and jamming of cables with 2 inch thick salwood plank provided at the bottom. This will include opening, pasting and jamming armour of each cable in the hole drilled separately for each cable through the salwood plank and all cable entry points on location boxes, location huts, JB's relay room/battery room to be closed with suitable masonry Works covered with sand and plastering. Wiring description for terminal drawing of circuits, inside app. Case. Painting from out side as well inside with red oxide and aluminum paint is covered separately. Size of lettering will be	Nos	20		

	100mm or as per instructions of Engineer at site. All materials including Backelite shelf, hylum board, salwood plank, wire and wiring material, non deteriorating type HRC fuses with bases, catenary wires, nuts and bolts and other items shall be supplied by the contractor and shall be as per the RDSO specn.(as applicable).				
56	Supply, fixing and wiring of SPD D class(Inspection by RDSO).	Nos	280	6,000.00	16,80,000.00
57	Earth work around the location boxes, signals etc.	Cum. Mtr	100	143.77	14,377.00
58	General concrete work in cement,coarse sand and aggregate ratio 1:3:6,work scattered at different places for items not covered in above schedule and fine plastering of top will be done with cement sand ratio 1:4. volume of foundation also includes volume of C.I base,anchor bolts etc. coarse sand, aggregate 25mm and cement to be supplied by contractor.(Inspection: Site Incharge)	P/cum	12	3,370.91	40,450.92
59	Providing brick masonry in ratio 1:6 cement and mortar including plastering with 1:4 cement and sand mixture both sides of bricks with thickness 20mm each end with contractors own B class bricks. It also includes excavation, curing, grouting, bolting etc. wherever required. B class bricks, sand and cement (ISI mark) will be supplied by the contractor. Providing brick masonry in ratio 1:6 cement and mortar including plastering with 1:4 cement and sand mixture both sides of bricks with thickness 20 mm each end with contractors own B class bricks. It also includes excavation, curing, grouting, bolting etc. wherever required. B class bricks, sand and cement (ISI mark) will be supplied by the contractor.	P/cum	20	3,275.25	65,505.00
60	Supply and installation of earth electrodes as per std. practice. The item includes digging of pit in earth, 3 Mtrs. deep and fixing earth electrode pipe. Casting of cement concrete enclosures as per drg. No. (NR/S&T/CON/6.4/97). The soil treatment shall be done as per std. practice. The item includes provn. of mild steel flat of size 35mm x 6mm (as per IRSEM) and nut bolted connection of MS flat with earth electrode. The other end of mild steel flat to be connected to block instrument, cable sheath of power equipment, signal base, apparatus case, CT rack / relay racks, other equipments as per the instruction of Engr. at site & IRSEM. Earthing connection location to location shall be done through cable which shall be provided by Contractor. Complete materials such as earth electrodes as per drg. No. (NR/S&T/CON/6.3/97), cement, wiring material, nut bolt for connection & mild steel flat of size 35mm x	No.	280	3,525.09	9,87,025.20

	6mm or 210 sqm as per SEM etc. to be supplied by the contractor. Inspection by- RITES for supply portion.				
	Schedule F - SIGNALS				
61	Supply of LED Signals Lighting Unit - RED Aspect as per RDSO /SPN/199/2010/REV-1 or latest.(Inspection by RDSO).	Nos.	50	10,163.34	5,08,167.00
62	Supply of LED Signals Lighting Unit - YELLOW Aspect as per RDSO /SPN/199/2010/REV-1 or latest.(Inspection by RDSO).	Nos.	55	10,163.34	5,58,983.70
63	Supply of LED Signals Lighting Unit - GREEN Aspect as per RDSO /SPN/199/2010/REV-1 or latest.(Inspection by RDSO).	Nos.	40	10,163.34	4,06,533.60
64	Supply of LED Signal Lighting unit for subsidiary Signals (Supply of LED for Route Aspects per RDSO /SPN/153/2011/REV 4.1 or latest).(Inspection by RDSO).	Nos.	100	6,619.80	6,61,980.00
65	Supply of LED Signal Lighting unit for subsidiary Signals (Supply of LED for Shunt Signal as per RDSO /SPN/153/2011/REV 4.1 or latest).(Inspection by RDSO).	Nos.	95	6,619.80	6,28,881.00
66	Supply of LED Signal Lighting unit for subsidiary Signals (Supply of LED for Calling ON Signal as per RDSO /SPN/153/2011/REV 4.1 or latest).(Inspection by RDSO).	Nos.	15	6,619.80	99,297.00
67	Supply & installation of LED base Colour Light Signal Unit complete as per RDSO Specification No.IRS: S-26/64 or latest. The item includes supply & erection of colour light signal post tubular 140 mm dia in required length complete with CI base, CLS unit, ladder with its base, blanking off , ladder guards, maintenance platform and MS supporting bracket in the middle of the ladder, hoods & long hoods. It also includes supply & fixing of pinnacles, offset brackets, Junction Type route indicators, if any. The item also includes wiring inside the signal unit with 2.5 sqmm multi strand wire of different colour according to signal aspect with copper lug as per standard practice. The wiring material required to be supplied by contractor. Item includes supply of number plates with photo luminescent paint /strips. cross-arms (wooden) to be provided by the contractor till the signals are introduced. Item includes padlock for signal units. Height of the post: 3.5mtrs for loop line starters, advance starters & distant signals, 4.5 mtrs for main line Starters & Home and 5.5 Mtrs. for Home signal on curves. (2/3-Aspect CLS Unit with 1/2/3 Way Route Indicator). (Inspection by RITES).	Nos.	17	53,888.72	9,16,108.24

68	Supply & installation of LED base Colour Light Signal Unit complete as per RDSO Specification No.IRS: S-26/64 or latest. The item includes supply & erection of colour light signal post tubular 140 mm dia in required length complete with CI base, CLS unit, ladder with its base, blanking off, ladder guards, maintenance platform and MS supporting bracket in the middle of the ladder, hoods & long hoods. It also includes supply & fixing of pinnacles, offset brackets, Junction Type route indicators, if any. The item also includes wiring inside the signal unit with 2.5 sqmm multi strand wire of different colour according to signal aspect with copper lug as per standard practice. The wiring material required to be supplied by contractor. Item includes supply of number plates with photo luminescent paint /strips. cross-arms (wooden) to be provided by the contractor till the signals are introduced. Item includes padlock for signal units. Height of the post: 3.5mtrs for loop line starters, advance starters & distant signals, 4.5 mtrs for main line Starters & Home and 5.5 Mtrs. for Home signal on curves. (2/3-Aspect CLS Unit Mounted Directly on Signal Post). (Inspection by RITES). Note: Supply of LED signal lamps for main signals covered Separately.	Nos.	33	30,667.37	10,12,023.21
69	Supply and fixing of Calling-On signal unit on signal post. The item includes fixing of Calling On signal unit on signal post with bracket, hood etc. Calling-On unit, bracket etc. to be supplied by Contractor. The item also includes termination of cable and wiring inside the Calling On signal unit as per standard practice. Calling ON boards of suitable size as decided by site engineer in charge will also be provided by the Contractor. Calling -on signal shall conform to RDSO Drg. No. SA-24351 with latest Alt.(Inspection by RITES).	Nos.	9	6,548.52	58,936.68
70	Supply of shunt signal position light complete with unit post and surface base mounting socket 90mm Dia, with U type locks but without folders and bulbs etc. to Drg no. SA 23840 specs. No. IRS-S-23/88 are latest independent post type (Inspection RITES)	Nos.	14	9,368.83	1,31,163.62
71	Supply of shunt signal position light complete with unit offset bracket 3.5" dia as per drg.no SA 23840(adv) to SA 23848 (adv), specs.no.IRS-S-23/88 (Dependent type). (Inspection by- RITES).	Nos.	23	9,565.55	2,20,007.65
72	Installation, erection & wiring of independent position light shunt signal/F marker, this includes fixing of shunt signal, surface base signal post, LED unit, hood and all wiring & fixing material such as	Nos.	14	1,243.64	17,410.96

	U' bolt, nuts, washer, wire, wire mesh etc. will be supplied by contractor.				
73	Installation, erection & wiring of LED lit C/ON signal /dependent shunt signal /illuminated 'A' marker/ 'AG' marker/ 'F' markers on the same post below the main signal on offset bracket. The wiring material to be supplied by contractor. It includes fixing of LED signal unit and hoods, wiring and focussing of the signal. Supply of offset bracket, calling-on signal/Shunt signal complete is covered as separate item of schedule. 'U' bolt for offset bracket wire and wiring material will be supplied by contractor. Note: Supply of LED signal lamps for auxiliary signals covered Separately.	Nos.	23	1,014.05	23,323.15
74	Casting of CC Foundation for Signal Post in the ratio of 1:3:6 as per Northern Railway Drg. using standard size of foundation/galvanized holding down bolts required for erection of colour light signal post. Item includes excavation, ramming of CC using vibrator, curing and plastering with 1:4 cement-sand mixture (aggregate will not exceed 3.8 cm). Aggregate, cement, sand and holding down bolts will be supplied by contractor. Any machines & tools, if required for execution of this item, will be arranged/provided by contractor. Note: As per available site conditions, if sizes of foundations are required to be decreased/ increased and same has been approved/agreed by engineer incharge then variation in CC work will be calculated on volumetric basis as per rates of these items.	Nos.	42	8,016.00	3,36,672.00
75	Casting ,concreting and curing of foundations for shunt signal of size (855mmx711mm) at top and 750mm deep as per approved Drg. No. NR/S&T/CON/2.1/97A, All material such as cement, coarse sand ,aggregate & foundation bolts will be supplied by contractor. (Inspection:site incharge). Note: As per available site conditions, if sizes of foundations are required to be decreased/ increased and same has been approved/agreed by engineer in charge then variation in CC work will be calculated on volumetric basis as per rates of these items.	Nos.	14	3,945.83	55,241.62

76	Supply and installation of Goods Warning Board/ Caution Board/Stop Board/Block Section Limit Board (BSLB)/Shunting Limit Board/change of Signalling territory board etc and erection of the same. All the above said boards will be supplied in sizes and dimensions as mentioned in Signal Engineering Manual & GR with luminous strips yellow as well as black. This includes burying of post at least 1.2 mtrs and concreting of size 0.5 mtr x 0.5 mtr x 0.5 mtr with cement concrete in the ratio 1:3:6. All material will be supplied by contractor.(Inspection by Consignee).	Nos.	10	9,877.09	98,770.90
77	Fixing and supply of 'P','C','A','G','AG' etc board as per standard practice with contractor's complete material including fixing of clamps. The work shall be done as per instruction of Rly engineer at site. Wooden white cross-arms (1000x100mm) to be provided by the contractor till the signals are commissioned with contractor's own material NOTE:- The above signal items includes supply and installation of Petty materials for fixing ,clmping and mounting arrangement including wiring material (different sort of wire etc)	Nos.	22	809.35	17,805.70
Schedule G - POINT MACHINES					
78	Supply of 110V DC point machine IRS type AC immunity 160V AC non traileble to operate on 110V DC , 143mm throw with interlocking complete with lock ,detector, cable termination box and slides for lock and detector. Rotary locking as per specn. No. IRS-S-24/2002 with amendment-1 or latest. (Inspection: RDSO)	Nos.	41	64,478.76	26,43,629.16
79	Fixing,wiring,testing & adjustments of point machines as per standard practice. It also includes :- i) fixing of switch extension 'P' bracket, providing insulation for switch extension bracket, fixing ground connections, adjusting the correct opening of switches and adjusting the point machines with crank handle ii) wiring inside the point machine, erection and wiring of JB with lock and key as per NRLY Practice, provided with terminal strips. iii) Supply and fixing of GI pipes with flange for taking cable into point machine and junction box through gland/GI pipe. iv) Complete material for installation viz point insulation mterial, junction box, GI pipe , gland pipe ,wiring material, Nut&bolts of various sizes ,angle iron of size 75mmx75mmx10mm, channels for fixing the machine, lugs for point rodding and insulation material for stretcher bar 90R/52kg/60kg as per drg. no. SA-23172(ADV) Alt.1 will be supplied by the contractor v) Smithy and fitting work required at site for complete installation of gauge tie plate and insulation of GTP	Nos.	41	23,621.00	9,68,461.00

	as per approved drg. no. NR/S&T/CON/7.6/97 and william stretcher bar (If required) will be done by the contractor. machine shall be overhauled by contractor if required. vi) This includes removal existing gears and fixing the machine at raised level on channel as per standard practice to avoid flooding wherever required. vi) Supply of ground connections of electric point machine, Non insulated GTP & CTP extension plate, junction box and stretcher bar shall be made available by the contractor. (Inspection: Consignee)				
80	Fabrication and supplt of complete set of point rodding for point machines of IRS type or its equivalent type as per RDSO Drg. No. SA-8800-01 or with latest amendments and along with "p" & "L" brackets with each sets (Coal bengal for smithy work , all type of nuts and bolts , ferrule , insulation plate, washers and lugs as required also to be supplied by contractor with each set) (Inspection:RDSO)	Set	41	10,219.62	4,19,004.42
81	a) Supply, installation and wiring complete KLCR and its box in location boxes, supply, installation, wiring of heavy duty push button, LED indicator on MS sheet as per N.R. practice for crank handle locking. This work includes fixing & wiring of magneto telephones as per instructions of the site Engr. This includes all materials such as heavy duty push button, LED indicator (10mm), MS sheet of 4.5mm thick, nuts and bolts, fixing materials for the magneto telephone, and wiring materials to be supplied by contractor. (Inspection of KLCR by-RDSO). b) Supply & fixing of Crank Handle Box & SMs key box of size 450 mm x 250 mm x150 mm and made of 12 mm thick hard wood with a glass front, lock and sealing arrangement. All material like lock, hard wood, handles, hinges, glass sheet of 3mm thick will be supplied by the contractor. Box will be polished and description will be written as per instructions of Engineer in charge (4 Nos.). c) Supply & fixing of KLCR boxes & fixing of KLCR Relays in ASM office. It includes supply of any minor bracket, nuts, bolts, hard wood, sun mica, lock, drilling hole etc as directed by engineer at site. It also includes supply and wiring for KLCR circuit. It includes supply of all the related wiring material (4 Nos.).	Job	41	18,969.91	7,77,766.31
	Schedule H - TRACK CIRCUITS				
82	Supply of QTA2 relays AC immunissed plug in type DC 9 Ohm neutrak track relay miniature tractive armature with 2F/1B contacts as per BRS : 939A or	Nos.	120	5,462.11	6,55,453.20

	latest amendments if any, BRS :966-F2, IRS-s-34 & IRS-S-23 (as applicable) (Inspection:RDSO)				
83	a) Supply, fixing and wiring of DC track circuit equipments i.e. track feed battery charger, resistance, fuses etc in Apparatus Case and wiring of battery box as per std. practice. Complete wiring and all other material required for wiring and fixing of equipments will be supplied by contractor. This item includes supply of Self-Mounting Type track feed battery charger, 110V AC/2V to 8V DC, 10 Amps as per RDSO Specn.No.IRS:S-89/2013 (Amnd.2) or latest and supply of adjustable track feed resistance of 30 ohms (Disc Type) as per RDSO Drg.No.SA-20161-66/M or latest. It also includes wiring of track relays in location boxes. (TF CHARGER INSPECTION BY RDSO). b) Supply of choke type 'B' to suit RDSO spec. no. IRS-s-65/83 (Amndt.1) or latest (Inspection: RDSO) - 225 Nos. c) Supply & installation PPTC resettable fuse through hole poly switch RXEF series 650MA - 440 Nos. d) Installation of DC track circuits including points zones also. The item includes provision of doubled continuity GI wire bonds on rail joints after drilling bond-hole of 7.0/7.2mm dia, skimming of fish plate, insertion of insulated block joint if required, fixing of TLJB (separate for positive & negative rails) with angle iron for track feed/jumper/track relay ends of track circuits and also for fixing jumper cables as per approved Track Circuit Plan, making rail connections through suitable insulated sleeves from TLJB at TF, jumper & TR end with GI wire, rail clips for fixing bond wire on the TLJB as per standard practice, termination of tail cables on TLJB terminals, B-Type Choke, complete charging and placing cells etc. TF/TR wiring shall be fixed on the suitable arrangement on PRC sleepers with the help of Hooks. Hooks shall be provided on PRC sleepers with the help of suitable steel bracket. This item also includes fixing & supply of channel pins, Hooks etc. The item includes supply of TLJB as per RDSO Drg.No.SA-20101/M or latest with terminals, angle iron, GI wire and rail clips, bracket, insulation material etc. - 110 Nos.	Nos.	110	29,416.54	32,35,819.40
84	Supply of Low maintenance Lead Acid secondary cell 2V-80 AH with tubular positive and pasted negative plates, assembled in transparent container (polypropylene)/hard rubber container with one micron porous vent-cum sealed float guide with inter cell connectors, bolts, Nuts and washers, in dry and	Nos.	330	4,951.27	16,33,917.60

	uncharged condition as per specification IRS-S-88-2004 or latest. one tool kit is to be supplied with 12Nos each battery as per clause 8 of the spec. IRS-S-88/2004. (Inspection:RDSO)				
	Schedule I - L.C.GATES				
85	Supply, Installation, testing and commissioning of Electrically Operated lifting barrier assembly as per RDSO Spec. No. RDSO/SPN/208/2012 (version 2.0) or latest consisting of 2 nos. of electrically operated lifting barriers, 2 pedestals, 8 band circuit controller with limit switches of Siemens, hand cranks, 2 electric motors, 110V AC, without centrifugal switch, 2 GI Boom in 4 sections of 8 feet each with 2 retroreflective stop boards, boom light boxes, MS counter weight, 2 nos. of boom support for resting boom etc. The item also consists of following items: a) Supply of motorized boom locking /unlocking assembly with electrical coil complete (1 no. each) b) Supply of level crossing gate control panel floor mounting type with switches and buttons sheet metal fabricated, (1 No) c) Supply of push button for operating the gate with 2 NO/NC contact, green colour- close & Amber-open, Siemens or Kaypee or similar make (1 no.) d) Supply of solid state electronic flasher 24V DC operated (1 no. each). e) Supply of dual tone warning bell with 20W horn & 15W amplifier (2 no. each). (ELB Set Inspection by- RDSO).	No	4	5,90,729.64	23,62,918.56
86	Supply and installation of sliding boom gate for interlocking as per Northern Railway design.(Inspection by Consignee).	Set	4	2,62,478.11	10,49,912.44
87	Supply & installation of magneto telephone with all accessories IRS TC:36-97(Amndt.1) or latest with latest amendments.(Inspection:RDSO)	Nos.	48	5,066.55	2,43,194.40
88	Supply of (02) nos. electrical lifting barrier booms fabricated from 3 mm (1st section), 2.5 mm (2nd section) & 1.9 mm (3rd and 4th section) aluminum sheets dia pressed to form tapering channels with special stiffening bends in the channels. Two such channels then joined batten plates by riveting to form a tapering box section. Total boom 32 Ft. long in 4 sections of 8 Ft. each. Sections joined by nuts and bolts for easy replacement make Heidz India (New improved Design of Higher Strength) or any supplier as approved by RDSO. The material will be as per RDSO Specn.No.RDSO/SPN/ 180/2005 Amnd.1 or latest. (Inspection by RDSO).	Set.	8	37,768.21	3,02,145.68
	Schedule J - DRAWINGS				
89	Preparation of out door plans i.e cable core plans, cable route plan, Track jumper plan, Power supply diagrams, location description chart etc.	job	4	45,890.59	1,83,562.36

90	Supply of "As made" Documents.(i) Completion Documents as per condition of Contract.(6 Sets for each EI) (ii) Supply of documents as per Technical specification Para -10.2 of RDSO Specification no RDSO/SPN/192/2019. (6 Sets for each EI). Inspection by- Consignee.	Set	4	81,894.77	3,27,579.08
	Schedule K - TELECOMM				
91	Supply of terminal block 25mm center M-6 (ARA terminals) as per IRS spec. No.IRS-S- 75/2006 (Rev.2) & IRS drawing No. SA-23741A(Alt.4), SA-23745(Alt.5), SA-23746 & SA- 23756(Alt.3). (Inspection by- RDSO).	Nos.	18000	106.64	19,19,520.00
92	Supply and installation of Multiport Front End processor as per RDSO spec no. IRS-S:99/2006 Amdt-3 Or latest .(Inspection by RDSO).	No	2	2,07,679.93	4,15,359.86
93	Supply of Thermoshrink jointing kit for jely filled six quad cable conforming to spec. IRS:TC-77/2006 (Rev 1) with latest amendment(Inspection by Consignee).	No	10	3,531.92	35,319.20
94	Supply of thermo-shrink splice filling jelly joining kit as per RDSO Specn.No.IRS: TC- 77-2010(Rev.2) or latest for emergency/derivation /Termination joints with VF transformers for 6-Quad Cable. This also includes supply of 3T VF transformers as per RDSO Specn.No. IRS: TC-76/2000 with Amnd 1 or latest. (Inspection by Consignee).	No	20	4,623.15	92,463.00
95	Supply of VF Transformers (2T/3T), 1120/470 Ohms as per RDSO Specn.No. IRS: TC-76/2000 with Amnd 1 or latest for emergency joints in 6-Quad Cable. (Inspection by RDSO).	No	40	2,160.10	86,404.00
96	Supply and installation of Fibre Distribution Management system (24 F) complete with all accessories as per spec. RDSO/SPN/TC/37/2000 Rev. 3 (with latest amdt) suitable for termination of two numbers of 24 fiber OFC at Repeater station/ cable hut and splicing of fiber with pigtail as per specn. This includes testing of OFC cable. (All items required for execution of work shall be supplied by the contractor)	Nos	12	38,260.40	4,59,124.80
97	Supply & installation of Annunciator (Multiway telephone exchange) 10 lines as per RDSO Drg no. TCA-3352 (Adv.) or latest. Inspection by- Consignee for supply portion.	Nos	4	9,527.41	38,109.64
98	Supply of 24 Fiber cable as per RDSO Specification no. IRS TC 55/2006 with latest ammendment.	Km	3	94,872.00	2,84,616.00
99	Supply and installation of optical fibre cable joint enclosure as per TEC spec no. GR/OJC-02/01/ March 99 with latest amendment and splicing of optical fibre cables (24 fibres & testing). This includes provision of jointing kit	Nos	4	17,585.75	70,343.00

	(RCC/Prefabricated) as advised by engineer at site. Inspection by- Consignee for supply portion.				
100	Supply & fixing of G.I. pipe, 75mm DIA.	mtr	300	883.79	2,65,137.00
101	Supply & installation of 10 pair DP boxes & termination of cable	Nos	4	1,634.86	6,539.44
102	Laying of HDPE duct in the trenches, including in HDD/Manual Boring and supply pulling of Nylon rope through is at different places as per direction of Engineer incharge/ site Engineer. It includes Supply of HDPE duct outer dia 40mm & inner dia 33mm as per TEC Gr No. G/CDS-08/02 Nov /2004 with latest amendment with end cap to be provided along with the drum at both ends. (RDSO specs No. RDSO/SPN/TC/45/2013 Rev.2.0). Inspection by- RITES for supply portion.	Km	3	53,708.67	1,61,126.01
103	Supply of End plug for 40 mm HDPE duct. (Inspection : Consignee).	Nos	6	31.12	186.72
104	Supply of Cable sealing plug for HDPE duct (Inspection : Consignee).	Nos	6	39.32	235.92
105	Supply of Plastic coupler -split fit/push fit type for HDPE duct (Inspection : Consignee).	Nos	6	80.20	481.20
106	Supply, installation, testing and commissioning of 4-wire way DTMF base way station equipment as per spec. no. IRS-TC 60/207 or latest with power supply equipment as per spec. no. IRS-TC 72/97 with latest amendment with 12V/7AH battery and 4-wire control telephone as per spec. IRS:TC 38/97 with latest amendment. Inspection by- Consignee.	Nos	8	13,526.63	1,08,213.04
107	Supply & installation of 20 pair DP complete with boxes & termination of cable as per specifications, drawing and stipulations of tender documents. This includes fixing of same on 1" thick board of size as per direction of the site Engineer with grouted nuts & bolts of suitable size and pipe fixed with clamps on pole/wall. All material required for fixing and termination including salwood /hylum board and hardware required for fixing will be supplied by contractor (Inspection : Consignee).	Nos	4	1,634.86	6,539.44
108	Blowing/drawing of · OFC cable in the HDPE pipe duct and in protective works already provided. This includes transportation, loading/unloading of OFC from the stores to the work site with care, sealing of the duct by sealing/caps plugs. This also includes testing of cable drums in the store premises before transportation and submissions of results thereof. The cable drums with unused cable at site to be returned by the contractor from site to stores depot.	Km	3	10,624.86	31,874.58

109	Supply and installation of VHF set, 25W with power supply SMPS charger, RG-213 coaxial cable (30 mtrs) with connectors, 3dB gain antenna and maintenance free VRLA battery 12V/100AH with connecting cable and accessories. This includes masonry work also. (Inspection by RDSO).	Set	4	35,251.07	1,41,004.28
110	Supply of VHF walkie-talkie set, 1W/5W with Rapid battery charger and 7.2 V Ni-MH battery of capacity 3000 mA.H. (Inspection by RDSO).	Set	20	26,262.43	5,25,248.60
	Schedule L - MISC TOOLS, FURNITURES ETC.				
111	Supply & laying of anti-static PVC flooring with adhesive (PVC flooring in 2.00mm thickness) for Relay room/IPS room/battery room etc. Inspection by- Consignee for supply portion.	Sq.m	40	1,342.58	53,703.20
112	Supply of megger 500 AC with earth tester.	Nos	4	3,349.49	13,397.96
113	Supply of steel almirah of Godrej for keeping relays & other safety equipment	Nos	8	18,613.98	1,48,911.84
114	Supply of Godrej chair model PCH - 7002 or better	Nos	6	23028.88	1,38,173.28
115	Supply of office chair similar with arms size 830x600x550mm with PU moulded cushion and round CRP pipe complete in all respect. Make:- Godrej or similar.	Nos	12	5,409.74	64,916.88
116	Supply of Godrej Office table size WDXH 180cmx90 cmx72.5 cm or better	Nos	6	14,710.78	88,264.68
117	Supply & installation of Carbon dioxide type fire extinguishers confirming to IS-2878 or latest, complete with hose, horn, bed pipe, bracket and trolley mounted with ISI mark. (Inspection: Consignee)	Nos.	36	7,395.48	2,66,237.28
118	Supply, Installation, Testing and commissioning of Demineraliser plant of capacity 65 liters per hour (Approx.). It includes all the pipe connecting from water source unit to collection unit. This also includes supply and fittings of two 500 liters plastic (reputed make only) water tank for this purpose including pipe fittings. It includes supply of all the minor items/material required to execute the work. (Inspection by Consignee).	Nos.	4	34,048.37	1,36,193.48
119	Supply of electric fuse complete with fuse block(base) for Railway signalling non-deteriorating type low voltage fuse assembly 2Amp/4Amp/16Amp. to suit . Specn. No.IRS: S-78/2006 and fuse block made of PBT/Polycarbonate as per IRS: S-75/2006 (Rev.2 & Amd.2) and drg no. 23748 (IRS), Alt-4 or latest. Fuse block shall be suitable for round head type fuses. (Inspection by RDSO).	Nos.	1200	262.84	3,15,408.00

120	Supply of tool kits with details given in Technical Specification required for EI's maintenance. This item includes supply of suitable cabinet for storing tools and documents of EI for its long life as per recommendation of OEM and to be approved by RCIL engineer as per Annexure-I.	Set	4	114295.14	4,57,180.56
121	Supply of Indoor cable 60x1mm indoor copper conductor 60 core plain annealed high conductivity PVC insulated unarmoured as per Spec. no. IRS-S/76/89 (Amd 3) or latest amendment. (From RDSO Approved Source only).(Inspection by RDSO).	Km.	2	4,09,734.60	8,19,469.20
122	Supply of power wires 1x6sq.mm. (Red & black), IS 694/2010 or latest. Inspection by- Consignee.	Km	1	59,148.77	59,148.77
123	Supply of power wires 16sq.mm. (Red & black), IS 694/2010 or latest. Inspection by- Consignee.	Km	1	1,62,819.60	1,62,819.60
124	Supply of power wires 1x25sq.mm. (Red & black), IS 694/2010 or latest. Inspection by- Consignee. Note: Wires Colors will be specified/decided by site Engineer in charge(for fuse alarm system).	Km	1	2,50,044.73	2,50,044.73
125	Maintainer Tool Kit as per Tool Kit, as per Annexure-II.	No	2	1,11,343.54	2,22,687.08
126	Engaging mechanical excavators like JCB or other machineries for regrading & levelling the formation, dismantling any infringing structures, cleaning & removing debris etc. with all lead & lift etc complete as per instructions of RCIL representative at site.	Per Hour	70	943.66	66,056.20
127	Misc. sundry leftover petty items as per site requirement, contingency, emergencies and as per instruction of site REL Engineers, the cost of each items to be supported with proper bills to be reimbursed item wise under this).	LS	2	1,00,000.00	2,00,000.00
128	Cleaning, scrapping, painting and lettering of newly installed gears such as signals point equipment, track circuit equipment with TC no. on rail app. Cases JB. TLJBs point rodding etc. including gate equipment if existing in station section as per the provision of IRSEM. All painting material to be supplied by the contractor .All paints (ISI marked) shall be approved by Railway engineer prior to painting and certificate to the effect submitted to railway. This item also include Writing and painting requirement of all indoor and outdoor gears along with making of all circuit numbers near terminam and terminal board/track in App. cases, junction boxes ,relay room, Sm's room, writing of relay nomenclature fuse nos and equipment nomenclature as the approved plans and as per provision of IRSEM at way side station. (Inspection: Site Incharge)	Stn.	4	20,816.91	83,267.64

129	Provision of temporary tents/Goomtees at both end of station with light, water, MT, Table, Chairs etc. during NI work.	Nos	8	22,500.00	1,80,000.00
130	Dismantling of existing lever frames/signal fittings/point fittings/lifting barriers (within station limit)/ indoor and outdoor equipment and all other released material of S&T at way side station (3/4 Line). All the released material will be transported to the place/location as decided by site engineer. The item includes i). Mechanical Signalling gears like levers, down rods, locking trough, Rodding, wire transmission, signal posts and hoods etc. ii). Electrical Signalling gears like relays, batteries, indicators, SM slide control and all released wire transmission for slot, telephone, selector control and their related items etc.	Stn.	4	46,051.64	1,84,206.56
Total Cost				19,59,60,821.54	

List of Tools for EI Maintenance (SOR Item No 120)				Annexure-I
1	Plier Tools			
1.1	Insulated stripping plier 150mm	Nos.	2	Godrej or similar
1.2	Insulated nose plier 150mm	Nos.	2	
1.3	Insulated flat plier 150mm	Nos.	2	
1.4	Insulated side cutting plier 200mm	Nos.	2	
1.5	Insulated combination plier 200mm	Nos.	2	
2	Screw Driver			
2.1	Screw Driver 150 * 3mm	Nos.	1	
2.2	Screw Driver 150 * 4mm	Nos.	1	
2.3	Screw Driver 150 * 5mm	Nos.	1	
2.4	Screw Driver 150 * 6mm	Nos.	1	
2.5	Screw Driver 150 * 8mm	Nos.	1	
2.6	Screw Driver 250 * 8mm	Nos.	1	
2.7	Screw Driver 250 * 10mm	Nos.	1	
3	Box spanner			
3.1	Box spanner 5mm	Nos.	1	
3.2	Box spanner 6mm	Nos.	1	
3.3	Box spanner 7mm	Nos.	1	
3.4	Box spanner 8mm	Nos.	1	
3.5	Box spanner 9mm	Nos.	1	
3.6	Box spanner 10mm	Nos.	1	
4	Adjustable screw wrench			
4.1	Adjustable screw wrench 6"	Nos.	1	
4.2	Adjustable screw wrench 8"	Nos.	1	
4.3	Adjustable screw wrench 10"	Nos.	1	
4	Hammer with handle 500gms	Nos.	1	
5	Cable knife 4"	Nos.	1	Std. Make available
6	Nylon Brush	Nos.	1	
7	Continuity Buzzer	Nos.	1	
8	Soldering Iron 220V, SOW	Nos.	1	Soldron or similar
9	Steel measuring tape 5M	Nos.	1	Freeman or similar
10	Solder wire 60/40, 18 Swg, 400gms	Rolls.	4	Bharti or similar
11	Screw driver set			
11.1	Screwdriver Bits square head 10pcs. Conforming to IS 12168 Part 11 1987: 25mm and 50mm single head Type SBP 250, 251, 252, 253, 500, 501, 502, 503 one No. each.	Set	1	Taparia or similar
11.2	Flat head screw driver bits conforming to IS 12168 Part I: 25mm SBF 253, 254, 255, 256, 258, and 50 mm 503, 504, 505, 506, 508 one No. each.	Set	1	Taparia or similar
11.3	Bit Driver 8.0x125mm BD 125	Nos.	2	Taparia or similar
12	Digital Multi-meter	Nos.	1	Fluke or similar
13	Miniature rechargeable hand held lantern with CFL/LED and incandescent build	Nos.	1	Eveready/Panasonic/National or similar

14	Digital Earth Clamp Tester	Nos.	1	Motwane or similar
List of Tools for Maintenance (SOR Item No 125)				Annexure-II
S.No.	Description of Item/Make	Model/Prod uct No.	Unit	Qty
1	Kit Box-Venus (Adjustable Tool Box 5 Layers)		Nos.	2
2	Continuity Buzzer		Nos.	1.00
3	Non-Insulated/Insulated flat plier 150 mm- Taparia	1421-6	Nos.	1.00
4	Insulated flat plier 125 mm-Taparia	1401	Nos.	1.00
5	Insulated side cutting plier 8"- Taparia	1101-8	Nos.	1.00
6	Combination plier 200 mm(insulated)	1621-8	Nos.	1.00
7	Insulated stripping plier 150mm	WS06	Nos.	1.00
8	Insulated nose-plier 160mm	1420-6/1421-6	Nos.	1.00
9	Monkey plier 10"	1225/1225N	Nos.	1.00
10	Screw Driver Set-Taparia	840	Set	1.00
11	Flat Chisel 175X20 mm/ 200 X 25 mm - Taparia	1048	Nos.	1.00
12	Flat Chisel 100X10 mm/ 150 X 20 mm - Taparia	1046	Nos.	1.00
13	Steel measuring tape 2 m-Freemans	2 mtr	Nos.	1.00
14	Tin Cutter-Taparia	TCS12	Nos.	1.00
15	Box Spanner Set-Taparia	S-11M I S11H	Set	1.00
16	Digital Multimeter-Fluke	6000 Count True RMS DOM	Nos.	2.00
17	Adjustable Wrenches of different sizes- Taparia	(250, 300, 350, 450 , 600 mm)	Set	1.00
18	Hammers of different sizes-Taparia	(WH 110, 200 , 340, 500, 600, 800)	Set	1.00
19	Soldering Iron-Soldron or similar standard make	100-150 Watt	Nos.	1.00
20	Hand Drill machine with drill bits - Bosh	GSB 500	Nos.	1.00

VOLUME-III

TECHNICAL SPECIFICATIONS & INSTALLATION PRACTICES

1. **Safety and Security**

It is suppose to work by contractor without any harm/damage/unsafe working which are effect the running of Railway working.

However if this is not follow by the contractor action will be taken by RailTel as per norms issued by Railways.

- 1.1 The works included in this contract are to be carried out close to the running tracks and public utilities, therefore, safety of running trains and the public is paramount. Therefore, all activities undertaken by the Contractor/his Sub-contractors shall ensure safety at all times. The contractor shall comply with the instructions issued by the Railway/ Engineer/Employer from time to time to ensure safe running of trains while carrying out works. The rates quoted by the Contractor shall be deemed to include all expenditure incurred in compliance with the same.
- 1.2 Before starting any excavation work adjacent to existing track, the contractor shall ensure that necessary permissions has been obtained and required precautions have been taken for doing such work in terms Joint Procedure Order reproduced below:

“JOINT PROCEDURE ORDER FOR UNDERTAKING DIGGING WORK IN THE VICINITY OF UNDERGROUND SIGNALING, ELECTRICAL AND TELECOMMUNICATION CABLES”

- A. A number of Engineering works in connection with gauge conversion/doubling/third line are in progress on various railways, which require extensive digging work near the running track, in close vicinity of the working S&T cables carrying vital safety circuits as well as electrical cables feeding the power supply to cabins. ASM room, RRI Cabin, Intermediate Block Huts (IBH) etc. Similarly, S&T organization under open line or construction units under CAO/C, are executing various Signaling and Telecom works requiring digging of earth for laying of cables or casting of foundations for the erection of signal posts etc. RailTel is also executing the work of laying of quad cable and OFC on various Railways as a part of sanctioned works for exclusive use of Railways for carrying voice and data i.e. administrative and control communication, PRS, FOIS etc. or shared by RailTel Corporation of India Ltd. On certain sections digging is also required for laying of electrical cable and casting of foundation for the erection of OHE masts by Electrical Deptt. Generally, these works are executed by contractors employed by these organisations.
- B. However, while carrying out these works in the vicinity of working signaling, telecommunication and electrical cables, at times, cable cuts take place due to JCB machines working along the track or during the digging work being done by contractors carrying out the Civil Engineering Works. Similarly, such cable cuts are also resulting due to works undertaken by S&T or Electrical departments. Such cable faults results in the failure of vital signaling and telecommunication circuits & electrical installations.
- C. Henceforth, the following joint procedure shall be followed by Engineering, Electrical and S&T (and RailTel organisation, wherever such works are being done by them) officers of the respective divisions and by the construction organisation, while carrying out any digging work near to existing signaling & telecommunication and electrical cables, so that the instances of cable cut due to execution of works, can be controlled and minimized.
1. S&T Department (and RailTel, where they have laid the cables) and Electrical department shall provide a detailed cable route plan showing exact location of cable at an interval of 200m or wherever there is change in alignment so that the same is located easily by the RAILTEL official/contractor. In addition, S&T department and Electrical department shall also provide cable markers along the alignment of the cable. These cable route plans shall be made available to the RAILTEL(Project incharge), as the case may be, by Sr. DSTE/DSTE or Sr. DEE/DEE of the divisions or Dy.CSTE/C or Dy.CEE/C within 15 days in duplicate. RAILTEL(Project Incharge) will send copies to their field unit in particular section where work is going on.
2. Before taking up any digging activity on a particular work by any agency, Sr.DSTE/DSTE or Sr.DEE/DEE of

the section shall be approached in writing by the concerned RAILTEL officer for permitting to undertake the work. Sr.DSTE/DSTE or Sr.DEE/DEE, after ensuring that the concerned executing agencies including the contractor have fully understood the S&T and Electrical cable route plan shall permit the work in writing within 7 days of the request by concerned department.

3. After getting the permission from S&T or Electrical department as the case may be, the RailTel relevant portion of the cable route plan shall be attached to the letter through which permission is issued to the contractor by concerned Engg. official for commencement of work and ensuring that the contractors have fully understood the cable route plan and precautions to be taken to prevent damage to the underground cables. The contractor shall be asked to study the cable plan and follow it meticulously to ensure that the safety of the cable is not endangered. Such a provision, including any penalty for default, should form part of agreement also. It is advisable that a suitable post of SSE/Sig or SSE/Tele or SSE/Electrical (TRD or G) shall be created chargeable to the estimates of RAILTEL work, who can help RAILTEL agencies in the execution of the work. However basic responsibility will be of the department executing the work and the Contractor. Creation of posts is not mandatory.
4. The RAILTEL official shall pass on the information to the concerned SSE/Sig SSE/Tele or SSE/Electrical (TRD or G) about the works being taken up by the contractors in their sections at least 3 days in advance of the day of the work. In addition S&T/Engineering control shall also be informed by RAILTEL official, who in turn shall pass on the information to the test room/network operation centre of RailTel/TPC/Electrical control.
5. On receiving the above information, SSE/Sig or SSE/Tele or SSE/Electrical (TRD or G) shall visit the site on or before the date of taking up the work and issue permission to the contractor to commence the work after checking that adequate precautions have been taken to avoid the damage to the cables. The permission shall be granted within 3 days of submission of such requests.
6. The name of the contractor, his contact telephone number, the nature of the work shall be notified in the S&T/Engineering control as soon as the concerned RAILTEL officials issue the letter authorizing commencement of work to the contractor. Test room shall be given copies. Test room shall collect any further details from the S&T/Engineering Control and shall pass it on to S&T/RailTel & Electrical officials regularly. In case the supervisors of concerned departments do not turn up on the day as advised in terms of para 4 and 5 above, the works of contractor should not be stopped on this account.
7. Left Blank Intentionally.
8. Where the nature of the work taken up by the Engineering department is such that the OFC or other S&T cables or Electrical cables is to be shifted and RailTel located, notice of minimum one week shall be given so that the Division/RailTel/Construction can plan the works properly for shifting. Such shifting works shall in addition, for security and integrity of the cables, be supervised by S&T supervisors/RailTel supervisors/Electrical Supervisors.
9. The concerned SSE/P.Way/SSE/Works/SSE/Sig/SSE/Tele/SSE/Electrical (TRD or G) or RailTel supervisors supervising the work of the contractor shall ensure that the existing emergency sockets are not damaged in view of their importance in providing communication during accident/emergency.
10. In case of minor nature of works where shifting of cable is not required, in order to prevent damage to the cable, the RAILTEL contractor shall take out the S&T or optical fibre cable or Electrical cable carefully from the trench and place it properly alongside at a safe location before starting the earthwork under the supervision of SE/Sig or SE/Tele or SE/Electrical (TRD or G). The cable shall be reburied soon after completion of excavation with proper care including placement of the brick over the cable under the supervision of S&T or Electrical supervisors. However, the work will be charged to the concerned RAILTEL works. The responsibility for ensuring availability of SSE (Signal), SSE (Electrical) as per para 4 and 5 above lies with the respective department. The contractor will go ahead with the shifting of cables as per the program decided and he will not be held responsible for any cable cut.
11. In all the sections where major project are to be taken up/going on RailTel/S&T department shall deploy their official to take preventive/corrective action at site of work. As regards Electrical Department, the official may be deputed on need basis.
12. No new OFC or quad cable shall be laid close to existing track. It shall be laid close to the Railway boundary

on one side of the Railway track to the extent possible to avoid any interference with the future works (doubling etc.). It shall be ensured in the new works of cable laying that the cable route is properly identified with electronic or concrete markers. Wherever multiple cables are laid in a trench, cable markers may be provided for easy identification of the cable. Henceforth, wherever cable laying is planned, before undertaking the cable laying work, the cable route plan of the same shall be prepared by the RAILTEL and shall be got approved from the concerned Sr. DSTE/DSTE or Sr.DEE/DEE and also from the concerned RAILTEL official for new lines and from the concerned Sr.DEN for all other projects including GC etc., to avoid possible damages in future. Such approvals shall be granted within 15 days of the submission of the request.

13. The works of excavating the trench and laying of the cable should proceed in quick succession, leaving a minimum time between the two activities.
14. In case damage caused to OFC/Quad cable or Electrical cable during execution of the work, the contractor is liable to pay a penalty for damaging the cable. Penalty shall not be levied in case of the following:-
 - i). Detailed cable route plan as per clause C-1 not provided by concerned department or cable is not protected as per laid down procedures.
 - ii). The alignment of the cable does not tally with the information provided to the contractor.
 - iii). The cable depth is found to be less than 800 mm from normal ground level.
 - iv). No representative of S&T department/RailTel was available at site guarding the cables on the fixed pre-determined date and time.
15. Penalty to be imposed for damages to cable shall be as under:-

Cable damaged	Penalty per location
Only Quad cable or Signalling cable	Rs.1.0 Lakh
Only OFC	Rs.1.25 Lakh
Both OFC & Quad	Rs.1.5 Lakh
Electrical Cable	Rs.1.0 Lakh

Necessary debit in this regard shall be raised on the department undertaking the work who shall in turn levy the penalty on the defaulting contractor. S&T department shall raise the debits in case of damage to OFC or Quad or Signaling cable and Electrical department shall raise the debits in case of damage to Electrical cable. Railways will not lodge FIR with RPF in case of works being executed by authorized contractors of Railways who have been duly permitted to execute the works in accordance with this JPO. Joint note by the supervisors of the concerned department shall be prepared and the responsibility of the cable cut should be decided without involving RPF. The joint note deciding the fact whether the contractor should be penalized shall be completed in a day's time from the occurrence of cable cut.

In all other cases, when the cable is cut by an agency that was not permitted to execute any work, FIR should be lodged with RPF.

17. While giving permission for taking up the works, concerned departments may note that earthwork by engineering contractors will normally be done by machines except in a few isolated locations where the quantity of earth work is very less.
18. Railways shall make necessary correction in their future contract so that this JPO can also be enforced contractually.
19. In case of damages to OFC, RailTel should be paid 5/6th of the penalty recovered. RailTel shall raise demands on the S&T department in this regard.
20. All types of signaling & OHE bonds i.e. rail bond, cross bond and structure bond shall be restored by the contractor with a view to keep rail voltage low to ensure safety of personnel.
21. Above joint circular shall be applicable for construction as well as open line organization of Engineering, S&T and Electrical.
22. S&T cable and electrical cable route plan should be prepared by the concerned S&T and Electrical officers respectively and got approved as stipulated in para C-12 before undertaking the work. The completion cable route plan should be finalized block section by block section as soon as the work is completed.

23. All cable laying works shall be executed as per laid down technical specifications, such as protection measures/protective cover, compaction of refilled material etc.

1.3 Working near running line

1.3.1 The contractor shall not allow any road vehicle belonging to him or his suppliers etc. to ply in railway land next to the running line. If for execution of certain works viz. earth work for parallel railway line and supply of ballast for new or existing rail line, gauge conversion etc, road vehicles are necessary to be used in railway land next to the railway line, the contractor shall apply to the RAILTEL official for permission giving the type & no. of individual vehicles, names & license particulars of the drivers, location, duration & timings for such work/movement. The Railways/Employer/ Engineer/RAILTEL or his authorized representative will personally counsel, examine & certify, the road vehicle drivers, contractor's flag men & supervisor and will give written permission giving names of road vehicle drivers, contractor's flag men and supervisor to be deployed on the work, location, period and timing of the work. This permission will be subject to the following obligatory conditions:

1.3.2 Road vehicles can ply along the track after suitable cordoning of track with minimum distance of 6 meters from the centre of the nearest track. For working of machinery close to the running tracks or plying of road vehicles during night hours, the contractor shall apply to the RAILTEL official in writing for permission, duly indicating the site details in a neat sketch and safety measures proposed to be taken. Subject to the approval of concerned Railway authorities, the RAILTEL or his authorized representative will communicate permission to the contractor/contractor's representative. The contractor and his men shall strictly adhere to the instructions given along with such permissions.

1.3.3 Nominated vehicles and drivers shall be utilized for work in the presence of at least one flag man and one supervisor certified for such work. In order to monitor the activities during night hours, additional staff may have to be posted based on the need of the individual site.

1.3.4 The Contractor's machinery, equipment and vehicles shall normally operate 6 m clear of track. Any movement/work at less than 6m and upto a minimum of 3.5m clear of track centre, shall be carried out only in the presence of a person (including any railway employee) authorized by the Engineer. No part of the road vehicle shall be allowed at less than 3.5m from track centre. Cost of such railway employee shall be borne by the Employer.

1.3.5 The Contractor's machinery and equipment like Cranes, Flash Butt Welders, Ballasting machinery, Compactors, Track Laying Systems etc., are required to operate close to the existing line carrying traffic. Contractor is fully responsible for operating these machinery without endangering the safety of the running line and traffic.

1.3.6 Safety Fencing :

- (i) Before commencing any work close to the running track, the Contractor shall provide safety fencing and obtain the specific permission of RAILTEL official to commence the work in that stretch.
- (ii) The fencing shall be for a height of 1.5 meters with wooden/Casurina balli posts of length 2.1 m at 3 m centre to centre spacing as per Relevant BOQ item.
- (iii) The Contractor shall maintain the safety fencing in good working condition throughout the period till the work in a given stretch is completed. He can remove the fencing after getting the approval of Engineer. The fencing material will be the property of the Contractor. Serviceable materials obtained from the Released fencing can be re-used for providing fencing in subsequent stretches.
- (iv) The Contractor will be paid for providing safety fencing along the track as per the Relevant item in the BOQ.

- 1.4. The contractor's special attention is drawn to Para 826 of Indian Railways Permanent Way Manual introduced under Advance Correction Slip no. 69 dated 23.05.2001, reproduced below which should invariably be complied with. "826 Safe working of Contractors -- A large number of men and machinery are deployed by the contractors for track renewals, gauge conversions, doublings, bridge rebuilding etc. It is therefore essential

that adequate safety measures are taken for safety of the trains as well as the work force. The following measures should invariably be adopted:

- (a) The contractor shall not start any work without the presence of Railway supervisor at site.
- (b) Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, the work shall be so carried out that there is no infringement to the railway's schedule of dimensions. For this purpose the area where road vehicles and/or Machinery are required to ply, shall be demarcated and acknowledged by the contractor. Special care shall be taken for turning/reversal of road vehicles/machinery without infringing the running track. Barricading shall be provided wherever justified and feasible as per site conditions.
- (c) The "look out and whistle" caution orders shall be issued to the trains and speed restrictions imposed where considered necessary. Suitable flag men/detonators shall be provided where necessary for protection of trains.
- (d) The supervisors/workmen should be counseled about safety measures.
- (e) The unloaded ballast/rails/sleepers/other P.Way materials after unloading along track should be kept clear off moving dimensions and stacked as per the specified heights and distance from the running track.
- (f) Supplementary site specific instructions, wherever considered necessary, shall be issued by the Engineer.

- 1.5. The work of formation in banks and cuttings throughout the length of doubling is adjacent to track under running traffic. Many of the bridges on the proposed double line are to be constructed either as extensions or just adjacent to the existing bridges under running traffic. The work of Installation of Track throughout the length of doubling is adjacent to track under running traffic. The work of Installation of Track and Signals in the Station yards including alterations to the existing Track and Signals has to be done adjacent to or in replacement of the existing Track and Signals which are under running traffic. The contractor shall ensure that the safety of the running lines and running traffic is not endangered, because of his work.
- 1.6. Any traffic/traction blocks, temporary speed restrictions and caution orders required in this connection shall also be got sanctioned from the Railway authorities well in advance, through the RAILTEL. The Railways may sanction the same for specific sites within the overall recovery time available in the Railway's time table. The contractor shall have to schedule his program according to the convenience of the Railways. No claim from the contractor for any delay/inconvenience/loss on this account shall be entertained by the Employer.
- 1.7. The contractor shall provide at site at his own cost, all protection measures including exhibition and lighting of all Temporary Engineering Signals as per Railway rules, instructions and norms. All lights provided by the contractor shall be screened so as not to interfere with any signal light on the Railways or with any traffic or signal lights of any local or other authority.
- 1.8. Ancillary and Temporary works
 - (a) The Contractor's proposals for erection of all ancillary and temporary works shall be in conformity with the proposals submitted along with the tender and modifications thereto as approved by the RAILTEL.
 - (b) The Contractor shall submit drawings, supporting design calculations where called for by the Engineer and other Relevant details of all such works to the RAILTEL for approval at least one month before he desires to commence such works. Approval by the RAILTEL of any such proposal shall not Relieve the contractor of his responsibility for the sufficiency of such works.
 - (c) The contractor shall, at his own cost, design and provide any temporary arrangements including Relieving/service girders required in connection with the above said works and remove the same, when no longer required. These arrangements shall conform to Railway norms. The contractor shall obtain all necessary approvals and sanctions of the concerned Railway authorities including Commissioner of Railway Safety through the RAILTEL in advance and well in time.
 - (d) The contractor shall ensure and be entirely responsible for proper design, fabrication, provision and upkeep of all temporary arrangements and all associated activities so as not to endanger safety of any assets, running track, traffic and traveling public and for following all extent instructions, norms, practice and procedures laid down by Railway authorities in this respect, which may be ascertained from the Railways through the

RAILTEL.

(e) If required, Railways may, in order to ensure the safety of the running track, post at site Regular Railway staff to watch the efficacy and safety of temporary arrangements and protection measures round the clock for the period the same exist in the running line and till the running line is restored back to normal. Railways may also supervise the insertion, maintenance and removal of the temporary arrangements. The cost of such staff shall be borne by the Employer.

(f) Notwithstanding the above, the contractor shall not, however, be Relieved of his responsibility and obligation as aforesaid.

(g) Save as provided in Para 7 (e) above, the contractor shall bear the cost of complying with all safety requirements. No extra payment will be made for complying with the safety provisions under this chapter and the cost of all such elements to meet the safety requirements shall be deemed to be included in the Bill of Quantities.

1.9. The contractor remains fully responsible for ensuring safety. In case of any accident, the Contractor shall bear cost of all damages to his equipment and men and also damages to Railway and its passengers.

1.10 Suitable barricading to forewarn road vehicle driver shall be provided by the contractor. The luminous tape, strung on bamboo or steel poles can be considered for such barricading. Barricading arrangement should be got approved by the Engineer.

1.11 Indemnity by Contractor

The Contractor shall indemnify and save harmless the Railway/Employer/Engineer from and against all actions, suit proceedings, losses, costs, damages, claims, and demands of every nature and description brought or recovered against the Railways/ Employer/Engineer by reason of any act or omission of the contractor, his agents or employees, in the execution of the works or in his guarding the same. All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

1.12. Damage to Railway Property or Life or Private Property

The contractor shall be responsible for all risks to the works and for the trespass and shall make good at his own expense all loss or damage whether to the works themselves or to any other property of the Railway or the lives of persons or property of others from whatsoever cause in connection with the works until they are taken over by the Employer and this although all reasonable and proper precautions may have been taken by the Contractor, and in case the Railway/Employer/Engineer shall be called upon to make good any costs, loss or damages, or to pay any compensation, including that payable under the provisions of Workmen's compensation act or any statutory amendments thereof to any person or persons sustaining damages as aforesaid, by reason of any act, or any negligence or any omissions on the part of the contractor, the amount of any costs or charges including costs and charges in connection with legal proceedings, which the Railway/Employer/Engineer may incur in reference thereto, shall be charged to the contractor. The Railway/Employer/RAILTEL shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings or in anticipation of legal proceedings being instituted consequent on the action or default of the contractor, to take such steps as may be considered necessary or desirable to ward off or mitigate the effect of such proceedings, charging to Contractor, as aforesaid, any sum or sums of money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such payment, defence or compromise, and the incurring of any such expense shall not be called in question by the Contractor.

1.13. **Safety of Public**

(i) The Contractor shall be responsible to take all precautions to ensure the safety of the Public whether on Public or Railway property and shall post such look out men as may in the opinion of the RAILTEL be required

to comply with regulations pertaining to the work.

(ii) The Contractor shall provide effective barricading using G.I. corrugated sheets around foundation pits, trenches, erection sites, demolition sites etc., to prevent accidents and injuries to the public. He shall erect barricading duly leaving safe passage for the movement of the public as per the directions of RAILTEL.

(iii) No payment will be made for providing such barricading and the rates quoted by the Contractor shall be inclusive of such safety measures.

1.14. Reporting of Accidents

The Contractor shall report to the Engineer details of any accidents as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition, notify the RAILTEL and the Employer immediately by the quickest available means.

1.15. Life-saving Appliances and First-aid Equipment: The Contractor shall provide and maintain upon the Works sufficient, proper and efficient life-saving appliances and first-aid equipment to the approval of the Engineer and in accordance with the requirements of ILO Convention No. 62. The appliances and equipment shall be available for use at all time

1.16. Security Measure

(a) Security arrangements for the work shall be in accordance with general requirements and the contractor shall conform to such requirements and shall be held responsible for the action or inaction on the part of his staff, employees and the staff and employees of his subcontractors.

(b) Contractor's as well as Sub Contractor's employees and representatives shall wear identification Badges (cards), uniforms, helmets, gum boots and other safety/protection gadgets/accessories provided by the Contractor. Badges shall identify the Contractor and show the employee's name and number and shall be worn at all times while at site.

(c) All vehicles used by the contractor shall be clearly marked with the Contractor's name or identification mark.

(d) The contractor shall be responsible for security of works for the duration of the contract and shall provide and maintain continuously adequate security personnel to fulfill these obligations. The requirements of security measures shall include, but not be limited to, maintenance of Law and Order at site, provision of all lighting, guard, flagmen, and all other measures necessary for protection of works within the colonies, camps and elsewhere at site, all materials delivered to the site and all persons employed in connection with the works continuously throughout working and non-working periods including nights, Sundays and holidays, for the duration of the contract. However, at work sites in close proximity of traffic corridors where public and traffic are likely to come close to the work area, suitable barricading as proposed by contractor and approved by RAILTEL shall be provided.

(e) No separate payment will be made for providing security measures and will be deemed to be included in the rates quoted by the contractor.

1.17. Contractor will have to comply with the instructions issued by concerned Zonal Railway/ RailTel time to time for Safety at Worksites

2- GENERAL

2.0 Name OF WORK-

Design, manufacture, supply, installation, testing and commissioning of Microprocessor based Electronic Interlocking (EI) system as per RDSO Specification No. RDSO/SPN/192/2019 with latest amendment for execution of indoor and outdoor Signalling work which includes excavation of trench, laying of cables, casting of foundations of MACLS Signals & apparatus cases, erection /installation of MACLS signals, fixing & wiring of track circuits & point machines, centralized operation of points & signals etc. as per R E standard at Bilga, Nurmahal, Nakoder and Malshian Shahkot stations in Phillaur-Lohian Khas section of Firozpur Division on Northern Railway.

The brief Scope of the Work including mainly, but not limited to the following works (Refer In Tender Schedule).

- a. The work includes, designing of EI, Designing of Circuit Diagrams for Electronic Interlocking, Supply of S&T materials e.g. Supply of EI material, Signalling cables, Quad cables, OFC, HASSDAC, UFSBI, Point machine, IPS, Data logger, RTU various type of Relays, Location Boxes, Signal posts, signal units, integrated LED signal lighting units and associated S&T items and execution of S&T items to complete the commissioning of S&T works and supply & execution of Telecommunication items for Block working, control communication etc.
- b. The S&T work is to be executed in Firozpur Division.
- c. Data logger networking to be executed in Divisional office.
- d. EI is to be provided at 4 stations.
- e. UFSBI with HASSDAC, working on quad cable and OFC, are to be provided for Block working with all adjacent block sections of Ferozpur Division.
- f. The work shall include S&T works up to distant on either side of the station, LC gates and only block and telecommunication works at adjacent stations (Stations with Block working is involved).
- g. There are mainly 4 stations.
- h. Tentative/Approved SIP shall be provided to the contractor for preparing a detail scheme including the design, supply and execution Plan. The final as built SIP shall be prepared and submitted by contractor at the time of commissioning of the concerned station/LC gates along with other drawings. It being a Railway work changes in the SIP may occur till the FAT is finalised so planning of EI design is to be done accordingly.
- i. Contractor has to carry out the modification works (indoor & outdoor) at the adjacent stations for Block working.
- j. Work is to be done according to specification, designs, Drawings, Manuals and circulars of Northern Railway. Details are given in the tender document elsewhere.
- k. The work is to be executed on stations having Mechanical/CLS and mechanical LC gates, which is to be replaced with Centralised EI and electrically operated lifting barriers.
- l. Approval of various indoor and outdoor drawings from Railways/RAILTEL.

2.3 Inspection:

For all items having RDSO Specifications viz., EI, HASSDAC, IPS, OFC, LED etc., procurement shall be as per Relevant RDSO Specifications from RDSO approved vendors and shall be inspected by RDSO. Items for which RDSO Inspection is not mandatory, shall be inspected by RITES/Authorized representative of RAILTEL.

2.4 Damages to property: The contractor shall organize all his activities so as not to cause any damage to the property of Railway or that of other agencies or any third party. In spite of taking all precautions, in the unfortunate event of any damage to the property, then the contractor shall not only indemnify the Employer of the claims made by the affected parties but also settle the matters with the affected parties as per law. If the nature of damage is one of that affecting the train movements or causing a safety hazard to the public, then the situation will be treated as an emergency and the Engineer reserves the right to take all necessary steps as deemed necessary to restore train operations or to remove the hazardous situation or to mitigate the damage, at the risk and cost of the contractor.

2.5 SURVEY EQUIPMENT: The contractor should provide the survey equipment and other accessories as per the instructions of Engineer as and when required. He should also provide all necessary help as required by the Engineer for checking the works, whenever required.

2.6 All power requirements for execution of works shall be arranged by the Contractor from his own resources. Subject to availability of power, the Employer/Engineer will recommend to the Railway Authorities for providing power connection. The Contractor shall bear the cost of installation and payment of necessary charges for providing such power connections as per the Terms and Conditions of the Railway.

3 - SITE FACILITIES

3.0 SITE FACILITIES FOR THE EMPLOYER AND THE ENGINEER *FOR ALL FOUR SECTIONS SEPERATELY:*

4.0 Personnel

Bidder shall submit the Project Management Plan, Site Safety Plan , Quality Assurance Plan or any other plan required for the successful completion of the work including declaration on the deployment of personnel at site and expert service from abroad; and adhere to the same, after due approval of the employer

The minimum requirement to be on the role of the bidder for each package is given below :

Designation	Qualification	No. of Personnel	Experience
Project Manager	Graduate in Engg.	1	Min. 10 Years of which 5 years should be on EI Project Work
System Design Specialist (Signalling)	Graduate/Diploma in Engg.	1	Min. 10 Years of which 5 years should be in the design of PI/RR/I/EI/Auto signaling
Site Engineer (Signalling)	Graduate/Diploma Engr	6	Min. 5 Years of which 2 year should be on PI/RR/I/EI/Auto signaling

5.0 DETAILED TECHNICAL SPECIFICATION FOR SIGNALING**5.1 GENERAL :**

The detailed specifications for the work which are to be carried out by the Contractor are as stipulated hereunder.

- a. Not with-standing whatever contained in the specifications, the field supervisor/Executive RAILTEL for the work shall decide as per site conditions and shall be binding on the contractor.
- b. In case of any dispute regarding soil condition/type of trenching and other conditions the decision of RAILTEL for the work shall be final and binding.
- c. The work shall be carried out according to the drawings approved by the RAILTEL/Railways and shall conform to the provision of Codes, **IRSEM 2021**, RE Manual, Block Manual and Schedule of dimensions are deemed to be a part of the Contract Agreement. The contractor shall be solely responsible for the proper execution of the work as per specification.

5.2 Electronic Interlocking

- a. The Centralised EI to be supplied as per RDSO Specification. Supply of Centralised Electronic Interlocking (Hot Standby) with dual VDU of 55 inches as per RDSO spec no RDSO/SPN/192/2019 with latest amendment.
- b. Scope of supply against this item includes all the indoor equipments necessary for successful functioning of EI system, mainly consisting of but not limited to followings conforming to Technical specifications
 - i. Microprocessor equipment.
 - ii. I/O cards with card cage and motherboard.
 - iii. Power supply cards.
 - iv. All types of connectors and couplers as required.
 - v. Industrial grade Dual VDU of 55" & Industrial grade PC.
 - vi. Maintenance VDU of minimum 42" console with Laser printer at MT room
 - vii. All types of Relays required for interfacing.
 - viii. ECRs suitable for LED signal lamps.
 - ix. DC-DC convertors (input voltage 110 V or 24 V DC and output voltage as required)
 - x. All types of indoor wires as required.
 - xi. All types of indoor terminals and fuses as required except terminals for main CTR
 - xii. Racks for mounting EI equipment's and interfacing Relays.
 - xiii. Termination rack for indoor cables.
 - xiv. Fixtures, mounting arrangements, Ladders for wire run and other accessories as required.
 - xv. Software's used for designing, configuration, maintenance, data logging and fault diagnosis of EI system.
 - xvi. Protective devices like lightning protectors for DC and AC supplies, isolator/convertor for serial communication etc.
 - xvii. Documents and manuals as per RDSO/SPN/192/2019 with latest amendment with 3 sets.
 - xviii. Ring Earthing and EMI shielding of EI room.
 - xix. Class A type surge protection device.
 - xx. Completion Plans.
 - xxi. Any other item contractor feels necessary as per their system.
- c. The whole interlocking of a yard shall be controlled either by EI.
- d. The system shall have facility of monitoring of internal variables as well as status of I/O. through the Maintenance terminal and data logger network of the railway.

- e. External Data logger shall be connected in such a way both for logging of analogue/digital inputs of external functions and for EI modules internal variables diagnostics. It shall be possible to connect EI with central monitoring unit kept at HQ control unit.
- f. MT shall be used to diagnose problems/events Related to hardware and software of EI. MT shall have facility for automatic serial data transfer to a central monitoring unit. The common protocol for this communication shall be as per Data Logger specification No. IRS: S-99/2006 or latest version for interface only.
- g. The system shall be capable for working in non-air-conditioned environment and ambient temperature range between -10o C to 70 o C and Relative Humidity upto 95% at 40o C.
- h. EI shall have user-friendly graphic based design tool to generate station specific application software to carry out future yard modifications. It shall be possible for Railway to carryout minor yard modifications without the help of firm and the training shall be imparted to Railway maintenance staff for the same as per agreement with the Railway/RAILTEL.
- i. For all vital inputs/ outputs, going out of EI room's double cutting arrangement shall be provided.
- j. The RTC of EI system(s) should be updated/ synchronized with the External Data logger and it shall be possible to log the events in chronological order in case of use of either single/multiple EI with Data logger through CMU (Central Monitoring Unit) if provided in network otherwise through protocol converter.
- k. In case any peripheral equipment (such as VDU, MT, Data logger etc.) needs to be connected to the EI through serial ports and then EI system shall be isolated from the peripheral systems; Suitable isolators shall be used for connecting the peripheral devices.
- l. Requirements of Earthing and lightening protection as laid down in Relevant clause of latest version of RDSO/SPN/197/2008 shall be complied.
- m. The terminals through which common positive or negative supply is provided to EI, must be duplicated, this shall also require duplicated power supply cables from power supply source to EI.
- n. Physical /Soft Counters shall be provided for Emergency Route cancellation, Calling On signal cancellation, Emergency Point operation, Overlap Release operation etc. Where such information is displayed on working VDU, transferring such data to Stand by VDU (if main VDU goes defective) shall be possible. Central Interlocking Unit shall have storage of atleast 30 days data of all information on log of all counters provided like emergency route cancellation, calling on signal, emergency point operation, overlap Release operations etc
- o. The next level Signal control circuits like Cascading of Signal aspects, Red lamp protection etc., shall be achievable through Software only.
- p. The audio-visual alarm shall be available for Approach locking, Button stuck up etc. Command held high for more than a specified duration in EI as specified by the user railway/RAILTEL.
- q. Cycle time and response time to read and process the input shall be fast enough to ensure safety and avoid any apparent delay. Cycle time and response time of the system shall be clearly indicated. The longest route for which all points are in favor shall not take more than 5 seconds from initiation of command to display of lowered signal aspect on control panel.
- r. The medium of communication between CIU or its equivalent and OCs or its equivalent shall be OFC provided on a ring basis. In case of communication failure between CIU or its equivalent & OC or its equivalent, all the outputs shall be brought to safe state whenever two consecutive telegrams are not received in stipulated time period.
- s. All the inputs and outputs of OCs or its equivalent shall be isolated.
- t. OC or its equivalent shall carry out the supervisory function to check the proper level of system voltages at critical points to ensure proper working of the system and shall also check the health of the complete system. OCs or its equivalent when placed at multiple locations shall be connected through diversified/duplicated OFC ring and the protocol shall comply to EN-50159-1 for closed

- loop transmission. LED/LCD display shall be provided on all the modules of EIs to indicate status/ errors of the module
- u. At IBH OCs or its equivalent system shall be separate.
 - v. The EI system including its equipment and subsystems shall be under warranty for three years from the date of commissioning of each phase working.
 - w. OPERATOR AND MAINTENANCE VDU DISPLAY Requirements:
 - i. The software of VDU shall be certified by Independent Safety Assessor.
 - ii. Shall have Ethernet/OFC communication with the CIU either on OFC, with suitable isolators.
 - iii. Shall have required level of security features & access control for the operator/maintainer
 - iv. Shall have key board/mouse operation.
 - v. It shall synchronize the counters/clocks all the time and particularly when resuming from a failure.
 - vi. Shall support buzzers/alarms as required.
 - vii. It is desired that it shall be possible to analyses the operation and run the play back of the yard for the events of last 30 days.
 - viii. Embedded Industrial grade fanless PC with latest PC configuration shall be provided and suitable Compact Flash Disc memory space shall be catered for the backup requirements.
 - ix. Shall have required no. of serial ports and Ethernet ports. The serial ports shall have inbuilt isolation or external isolation shall be provided.
 - x. A flashing indication shall be provided on the VDU to indicate healthy condition of the main system, communication channel. Three dot markers in Red, Blue & Green colours respectively shall also be displayed prominently at conspicuous location on the VDU terminal to indicate that the colour monitor is healthy and all the three colours (Red, Blue & Green) are present in right proportion.
 - xi. It shall be possible to display the status of the yard by distinguishing with two differ colours (i.e., system active and system inactive).
 - xii. It shall be possible to display the complete yard layout including the section on the monitor. It shall also have facility for displaying a portion of the yard or section in an enlarged mode or with scrolling arrangement, if required.
 - xiii. The current position/ status of various field equipments and track circuits shall be displayed on the VDU using different colors/ symbols, as desired by the purchaser.
 - xiv. Availability of communication channel shall be indicated by a constantly flashing indication. Whenever the communication channel goes faulty, a suitable error message shall be displayed on the terminal.
 - xv. Blocking of functions (points, signals, track circuits etc.) shall be possible through VDU. The blocking operations shall be achieved in fail-safe manner.
 - xvi. If VDU and CIU are in separate building, then they shall be interfaced using FOM (Fiber Optic Modem) to protect against lightning and surges.
 - xvii. Operation of signal gear shall not be possible simultaneously through both VDUs. Incase of VDU's used in Hot standby, VDU switch over is required as per Railway requirements
 - xviii. VDU should be of high resolution 7x24 hrs. of operation and should be able to display complete yard at a time.
 - xix. For EI and VDU the following latest RDSO TAN and any other Relevant TAN shall be followed whichever is applicable to concern OEM.
 - i. TAN No. STS/E/TAN/3008
 - ii. TAN No. STS/E/TAN/3006
 - iii. TAN No. STS/E/TAN/3004
 - iv. TAN no. STS/E/TAN/3007
 - v. TAN no. STS/E/TAN/3012

NOTE 1: Total EI work to be designed and commissioned in one Phase.

Note-2:

- 2) Scope of supply shall not be limited to BOQ given along with offer and all the materials necessary for successful commissioning of system shall be supplied without any extra cost in addition to the price offered for this item.
- 3) Quantity, item wise rates and total cost should be submitted by the contractor through EI Manufacturer/Supplier by attaching as annexure along with Price Bid. One copy of the same, without unit rates and without total cost shall be attached as annexure along with the technical bid.
- 4) Contractor shall submit an MOU with the OEM of EI in India along with the technical bid. Bids unaccompanied with MOU shall, be treated as unresponsive.
- 5) Latest TAN including earlier issued or latest Technical circular including earlier issued technical circulars or guidelines issued by Railway Board/RDSO shall be strictly followed along with the RDSO specification as given herein the tender documents for acceptance of Centralised Electronic Interlocking by Railway.
- 6) All Power supply equipments required for successful operation of EI shall be supplied by the contractor (Only 24 V DC or 110 V DC shall be given from the IPS covered separately)
- 7) Training is to be imparted at OEM's Premises and at site as well to supervisor level and officer level. The training shall include for making minor alterations in both, the logic system and hardware. Maintainer level training shall be imparted at OEM's premises or at site for proper maintenance of the system and fault finding. Training will be given in batches.
- 8) There shall be facility for resetting axle counter by Station maser through signaling cable when EI system is not working and/or OFC has failed.

5.3 Laptop Specification

- a. Power Supply 65 W
 - i. Battery Cell 6 cell
- b. Processor and Memory Features
 - i. Dedicated Graphic Memory Type DDR3
 - ii. Dedicated Graphic Memory Capacity 2 GB
 - iii. Processor Brand Intel
 - iv. Processor Name Core i7
 - v. Processor Generation 6th Gen
 - vi. Graphic Processor AMD Radeon R5 M430
 - vii. RAM 16 GB
 - viii. RAM Type DDR4
 - ix. SDD Capacity 1 TB
 - x. Processor Variant 6200U
 - xi. Clock Speed 2.3 GHz with Turbo Boost Upto 2.8 GHz
 - xii. Memory Slots 2 Slots
 - xvii. RAM Frequency 2133 MHz
 - xviii. xv. Cache 3 MB
- c. Operating System
 - i. Operating System DOS

- ii. Supported Operating System Windows 10 d.
- d. Port and Slot Features
 - i. RJ45 Yes
 - ii. USB Port 1 x USB 3.0, 2 x USB 2.0
 - iii. HDMI Port Yes, v1.4b
 - iv. Multi Card Slot 3-in-1 Card Reader (SD, SDHC, SDXC)
 - v. Hardware Interface SATA
- e. Display and Audio Features
 - i. Screen Size 15 inch
 - ii. Screen Resolution 1366 x 768 pixel
 - iii. Screen Type HD SVA Bright View WLED-backlit
 - iv. Speakers Yes
 - v. Internal Mic Single Digital Microphone
 - vi. Sound Properties Dual Speakers, DTS Studio Sound
- f. Connectivity Features
 - i. Wireless LAN-IEEE 802.11b/g/n
 - ii. Bluetooth v4.0
 - iii. Ethernet Integrated 10/100 Bas
- g. Dimensions
 - i. Dimensions 384.05 x 254.51 x 24.13 mm
 - ii. Weight 2 kg
- h. Additional Features
 - i. Disk Drive CD/DVD writer
 - ii. Web Camera
 - iii. Read/Write Speed 8x
 - iv. Lock Port Kensington Lock Slot
 - iv. Keyboard Full-size Textured Island Style Keyboard with Numeric Keypad
 - v. Pointer Device Touchpad with Windows 10 Multi-touch Gesture Support

5.4 Design, Installation, Testing & Commissioning of Electronic Interlocking

- a. Application logic should be designed for automatic route setting on pressing entry & exit buttons on panel. Sectional route Release facility should be provided on selected routes.
- b. As the work is to be done on the existing running single line stations ,so EI system shall be designed and commissioned in 2 phases as below:-
 - i. In first stage EI shall be designed and commissioned for the Stations having single line working at one End and double line working at other end of the station.
 - ii. In second phase EI shall be designed and commissioned for the station having double line working at both ends
- c. Tentative Approved SI plan shall be provided by RAILTEL and contractor shall design all other drawings & documents. Following is the tentative list of drawings and documents to be designed by contractor:
 - 1) Selection table,
 - 2) Vital & non-vital I/O Bit Chart,
 - 3) EI configuration diagram, Equipment layout plan, Relay disposition chart and contact analysis .
 - 4) Front plate diagram.
 - 5) Application logic
 - 6) Interface circuit with contact analysis.

- 7) Equivalent circuits of application logic.
- d. 19" rack mountable Fibre distribution management system should be installed in EI rack itself.
 - h. Factory Acceptance Test (FAT) shall be conducted on EI equipment at any station in PHR-LNK section as per instruction of site incharge before installation at site by EI manufacturer. All necessary arrangement for FAT shall be made by Contractor. FAT of EI system shall be carried out with approved application logic/program, hardwiring all type of cards and other components of EI proposed to be installed at site. On completion of erection and commissioning, individual equipment/unit shall be tested and simulation test (SAT) will be carried out. Defects if any during the test, shall be rectified by contractor. In order to qualify the SAT (Site Acceptance Test), the complete system/individual equipment, hardware shall operate demonstrating compliance of all functionalities as per Northern Railway Practice.
 - i. The contractor should protect the control panel, while doing the wiring. The terminal; particulars, power supply points, tag block particulars should be neatly painted on the inner side of the panel. Before commencing wiring all knobs, buttons & indicators should be tested for proper contact and defective ones should be replaced in the initial stage itself.
 - j. The cable termination and internal wiring terminal particulars of control panel should be made out signed by the contractor and handed over to employer. The control panel should be earthed properly. Any modification to the panel wiring should be done by the contractor at site, as required by the employer at free of cost before final commissioning.

5.5 Data Logger

Data Logger with power supply arrangements complete as per RDSO specification No. IRS-S-99/2006.(amd-3)

(1) Data logger shall have the following module:

- (i) Processor module
- (ii) Input module (Digital/Analog)
- (iii) Signal conditioning module,
- (iv) Printer 80 Col. Dot matrix.as per RDSO specification

(2). The modem suitable for connecting data logger, through both the mediums i.e. through OFC and Quad cable, to other stations and front end processor, shall be supplied along with the data logger.

5.6 Single section Digital Axle counter (HASSDAC)

- a. High Availability Single Section Digital Axle counter shall be supplied as per RDSO Specn. No.RDSO/SPN/177/2012 ver 3.0 including all the fastening and mounting arrangements. for Digital Axle counter. Guidelines of the Railway shall also be followed along-with the specifications for installation and commissioning of the system.
- b. The installation of all indoor & outdoor equipments including resetting arrangement (Reset Box) must be carried out as per detailed instructions given in installation procedure issued by RDSO. The installation manual of original equipment manufacturer should be followed strictly.

- c. Station master should be able to reset the axle counter with permission from verification box. (if any) Wiring of verification box is also included in the scope of work (if any).
- d. Installation, testing and commissioning of HASSDAC system along with track side equipments, wheel detection points, reset boxes etc. This includes supply and installation of housing for EJB as per IR specifications.
- e. Supply of technical documentation, track section plan and drawing shall be done by contractor. Supply of all miscellaneous stores required for completion of work shall be supplied by contractor except 4/6 quad cables.
- f. Axle counter system should detect presence of railway vehicle with standard wheel size within defined section of track. It should not detect push trolley, which is having smaller size wheel. System should work independent of poor track conditions and wet/ flooded track.
- g. The necessary testing of each detection point and track section shall be done as per methodology prescribed by the manufacturer and also in the specification.
- h. The necessary register with suitable Performa shall be opened for recording of test results as well routine maintenance along with measured readings.

5.7 Block Proving by Axle Counter using UFSBI

Block proving with axle counter (BPAC) using UFSBI for single line suitable for 25KV electrified area as per RDSO specification No. IRS:S-105/2012 with latest amendment. (a) ELECTRONIC SIGNALLING EQUIPMENTS : Universal Fail Safe Block Interface for single line suitable for 25KV electrified area, complete with all accessories as per RDSO's specification RDSO/ SPN/ 147-2005 & IRS Specification No. IRS:S-105/2012 Ver.0 (or latest). (2 (two) numbers per block section). It comprises of Auto Changeover facility for 1 Quad & OFC working. Necessary MODEM for Quad and OFC should be supplied along with Auto-Changeover arrangement. (b) Relay rack with due locking & sealing arrangement including necessary relays (QN1, QNA1, QL1, Timer etc.) to suit single line UFSBI and wiring as per wiring diagram RDSO's drawing No. RDSO/S/32020 (latest amendment). (c) Block panel complete with accessories as RDSO Drg. No. RDSO/S/32019 (latest amendment)- 02 Nos. -The Block Phone should Work without any interruption after Auto changeover.

The Work of Block instruments and HASSDAC should also be commissioned with Commissioning of EI at 4 Stations. Adjacent station work should also be carried out by the contractor.

5.8 Integrated LED Signaling units.

For Main signals Integrated LED signal units with inbuilt current regulator as per RDSO specification No. RDSO SPN/199/2010 (Rev.1) shall be provided. It shall be suitable to the signal unit as mentioned in the tender elsewhere.

5.9 Panel Interlocking

Not applicable

- 5.10 Maintenance free ring earthing and maintenance free earthing shall be provided as per Latest RDSO specifications and drawings.

5.11 PREPARATION OF CABLE ROUTE PLAN:

In addition to above guide lines Railway may ask to provide any additional precaution as necessary at a particular location due to law and order. Latest JPO issued by the Civil Engineering, Signalling and telecommunication and electrical departments (wherever applicable) shall also be followed.

A cable core distribution plan shall be prepared for each station/LC Gate and it shall be got approved from RAILTEL/Railways.

A cable route plan will be drawn by the contractor prior to starting any trenching work. This route plan shall be got approved from the site engineer of RAILTEL/Railway.

Cable plan with distribution chart for each cable shall be prepared for each station by the contractor leaving adequate spare conductors in each cable as laid down in para 15.3 of chapter XV of SEM (Signal Engineering Manual) part-II i.e. 20% of working conductors on each cable shall be left spare upto outer most points and 10% beyond outer most points. Provision shall also be made for additional cable conductors required for repeater Relays as per 25KV AC electrified section – The similar cable layout plans shall be prepared for telecommunication cables. The necessary approval shall be obtained from the RAILTEL/Railways before start of cable laying work. Copy of this plan shall also be sent to client. A distance of approximately 10 cm must be maintained between telecommunication cable and signalling cables. The signalling cables must be separated from power cables by a row of bricks between them.

5.12 CABLE TRENCH:

- a. Excavation of cable trench shall be made in all kinds of soils including clearing roots of trees, rocks etc., to a depth of 1M and to a width of not less than 0.30 Mtr providing proper protection as required by RAILTEL/Railways while crossing power cables, pipe lines etc., The bottom of the Trench shall be leveled and got rid of any sharp materials. Trenches shall be straight as far as possible and steep angles shall be avoided. RAILTEL will indicate alignment of the main cable route as well as track/road crossings.
- b. Through Signalling / Power cables shall be laid as close to the track as possible. The cable track separation distance both within station limits and in the block section generally be about 6 Meters. They shall be laid as close to the railway land boundary as possible.
- c. Whenever the cable route is very near or over the embankment due to non-availability of space, the route marking shall be given in consultation with Railway Civil Engineering Officials. IN these stretches the contractor shall complete the work in minimum possible time.
- d. The progress of trenching, availability of cable, bricks, pipes etc., shall be closely co-ordinate to ensure that the trenches remain open for minimum possible time.
- e. Whenever the track crossing is to be done, the same shall be done in least possible time in the presence of Railway Civil Engineering Representative.
- f. It is desirable that the excavation of trenches is not done in long lengths and does not remain uncovered overnight. It is preferable that trenches are dug, cable laid and refilling done on the same day.
- g. The cable trench depth shall be full except where local conditions of soil prevent same. The decision of Engineer in this regard is final. However in all cases where depth is less than 800mm; protective measures like RCC /DWC pipe are to be undertaken. Wherever rock formation/ foundations, pipes or cables are experienced and trenching cannot be done to a depth of even 800mm , the trench shall be dug as far as possible and protective measures taken to avoid damages of cable as decided by the RAILTEL' representative. The Relevant item of Schedule shall be operated.
- h. In all such cases of lower depth, the RAILTEL supervisor shall record the reasons for such low depth in the site register. Payment of trenching shall be made proportionate to the depth of trench and no payment shall be made for any extra excavation carried out of additional depth or width of the trench out in the slopes etc.

- i. Proportionate payment shall be allowed where the required depth cannot be achieved due to geographical contours.
- j. Whenever a depth of less than 800mm is necessitated due to site conditions, concreting shall be done over the cable for a depth of 200mm for protection. This shall be 100mm in case of involvement of rock cutting. The work shall be done as per standard drawings:
 - i. SK/CN/New-1 Direct on ground rack.
 - ii. SK/CN/New-2 Rock faced at about 300 mm depth
 - iii. SK/SC/CN/New-3 ... Rock faced at about 300-550 mm
 - iv. SK/SC/CN/New-4 ... Rock faced at about 550-800
- k. However the minimum depth shall not be less than 300mm for laying RCC/ GI pipes in hard morrum/ rocky soil. Whenever rocky soil is experienced, concreting has to be done for a depth of 150mm after laying the cable to protect them. Payment for GI/RCC pipe shall be made separately.
- l. During excavation of the trenches, the earth should not be thrown on the ballast. The side of the trenches, away from the track should throw the earth. Complete excavated earth shall be back filled in the trench after laying the cable and rammed well.
- m. Spreading of river sand in the excavated cable trench to a depth of 75mm and after laying of underground Signaling cables/power cable as per the cable plan covering the cable, with river sand to a depth of 150mm. Finely sieved local soil without pebbles/stones may be used in place of sand.

5.13 CABLE LAYING:

- a. Provisions of para 15.10 of IRSEM shall be broadly followed & follow JPO telecom circular 17/2013.
- b. Before the cables are laid, a visual inspection of cable shall be made and it shall be tested for insulation and continuity of cores. The insulation resistance of new cable shall not be below 500 M. ohms per KM at 20 degrees centigrade.
- c. If there is wide disparity between insulation of different conductors, the conditions of the cable should be thoroughly checked before permitting its use. Bedding and armoring shall be inspected to see that there has been no damage during transit or in storage.
- d. Cable wheels shall be used normally to mount the drums before rolling them. In case where the Cable wheels not available or the area is not convenient for rolling the Wheel Drums along the route, the drum shall be mounted on the axle at one end of trench and cable un-winded using adequate number of men ensuring that the insulation of the cable is not damaged and no kink/twist is formed.
- e. Before laying of cable in the trench, a visual inspection shall be adequate for any damage or defect throughout its length.
- f. Normally, cable laying should be commenced only after the Relay room and cable termination box on the route at the respective stations are ready, and the cable should be fully terminated at the Relays room/apparatus cases, immediately after the cables are laid. However, if for any reasons the cables are to be laid in advance, special care should be taken to ensure that the coiled cable near the Relays room/apparatus case is fully protected before and during final termination. The coiled cable should be fully covered with a layer of bricks in its entire length and provided with adequate number of cable markers. On no occasion the ends of the cable should be left unprotected.
- g. Cable laying shall commence only after the depth and width of the trench, quality of bricks etc are jointly inspected by the RAILTEL representative, Railway representative and Contractor's representative.
- h. Cables shall never be taken over the running tracks at the time of cable laying by the contractor as this is likely to cause accident to trains and damage to cables. In case where the cable is required to be transported across the tracks, the same shall be done in the presence of Railway Supervisory staff after safety precautions have been taken to post flagmen on all the sides as may be required to stop any train approaching the site of the fouled line.
- i. At each end of the main cable/tail cable/power cables an extra coil length of 6 to 8 meters should be kept.

- j. At the time of commissioning of the cables, the insulation values of the cable should again be checked and the value obtained shall not be below 10 M. Ohms per KM at 50 degrees C. If there is wide disparity between insulation of different conductors, the conditions of the cable should be thoroughly checked before permitting its use. The readings shall be recorded in the register for all cables.
- k. The contractor shall furnish the final as made cable plan and cable route plan showing the distance of cables from the nearest track center at every 30M interval and location of apparatus cases.
- l. The Supply of tentative Cable Route Plan shall be a pre-requisite for Releasing payment towards trenching. The Engineer may split the Total trench (yard/ work area) into suitable no of sub locations for Release of quantities pertaining to that area.
- m. After the signalling cable/power cables are covered with river sand as above, one layer of country bricks of size 220mm X 100mm X 60mm approximately, shall be placed closely in breadth wise.
- n. Whenever power cables are to be laid along with other cables bricks are to be laid lengthwise approximately five bricks per meter for separating power cables from other signalling cables.
- o. Refilling of the cable trenches with the earth and placing and concreting of cable markers at an interval of 30 M throughout the cable route and also on either side of track crossings along the cable route shall be done. The cable marker shall be concreted to a depth of 0.3M from the top of the cable marker in case of CI marker and 90Cms in case of Concrete marker. The grouting of CI / Concrete marker shall be for 30 Cm to avoid theft and shall be provided with cement coping as per Drg. No. SDO/CABLELAYING/019& SDO/CABLELAYING/020 (Concrete markers).
- p. Cable laying as per JPO issued by Railway Board / Division.

5.14 TRACK/ROAD CROSSINGS:

- a. Whenever signalling/power/Quad cable has to cross the track/road, it shall be ensured that as per Drg. No. SK/SC/CN/West/30/87:
- b. The cable crosses the track/road at right angles.
- c. The cable normally does not cross in between or inside points and crossings.
- d. The track/road crossings to be carried out as per the drawings.
- e. The work includes removal of ballast, cutting of trench across track/road at the places indicated by the Railways and covering the trenches after placing RCC pipe/pipes in position.
- f. RCC pipes/GI pipes shall be provided for track/road crossings. For each track crossings, two numbers of RCC pipes/GI pipes each 2M long with collar shall be provided. For each road crossing, required number of RCC pipes/GI pipes each 2M long with collar shall be provided depending upon the width of the road. Payment for GI/RCC pipe shall be made separately.
- g. Horizontal boring method as per NR Railway Practice.

5.15 BRIDGE CROSSINGS:

On Bridges, the cables are to be laid through GI pipe/trough and taken through CC/GI pipe on either ends suitably buried on both sides of the bridges for a sufficient depth so as to meet the bottom of the cable trench, then fixing the pipe in concrete of size 0.5m X 0.5m in both abutments. Separate pipes/troughs shall be used for power/signalling cables. Suitable supporting clamps shall be manufactured as required by RAILTEL at the rate of 1 clamp/meter depending upon the type of girder. Before fixing GI pipes, perforated holes of 5mm dia shall be drilled at an interval of 0.3 Mtrs. to avoid theft of GI pipes. All the above works shall be carried out presence of RAILTEL/Railway representative only.

The work shall be executed as per Drg No. SK/SC/CN/West/76/86 (for girder Bridges and SK/SC/CN/West/12/87 for concrete slab bridges).

5.16 FOUNDATIONS GENERAL:

- a. The top level of the foundation shall be in level with the existing rail level as far as possible. The proportion of cement, sand, ballast shall be in the proportion of 1:3:6 for casting foundations for signals, location boxes and the proportion will be cured for a period not less than 7 days.

- b. Fine aggregate must consist of sand, stone, ballast not exceeding 20mm size and cement. The sand and ballast must be clean and free from soil, clay, shells, soft or flaky materials or any vegetable. Ballast must be washed when necessary to ensure cleanliness.
- c. Sand used must be tidal river sand and must be free from any salts.
- d. Water used for mixing must be clean and free from any oil, alkali and acid.
- e. Materials for concrete must be carefully and accurately measured for every batch.
- f. Mixing must be done in a mixing trough or a M.S. sheet, which should not be, more than half full at the time of mixing. Two men shall use square ended shovels and not powrahs. Water must be added by pouring water must be continuous until all materials and water are thoroughly mixed and uniformly combined.
- g. When batch is fully mixed, it must be used without any delay. The aggregate shall be deposited in uniform layer not exceeding 15 Cms. Tamping and spreading of each layer to be done as to cause it to settle thoroughly in the form and produce a dense mass.
- h. Forms must be drenched with water before the concrete is placed against them and must not be removed in less than 36 hours afterwards.
- i. A template for each foundation should be prepared suiting the holes in the base of the location box or signal post (for which foundation is cast) in order to hold the anchor bolts in position till the foundation is cured. The template shall be removed before the top of the foundation is given fine finishing.
- j. The exterior surface of the foundation should be finely finished leaving 4 Cms. of thread portion of the anchor bolt free to enable erection of signal post or location boxes. All foundations shall be cast under the direct supervision of the Inspector-in-charge of the work. Curing must be done for all foundation for not less than 7 days.
- k. No payment shall be made for any extra excavation carried out in the slope and width of the pit, including for foundations where soil is loose and pit is to be dug for more depth.
- l. Earth work and stone pitching shall be done where the boxes/signals are laid on edges of embankments or the height of the Location boxes heights are unreachable to maintainers. This item shall be paid for separately.
- m. The Following Drawings Shall be adopted for apparatus cases

Sl No	Type of Foundation	Drawing No.
1	Signal (Main CLS)	SK-15/10
2	Signal Shunt	SK-16/10
3	Road Signal CLS Type	SK-15/10
4	Location Box Full	SK-18/10
5	Location Box Half/ Quarter	SK-17/10

- n. Location box foundations are to laid in such a way that the door are parallel track in open condition. The boxes shall be installed in rear of the Signals covered by them such that the signal aspect can be watched while taking readings etc. The open door shall be farther than 2.36 Mtrs from centre of the nearest track.

5.17 APPARATUS CASES (LOCATION BOXES):

- a. The work consists of pit excavation, casting foundations with bolts of adequate size having cement concrete of ratio of 1:3:6 with stone ballast of 20mm size as Drawing Nos specified above. The RAILTEL/ Railway will indicate the position of location of apparatus cases.
- b. All apparatus cases/battery boxes shall be erected on concrete foundation and plumbed. It should be clear of infringement when the doors kept open perpendicular to the track. All foundations shall be plastered on all sides and earthwork shall be made upto the required level. All the apparatus/battery boxes used shall be painted on inner side with white paint before fixing the shelf planks and

- terminal board after a primary coating with red oxide and with Aluminum paint on outer side after installation at site.
- c. The underground signalling cable shall be taken into the apparatus case/battery boxes and properly secured by wooden clamps/cable gland plates.
 - d. The cables shall be neatly skinned, bunched and terminated. All cores of cable shall be terminated on the terminal board at locations and in Relay rack at the required places in the order as approved by Inspector in-charge. All the power cables shall be provided with lugs using crimping tool.
 - e. All apparatus cases shall be provided with 'E' type lock arrangements on one or both the doors as per instructions at site. Contractor shall procure material and fabricate for fixing of 'E' type lock if such provision did not exist on the apparatus case. Location Box, E-Type locks are covered by a separate item of Schedule.
 - f. After all the signalling cables are taken inside the apparatus case/battery box the side opening shall be closed with masonry work and plastered. The inner side is then filled with sand and finally the bottom is sealed with sealing compound.
 - g. Earth work and pitching shall be done in all cases of Location box erection after completing all works of termination and testing upto such a height and width around the box such that the Technician can easily reach the contents inside. Earth work and pitching is covered under a separate item of Schedule.
 - h. The armours of all the cables and apparatus case/battery box shall be earthed as directed by Engineer. Excavation of a pit at a given location as per Drg. No.SK-10/10 on natural soil, fixing earth pipe covering the same with a mixture of 30 Kg. of charcoal, 30 Kg. of common salt and earth. This includes brick masonry around the earth and cover. GI pipe of size 50mm X 3.5M with 12mm dia holes on the sides at intervals of 300mm. If more than one apparatus cases are grouped at a place, as directed by Engineer in charge earth need not be provided separately for each apparatus case. RAILTEL/Railways may also go for Special type of low resistance earth as the case may be (in installations involving BPAC etc.
 - i. However the payment for all earths shall be covered by a separate item of Schedule.
 - j. The earth resistance shall not be more than 10 ohms for conventional earth and below 1 Ohm for Maintenance free Low resistance earth.. Earth resistance and date are to be painted on earth pit .
 - k. Track Relays, line Relays point contactors, overload Relays, transformers, track feed chargers, rectifiers, charged secondary cells, track feed resistance, EKT, telephone plugs etc., shall be fixed neatly in the apparatus case as required by RAILTEL. The wiring shall be carried out in a neat manner. Coil bunched and tested. The Relays wherever fixed shall be fixed in such a manner that they cannot be easily removed or tilted. Anti-tilting arrangement shall be made for shelf type Relays. Details of cable terminations and wiring particulars shall be painted inside the apparatus cases door in addition to documentation. Relay fixing arrangements shall be firm and rigid to avoid any chance of vibration due to train movements.
 - l. All electrical equipments wherever provided shall be earthed as directed by Engineer. Description of equipments, Relay etc., shall be neatly painted inside the apparatus cases door. All the internal wiring shall be tested from point to point in full, jointly by contractors authorized Engineer, Railway Representative and RAILTEL supervisor.
 - m. Charged secondary cells if installed inside apparatus cases, shall be fixed firmly leaving working space for taking specific gravity reading and distilled water topping. The date of installation, capacity and serial number shall be painted on each cell and the inner side of the door.
 - n. Battery links (lead) with suitable bolts and nuts shall be used for connecting cells. Petroleum jelly is to be applied on terminals immediately after connection. The specific gravity and voltage reading shall be recorded in a separate register and handed over to RAILTEL duly signed.
 - o. The Terminals are to be fixed on (6mm width) Hylum sheet Board for Full Location box and half location box.
 - p. Track circuit accessories, Chargers, EJBs of axle counters etc shall be mounted on horizontal teak wood planks of 20x300x940 (or 470mm for half LB). Batteries shall be mounted on hard wood

planks of 40 mm thick planks.

5.18 SIGNALS:

- a. The work includes excavation of pits and casting of signal foundations as per Relevant schedule item and standard drawings.
- b. As and when required of Supply & Fixing of Expanded metal screen of signals as per Std. practice for protecting against voltage in AC Traction area as per instructions at site by site Engineer in charge shall arranged by the contractor.
- c. Signal pole shall be securely fixed to surface base and erected on signal foundation and plumbed. The gap between the signal pole and surface base shall be filled up with lead wool or any other approved substance to avoid tilting. Multi unit colour light signal upto 2/3/4 aspect shall be properly mounted on Signal post with or without route indicator. Soon after installation, the pole shall be painted with Aluminum/white enamel after giving a coat of primer and the signal unit shall also be painted as per the Standard practice.
- d. Wherever route indicator junction type or stencil type is to be erected, it shall be mounted on the top of the Signal pole and a large off set bracket shall be fixed with 'U' bolt of 20mm dia 2 Nos. on the Signal pole for mounting multi unit colour light signal. The tail cable shall be first terminated on the route indicator and separate wiring shall be run to colour light multi unit signal from route indicator.
- e. To take the wires into the Multi unit, a vertical slot of not less than 25mm X 37mm in size shall be made on the Signal pole. Suitable protection shall be provided on the slotted pole before cable is taken through it and care shall be taken that no damage to insulation of tail cable is caused.
- f. All the signal aspects have to be focused properly. LED signal units may be employed.
- g. Signal units door shall be locked using Universal locks. Universal locks are covered by a separate item of Schedule.
- h. The cables are to be taken through the pole to the unit without damaging the insulation and Armour then skinned and terminated.
- i. All the signal units are to be wired as per approved practice by railway. The wiring is to be tested jointly. In case of conventional bulbs, the signal shall be focused correctly in daytime at bright light at 90% of rated voltage.
- j. For LED aspects, the following shall be ensured as per manufacturer's spec:
 - i. Current regulator earth should be ensured.
 - ii. Jumper selection to be done to suit conventional/LED ECR as the case may be.
 - iii. Jumper selection shall be such that ON aspects shall be "Non Blanking" and Off aspects shall be "blanking".
- k. The signal post shall be properly plumbed and fitted with ladder having a platform and guarding on the top.
- l. Necessary ladder with concreted supports as required shall be provided.
- m. All the signal posts and signals shall be installed clear of infringements. (i.e., 2.36 Mtrs. from the central line of the nearest track). Markers and number plates shall be fixed wherever necessary as per signalling plan using suitable clamps. Signal number has to be painted on the "Number plate" as well as on the door outside. All fittings are to be tightened properly. Signal unit shall be locked properly.
- n. Protective mesh shall be provided for all signal units. Payment is covered by a distinct item.
- o. Necessary earthwork shall be made around each signal if required by RAILTEL. The earth work and pitching shall be paid separately under a different item of Schedule.
- p. Supplies of Signal accessories, post, CLS unit, LED aspect, Transformer, Ladders etc are covered by separate item of schedule.

5.19 SIDING CONTROL:

- a. **Method - I:** (Points operated by 1 Lever GF)

N.A.

- b. **Method - II:** (Locally operated Points by Spring Levers):

N.A.

5.20 PICKING UP OF REPEATER RELAYS:

If repeating Relays over and above the Relays shown in the approved circuit diagram are required to be picked up, the following sequential proving shall be ensured:

HPR: Front contact shall be proved in HG lamp circuit and back contact in ASR circuit.

5.21 FIXING ARRANGEMENT OF RAILTELAY INSIDE LOCATION BOX

For fixing of Relays in Location Boxes, suitable mounting arrangements and fixtures are to be supplied by Contractor. There shall be clear gaps between Relays to enable seeing their contacts position by Technician.

5.22 WIRING:

- a. The provisions of 21.15/ 21.16 of SEM part-II shall be broadly followed in Relay erection and wiring.
- b. Contact numbering for the Relays shall be made as per the approved circuit diagram issued by the RAILTEL/railway and type of Relay proposed to be used on the installation.
- c. Relay rack wiring housing plug in type Relays conforming to BRS-930 and BRS- 931 and shelf type Relays conforming to BS-1659 shall be done with "PVC insulated unsheathed flame retarding type single core flexible wire 1100V grade having 16/0.2mm annealed copper conductor and nominal cross sectional area of 0.5 Sq.mm of common colour code to the specification IS: 694" 1 or wiring these Relays the above wired shall be terminated on eyelets/lugs of standard design.
- d. The Sequence of Wiring and Testing :
 - i. Erection of Relay racks
 - ii. Fixing of Relay bases as per Disposition Chart prepared
 - iii. Fixing of Fuses and Terminals
 - iv. Drawing of wires from contact to contact
 - v. Testing including wire count wrt Wiring Diagram by RAILTEL/Railway
 - vi. Soldering after due corrections
 - vii. Testing including wire count wrt Wiring Diagram by RAILTEL/Railway of soldered wires.
 - viii. Testing of Wire to wire by officer (ADSTE/ DSTE)/ RAILTEL
 - ix. Plugging of Relays after due corrects taking care of the Relay code pins for ensuring correct contact configuration. The Clips shall be locked properly and firmly.
 - x. Additional/extra holes for code pin if any shall be sealed with Epoxy/ M-Seal
 - xi. Clips shall be checked for proper insertion by inspecting from rear
 - xii. Energization of Relays
 - xiii. Connection of Simulation panel and Panel, Block Instt etc
 - xiv. Functional Testing by Supervisor
 - xv. Simulation Testing wrt TOC of the installation by Officer (ADSTE/DSTE)/RAILTEL
 - xvi. Functional Testing including correspondence with field gears by Railway/RAILTEL

5.23 CRANK HANDLE INTERLOCKING:

Electric key transmitter with crank handle fixed to the key shall be installed on Acrylic sheet/Glass fronted T.W. box firmly on suitably angle supports, in SM'sroom/Cabin/Battery box/apparatus cases as indicated by RAILTEL/Railways. The wiring shall not be exposed, EKT when fixed with crank handle,

shall be ensured that proper supports, have been given to the crank handle to avoid undue strain to the mechanism of the EKT. A push button with 2 NO/2 NC contacts of reputed make viz., L&T/Crompton make. 3 Nos. of LEDs Red, yellow and green shall be provided inside the box to give crank handle "Out", crank handle "IN", crank handle "FREE" indications. Providing nickel coated welded chain handle and key, locking and sealing arrangements. 37mm brass locks good quality should be provided. Carrying out wiring as per approved circuit diagram as instructed at site by RAILTEL/SI/CSI.

(This includes necessary mounting of the box to the wall using TW plugs and cement mortar, except cement and wires, all materials to be arranged by contractor).

5.24 EARTHING with GI Pipe Electrode:

The work includes excavation of a pit at a given location as per **Drg. No. SK-10/10** on natural soil, fixing earth pipe covering the same with a mixture of **30 Kg. Of charcoal, 30 Kg. Of common salt and earth**. This includes brick masonry around the earth. GI pipe of size 50mm X 2500 X 3.5 mm thick with 12mm dia holes on the sides at intervals of 300mm. The equipments to be earthed shall be connected to the earth pipe by means 40 mmX6mm MS Flat & Twin GI wire of 1.6mm dia for Signals/ Location Boxes by neatly soldering at equipment end and earth pipe end. Earth resistance shall be measured and painted on the earth pipe with date. The earth resistance shall be always less than 10 ohms.

The Provisions of Para 19.88 19.103 of SEM part-II shall be broadly followed.

5.25 TELEPHONES:

Desk type Magneto telephone shall be fixed on the telephone stands/apparatus cases/battery boxes. The wooden stand shall be fabricated by the contractor and firmly fixed on to the wall if installed in station building platform/gate lodge. A suitable wooden box shall be manufactured for telephone battery with locking arrangements and fixed near the telephone. Telephones if installed in apparatus cases/battery boxes near the top points/siding points/home signals it shall be securely fixed on wooden shelves. Telephone battery shall be kept in the same apparatus case/battery box. It shall be ensured that no other gadgets shall be kept in the apparatus case/battery box and separate door lock arrangements shall be made to protect the telephone battery if installed near home signal/top point/siding points for traffic purpose.

5.26 PAINTING:

All signalling equipments shall be painted in accordance with signal engineering manual chapter XI. The colouring scheme shall be as per Annexure '29 Para 19.106 of SEM Part-II.

5.27 SIGNAL POSTS AND FITTINGS:

A. Colour Light Signal:

- a. Post for Second Distant signal alternate bands of 300mm width of black and yellow shall be used in Double Distant Territories. For all other signal posts White Aluminum paint should be used.
- b. Fittings (Hood and Mechanism box). "Black", the rear of the mechanism box and background may be painted white where necessary, with the approval of Chief Signal and Telecommunication Engineer.
- c. Single line and Double line Block Instruments:
 - I. Single line Token or Tablet instruments:
 - (i) Body. .. "Grey" 'Enamel'.

- (ii) Operating handle bell except going, station Master's control lock."Black" enamel.

II. Double line Block Instruments:

- (i) Wood work. "Spirit Polish"
- (ii) Metal casing. "Green" Enamel

B. Electrical signalling apparatus:

- a. Point machines, key transmitters ... "Black"
- b. Junction boxes, battery boxes and apparatus cases:-
- c. Junction boxes.. Post type. Inside.. "White" Outside.. "Chocolate" (Red oxide paint should be used).
- d. Junction boxes.. Ground type and Apparatus cases: Inside.. "White" Outside.. "White" (Aluminum paint should be used).

5.28 CABLE MARKERS:

- (a) Cable stakes ... 'Black'
- (b) Cable markers ... 'Black'
- (c) Body ... 'Black'
- (d) Figures ... 'White'

(e) Concrete Markers Telecom : Body in Orange, Letters (Engraved) : White

Note : For Cable the Lettering Shall be NR, Signal; For Telecom the lettering shall be " NR, 6-Quad or NR OFC or NR, OFC/6-Quad" as the case maybe. The letters shall be of about **75mmx 35 mm** size.

5.29 Outdoor painting:

Supply of approved quality of paint and painting the following equipments in two coats duly scrapping the rust as directed by RAILTEL/SSE/JE/Sig at site. Colour Scheme shall be as per SEM as prescribed in previous paras.

- a. Colour light signal post complete with route indicators, ladders, calling on signals, shunt signals are to be painted both inside and outside including numbering of signals, cable termination details as per standard practice.
- b. Location boxes both inside and outside with location number, particulars of cable termination and other equipments kept inside the location.
- c. Track Circuits: Painting block joint numbers, feed/Relay end details on rails, TLJBs, details of feed equipments with track circuit numbers and battery with track circuit number and date of installation.
- d. Point Machine layout complete including point number, circuit diagram inside the cover, junction box details point Contactor unit number in location box etc.,

5.30 TESTING AND COMMISSIONING:

- a. The different stages and procedures for testing of indoor and outdoor equipments are given below as guidelines.
- b. Testing and commissioning consist of final testing of selection circuits, for proper functioning of track circuits and points, gears as per SEM, energising and testing of power cables, stabilizers, secondary cells for all circuits, energising and testing of colours light signals and final commissioning of the entire signalling arrangements for traffic use.. The equipment shall be first; tested by the contractor and then jointly with RAILTEL/Railways, testing charges; being borne by the contractor. The contractor shall provide test panel for testing at his own cost. The different stages and procedures for testing of indoor and outdoor equipments are given below as guidance.

(i) STAGE-I

TESTING OF THE RAILTELAY INTERLOCKING:

(ii) STAGE-II

TESTING OF THE OUTDOOR GEARS, VIZ., POINTS, SIGNALS, TRACK CIRCUITS, LC GATES ETC.,

c. TESTING OF OUTDOOR GEARS:

Testing of outdoor gears consists of:

- i. Signals
- ii. Motor operated points
- iii. Track circuits
- iv. LC gates (Interlocking)
- v. Sidings
- vi. Slots.

d. Testing of Relay interlocking -- Energisation of Relays by connecting simulation panel:

- i. For major yards, it is preferable to energize Relays, circuit wise and sheet wise, since it involves number of routes and parallel movements. For way station, it is preferable to energise the circuit, route wise. Before taking up the above energisation, the following works shall be completed:
- ii. Wire to wire bell test of all sheets before soldering and after soldering.
- iii. Plugging of all Relays as per contact configuration.
- iv. Power supply arrangements with batteries.
- v. Connecting the simulation panel.
 - It shall be possible to control all TPRs, NWKRs/RWKRs, CHLRs, KLCRs, LXCPRs etc., from the simulation panel by energising all the Relays.
 - (ii) It is desirable to have the simulation panel adjacent to control panel so that the panel indication can be observed simultaneously while testing.

e. Testing and commissioning of outdoor equipments:

- i. Cable meggering and pairing up of conductors shall be done.
- ii. All the power cables shall be made through and power supply shall be extended to all locations.
- iii. After the power cables are energised, checkup each limb of the power cable whether any earth fault exists using multimeter. This will indicate whether any cable conductor is faulty (i.e., earthed).

f. Testing of signals:

- i) Signals shall be initially tested from the LOC box to attend to minor troubles of bulb holders, wiring etc.,
- ii) All the aspects shall be checked by giving 110 V AC feed from Loc. Box and then the test shall be repeated by giving feed from Relay room CT rack. This shall be repeated by giving feed from Relay room CT rack. This test shall be done for each aspect, route and pilot lamp of shunt signals.
- iii) Care shall be taken to ensure that no train is approaching during this test to avoid misleading information to drivers.
- iv) Ensure that signal number plate is provided and unit back door is fastened and locked properly. Door locking is very important to prevent sun rays falling on to lenses to give phantom indications.
- v) Focus the signal aspects, record the aspect voltages and ensure that it is within the permissible limit (90% of rated voltage of the bulb).

g. Check up the interlocking of LC Gates, siding points:

- i. Check up for the proper functioning of electrical transmission of key transmitters.
- ii. Check up the panel indications.
- iii. Connect magneto telephone communication between SM and LC gate/siding.
- iv. Ensure that respective signals cannot be taken OFF if LC/siding controls are not available with SM (i.e., on panel).
- v. Ensure that when the signals are taken off, respective LC gate/siding key cannot be extracted from the EKT.
- h. Testing of slot circuits:
Wherever end panels are available, inter cabin slot circuits shall be tested. Slot circuits can be tested similar to that of signal HR circuits:

Slot circuit Relay	Similar Relay in HR circuit
a. SLRR	RR
b. SLUCR	UCR c.
OVSr	ASR d.
OVYR	HR

Negative tests, approach locking tests, back lock/route holding tests, cancellation of slots shall be tested similar to that of any signal in the yard as given in table of control.

5.31 AS MADE DETAILS:

After commissioning of the entire installation, as made tracings of documents/plans shall be made on tracing film to RAILTEL standard size and also 6 copies of booklets consisting of the following documents shall be made:

1. Signaling plan.
2. As made track bonding diagram
3. As made cable plan
4. As made cable route plan
5. As made apparatus case wiring diagram, termination and cable particulars.
6. As made cable termination rack particulars.
 - 6a. Power distribution
 - 6b. Circuit diagram
 - 6c. Panel termination particulars
 - 6d. Table of control
7. Cable meggering readings
8. Relays and other equipment details (Field equipment).
9. Sighting Committee Report.
10. Relay contact particulars
11. Equipment Arrangement Plan (Floor Diagram) of all rooms incl panel Room

5.32 LIFTING BARRIER GATES(mechanical): N.A.

5.33 SUPPLY OF ELECTRICAL OPERATED LIFTING BARRIER:

(A) Electrically Operated Lifting Barrier Set shall consist of :

- (i) 2 nos of lifting barrier pedestals, each with 8 contact circuit controller with top roller type Limit switches, hand crank.
- (ii) 2 electric motors 110 V AC of capacity suitable to operate barriers upto 32 ft long boom.
- (iii) 2 GI Boom in 4 sections of 8 feet each with 2 retroreflective stop boards, boom light boxes, MS counter weight, 2 nos. of boom support for resting boom (iv) 2 nos of boom support with boom solenoid locking but without fringes.
- (v) 1 no hand generator to operate 2 barriers of one set. Hand generator to have necessary switches / buttons to operate one or both barriers or operate with push buttons in case 110V

AC supply is made available.

- (vi) Equipment shall be as per RDSO Specifications RDSO/SPN/208/2012 ver 2. Lifting Barrier Pedestal should conform to IRS-S-41/70 (except for deviations of circuit controller & terminals as detailed below) & each Barrier set shall consist of the following:
- (vii) PEDESTALS-2 Nos: Each pedestal consisting of 110 VAC or reversible PMDC motor of adequate capacity for max. 32 ft. long boom along with complete sealed & oil filled type maintenance free gear drive unit with internal locking (to ensure locking of boom wherever it is stopped), along with main shaft, connecting links between gear output shaft & main shaft (links to be of suitable design to control speed of boom, to automatically slow the movement before reaching fully open & fully closed position) etc. friction clutch 8 contact circuit controller with cam operated Jai Balaji roller type limit switches, hand crank arrangement for manual operation at the time of generator/cable failure with cutout limit switch, Wiring & terminals etc complete as required. The movement of boom beyond 87 deg to be restricted mechanically.
- (viii) GI BOOM – 2 Nos (Without Fringes) 2 GI Boom in 4 sections of 8 feet each with 2 retroreflective stop boards, boom light boxes, MS counter weight, 2 nos. of boom support for resting boom (iv) 2 nos of boom support with boom solenoid locking but without fringes.

The boom to be painted with alternate black yellow stripes, and provided with a 600 mm red disc at center with 4 nos red reflective tape squares along with LED type boom light box with protective Mesh.

- (ix) COUNTERBALANCE CHANNELS & WEIGHTS -2 sets for fixing the boom to the mechanism and for counterbalancing the weight of the boom. These should be of M.S.
- (x) HAND GENERATOR – 1 No. Consisting of an electrical generator of adequate capacity to power both motors of one set of barriers. Voltage system of generator to be the same as that of the motors in pedestal ie. 110VAC. The generator shall be coupled to a sealed type oil filled maintenance free gear unit to multiply slow rate of approx. 60-80 rpm rotation of crank handle to approx 1500rpm to run the electrical generator. Rotating the crank handle of generator clockwise should close both barriers, while anticlockwise rotation should open the barriers. If cranking is stopped the movement of barriers should also stop. Selector switches should also be provided so that one or both barriers can be operated as desired. The generator unit should also have suitable push buttons for push button operation, in case 110VAC Supply is available. A selector switch should also be provided to select Hand generator operation/ auto push button operation. Suitable circuit should be provided to cut off supply to barrier motors when barrier/s reach fully open or closed positions. The generator unit should be of floor mounting type.
- (xi) SOLENOID BOOM LOCKING & BOOM STAND – 2 Nos. To lock the boom in the closed position. Boom unlocking be achieved by solenoid which should be epoxy encased for outdoor installation. Voltage of solenoid coil to be same as that of pedestal motor ie. 110 VAC. Suitable proving contact should be provided to prove that boom is in closed position and boom locking lever is in “Locked” position.

- 2 Sliding Boom: Shall be supplied by the contractor as per the existing practice of SC Railways.

5.34 ERECTION OF ELECTRIC LIFTING BARRIERS:

- a. Excavation of pit of 1730 x 1350 x 910mm size, concreting foundation with cement concrete in the ratio of 1;3;6 with 40mm graded stone and river sander, plastering the exposed portion including the sides up to the depth of 150mm below the ground level and curing it for lifting barrier pedestals.
- b. The top level of the foundation shall be in level with the existing top of rail level. The proportion of cement, sand, ballast shall be in then proportion of 1:3:6 for casting foundations for signals, location boxes, and the foundation will be cured for a period not less than 7 days.
- c. Fine aggregate must consist of sand, stone ballast not exceeding 40mm x 40mm size and cement. The sand and ballast must be clean and free from soil, clay, shells, soft or flaky materials or any vegetable. Ballast must be washed when necessary to ensure cleanliness.

- d. Sand used must be tidal river sand and must be free from any salts.
- e. Water used for mixing must be clean and free from any oil, alkali and aid
- f. Materials for concrete must be carefully and accurately measured for every batch.
- g. Mixing must be done in a mixing trough or a M.S. Sheet which should not be more than half full at

the time of mixing. Two men shall use square ended shovels and not phowrah. Water must be added by pouring continuously until all materials and water are thoroughly mixed and uniformly combined.

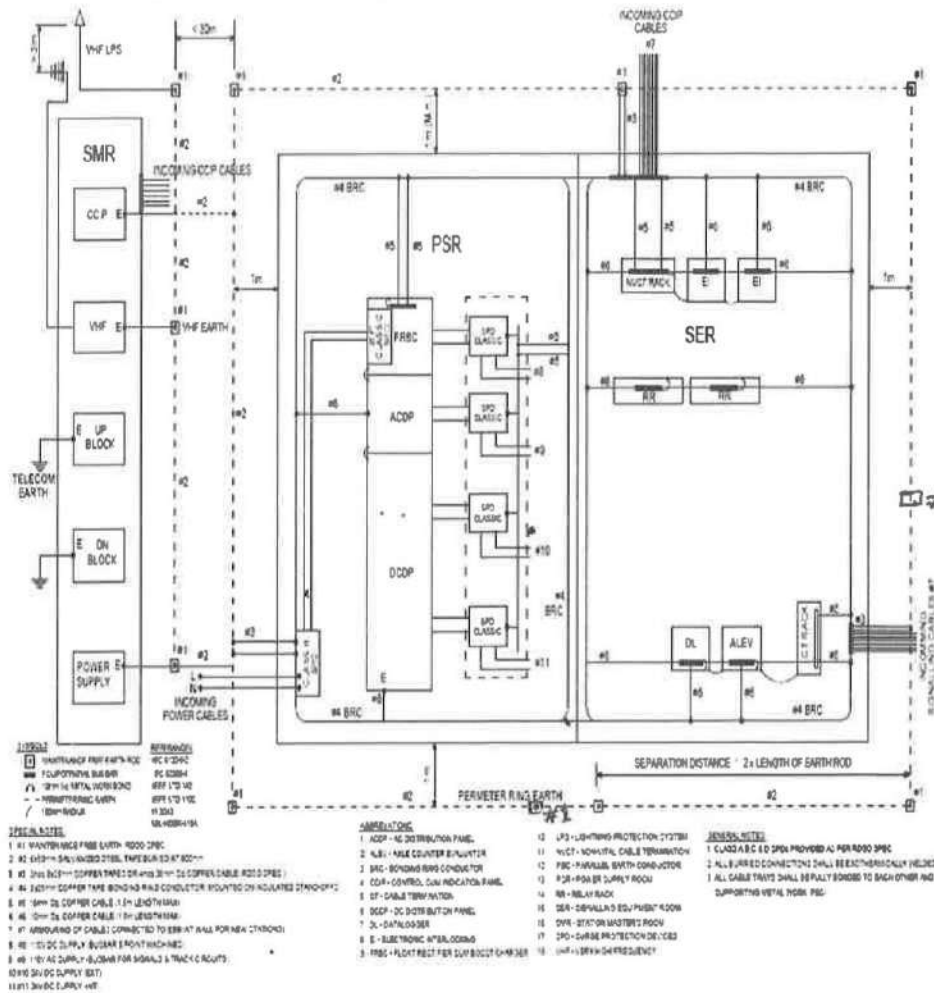
- h. When batc is fully fixed it must be used without any delay. The aggregate shall be deposited in uniform layer not exceeding 15 Centimeters. Tamping and spreading of each layer to be done as to cause it to settle thoroughly in the form and produce a dense mass. Forms must be drenched with water before the concrete is placed against them and must not be removed in less than 36 hours afterwards.
- i. Foundation and fixing of LC gate resting post: Excavation of pit of 300 x 300 x 1000 mm size, concreting foundation with cement concrete in the ratio of 1:3:6 with 40mm graded stone and river sand, plastering the exposed portion including the sides unto the depth of 150mm below the ground level and casting it for 2 Nos. of lifting barrier meeting posts. 8 Nos. of foundation bolts of size 20 x 450mm are to be used.
- j. Erection of Lifting barrier: Erection of electrical lifting barrier gate complete with all accessories wiring as per approved circuit diagram and testing including installation of control panel as per the instructions of site in charge.

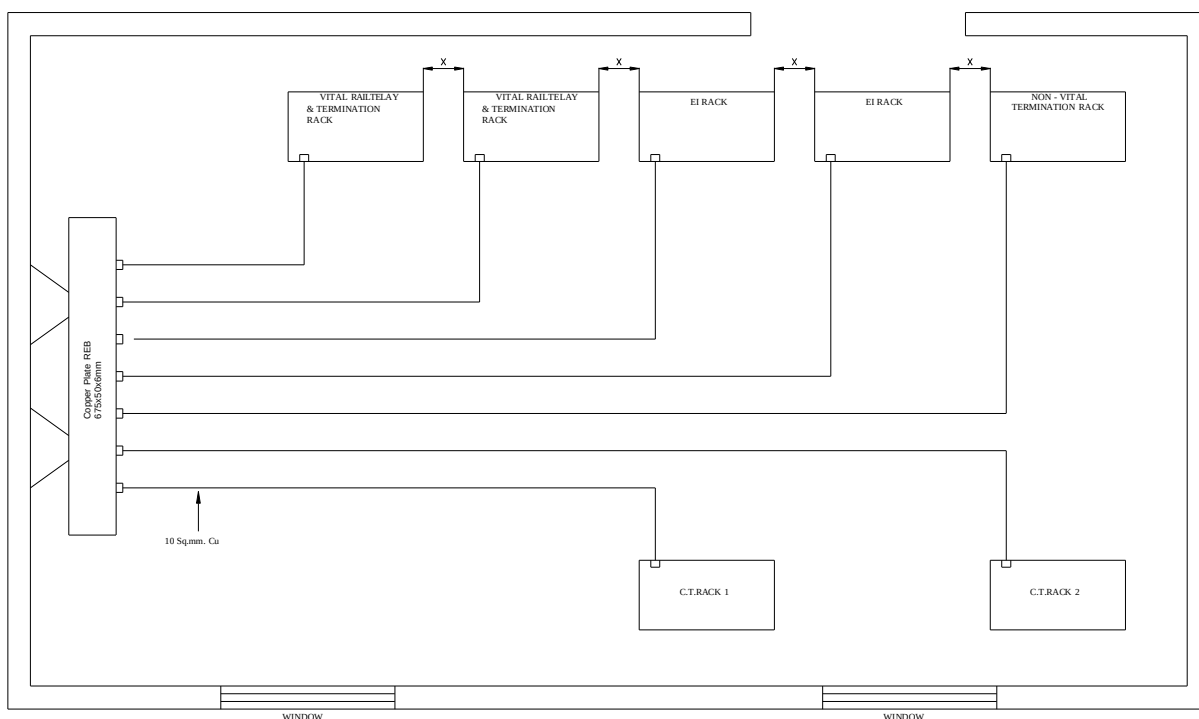
5.35 Earthing

Ring earthing shall be provided as shown in fig. and all the EI and power supply equipments shall be connected to equipotential room earth bar as shown in fig.. Maintenance free earth pits shall be used for making ring earth.

Drg.No. 21-D6

BONDING & EARTHING CONNECTIONS FOR SIGNALLING EQUIPMENTS



**NOTE:**

1. ALL RACKS WILL BE INSULATED FROM FLOOR
2. RACKS WILL NOT BE TIED TOGETHER
3. 'X' DISTANCE SHOULD BE MINIMUM 10mm.

Typical arrangement for Equipments Earthing to REB (Room Earth Bar)

Each earth pit shall be constructed as per typical installation drawing shown in fig.- and all the materials required will be supplied by contractor. Earth electrode shall be in form of 6 feet long, 250 micron copper bonded steel rods joined together using a compression coupler. Earth electrode shall have a minimum dia. of 17 mm ($\frac{3}{4}$ inch).

A hole of 4 to 6 inch dia. shall be augured to a depth of about 6 to 9 feet and two electrodes of 6 feet each shall be joined together using a compression coupler. This electrode of 12 feet (6+6) length shall be inserted into the augured hole and RDSO approved Earth enhancing compound 10 kg shall be filled into the augured hole in slurry form and the resistance is measured. Depth will be further deepened by adding one more earth rod if the resistance is not coming less than 2 ohms. A copper bus bar of 150 mm x 25 mm x 6 mm shall be exothermically welded to earth electrode for taking the connection. All the six earth pits of ring earth shall be inter linked using electrolytic grade copper tape of size 25x3mm. to form a ring. Copper tape shall be exothermically welded with copper bus bar welded to the electrode. The interconnecting copper tape shall be buried not less than 1 foot below the ground level and this interconnecting bus bar shall also be covered with earth enhancing compound. Earth enhancing compound shall be electrically conductive and non-soluble and it should improve earth's absorbing power and humidity retention capability. Earth enhancing compound will have resistivity of less than $4.7\Omega\cdot m$.

Inspection Chamber

- a. 300*300*300mm(inside dimension) concrete box with smooth cement plaster finish shall be provided on the top of the pit. A steel plate of 3 to 5 mm thickness hinged cover with lockable management, painted black shall be provided to cover the earth pit.

- b. One pad lock of Godrej / Link make with three keys shall be supplied for locking.
- c. The masonry work shall be white washed inside and outside.
- d. Care shall be taken regarding level of the floor surrounding the earth so that the connector is not too deep in the masonry or projecting out of it.
- e. On backside of the cover the date of test and average resistance value shall also be written with yellow paint.

Earth Bus Bar and Connection to pit

- a. The Earth electrode and the copper earth bus bar will be connected by Cadmium bronze wire as per RDSO spec RDSO/SPN/178/2003, exothermically welded to electrode at one end and the earth bus bar at other end. All the material required for Exothermic Welding shall be procuring from RDSO approved sources.
- b. The copper Earth bus bar will be 300*25*6 mm size with tin coating and holes for fixing it to the wall of equipment room with insulation studs.
- c. All connection to the earth bus bar will be through tinned copper lug of Dowell or similar make if suitable size.
- d. All nuts and bolts will be stainless steel type.

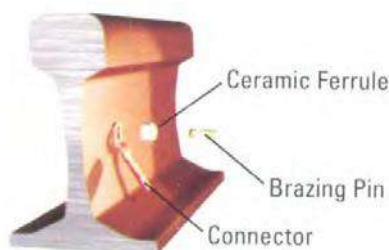
□ **Earth Enhancement Material:** Earth Enhancing Material shall be electrically conductive and non-soluble. It shall :

- a. have high conductivity in the electronic ground contact area and it should improve earth's absorbing power and humidity retention capability.
- b. have a resistivity of less than 4.7 ohm meter
- c. be non-corrosive in nature having low water solubility (0.2% max) but highly hygroscopic: will not be eliminated by continuous treatments with water.
- d. be stable between -60° to +60° C temperatures.
- e. be possible to increase earth's conductivity from 3-20 times.
- f. interact in homogeneous way when applied to the earth.
- g. be suitable for any kind of electrode and all kinds of grounds of different sensitivity through the simple spill of the proper solution to the ground, which surrounds the electrode.
- h. Higher doses may be necessary for optimum results in high resistance soil or rocky areas.

LEFT BLANK

5.36 TRACK CIRCUITS

- a. Pin brazing technique shall be used for fixing lead wires and jumpers to the rail and for providing continuity bond at rail joints. Figure below shows the components used in pin brazing:



Brazing equipment shall be battery powered, light weight portable unit and no external power at site shall be required. Following are the specifications of typical brazing equipment:

Batteries Voltage : 36 V, DC

Brazing Current : 250 Amps.

Brazing Time : under 2 Sec.

Brazing Temp. : 650°C max.

Brazing per Charge of battery: 30-40 nos.

Contractor will bring his own Pin Brazing Machine and Consumable like Ceramic ferrule and brazing pin for installation of track circuit at site and.

b. Continuity Bonds and Lead wires:

Rail head continuity bond in track circuit area for installation by Pin Brazing will be of 20mm² galvanized steel wire rope, length 145mm. With copper lugs machine crimped at both ends.

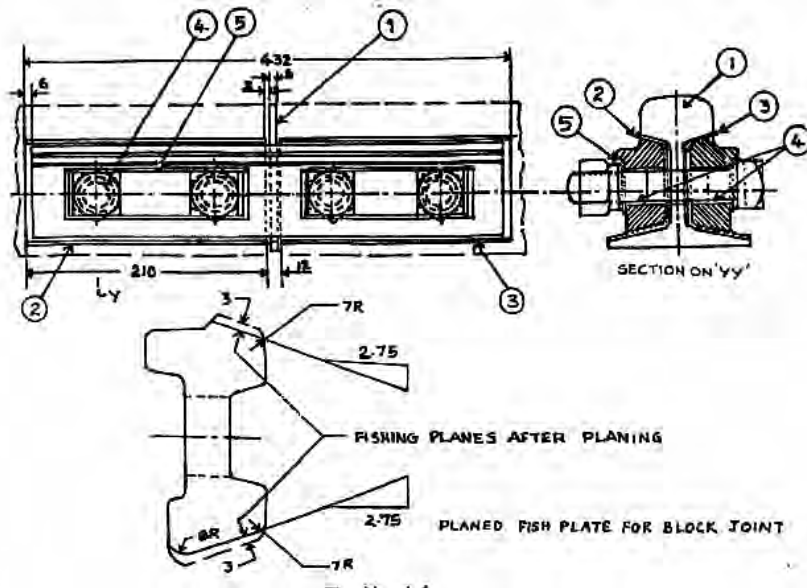
Continuity bond for point zone track circuit area for installation by Pin Brazing will be of 20mm² galvanized steel wire rope PVC insulated, length 1mtr. with copper lugs machine crimped at both ends.

Track Lead Wire (Near End) for installation by Pin Brazing will be of 20mm² galvanized steel wire rope PVC insulated, length 2.5m. With copper lugs machine crimped at both ends. Track Lead Wire (Far End) for installation by Pin Brazing will be of 20mm² galvanized steel wire rope PVC insulated, length 4m. With copper lugs machine crimped at both ends.

c. Insulated Rail Joint (IRJ)

Glued joints shall be provided on track circuited area. Where it would not be possible to insert glued joint, thermoplastic poly urethane (TPU) molded insulated rail joints shall be provided. The glued joints shall be fabricated in situ at site and inserted in the track.

In dry conditions, insulation resistance of glued joint shall not be less than 25 Mega ohms when a meggering voltage of 100V DC is applied across the joint. In wet condition resistance shall not be less than 3 kilo ohms when obtained with application of 100V DC and by dividing the voltage reading with that of current. Details of components and assembly of TPU joint is shown in figure below:



The insulation components of the TPU insulated rail joint are:

- | | |
|--------------------------------|--------|
| (1) End post | 1No |
| (2) Left hand Side channels | 2 Nos. |
| (3) Right hand Side channels | 2 Nos. |
| (4) Ferrules or Bushes | 8 Nos. |
| (5) Backing plates with collar | 4 Nos. |
| (6) Washers | 2 Nos. |
- d. **Two** TLJ boxes one at track feed end and another at Relay end should be fixed clear of infringement and the respective track circuit tail cable 2 x 2.5 Sq.mm PVC copper conductor from the Location Box should be terminated. The connection from the TLJ boxes to the rail should be through the PVC insulated flexible wire rope seven strand of overall dia 8mm. (steel wire dia of 5mm.) which should be fixed to the Rail by channel Bond pin both at feed and Relay ends.
- e. All the TLJ boxes shall be fixed on 50X75mm MS channel as per practice of SC railway.
- TLJ boxes should be painted and track circuits should be neatly numbered as required by Railways.
- f. Jumpers should be provided as per track bonding plan approved by engineer incharge.
- g. Any alteration to existing track circuits should be done by the contractor at his own cost.
- h. After completing the installation of track circuit, it should be energized, tested, adjusted and readings recorded in a register/track circuit history cards. The bonding and jumping plan should be prepared for each track circuit.
- i. The additional work like skimming of fish plates, insulation of fish plate holes etc required in connection with provision of RDSO type insulation Joint for track circuits should be done by contractor. However fish plates should be supplied by RAILTEL to Contractors. The insulation provision should not be required where glued joints are supplied by Civil Engineers for Track Circuit.

5.37 POWER SUPPLY SYSTEM

SMPS based integrated power supply system (IPS) as per RDSO Specification No. RDSO/SPN/165/2012 (Ver 3.0) with latest amendments should be installed at each of the EI Room (panel building) & EI Hut. Indenting description / information to be supplied by the Purchaser for the IPS as per RDSO specification is given for Panel Interlocking/SSI station in RE area as per table below.

A	Specification No.	RDSO/SPN/165/2012 (Ver 3.0) with latest Amd.
B	Type of Battery	LMLA (300 AH)
C	DC-DC converter for Axle Counter/SSI/Data-logger	DC-DC converters required for Axle counters only not required for SSI/Data-logger
D	DC-DC converter for block line working	24-32 V, 5 A
E	CVT for track	1.5 KVA
F	CVT for signal	1.5 KVA
G	CVT for LC gate	1.5 KVA
H	Transformer for signal	230/110 V, 500 VA
I	Transformer for track	230/110 V, 500 VA
J	Transformer for LC gate	230/110 V, 1000 VA
K	Inverter	110 DC/230 VAC, 1.5 KVA
L	Type of Internal & External Relays	24-32 V, 5 A
M	Distance between IPS Room & ASM Panel (in mtrs)	30 mtrs.
N	Distance between IPS rack & battery (in meters)	30 mtrs.
O	Type of Internal & External Relays	'Q' series, 24V DC
P	Distance between IPS rack & battery (in meters)(for spare cell)	30 mtrs.
Q	Earthing Requirement	Ring Earthing

- All the racks of IPS should be fixed on RCC platform with anti-vibrating rubber pads. Batteries should be charged and installed on battery stands.
- Installation, maintenance and technical Manual of Original Equipment manufacturer shall be supplied with each IPS. Instructions in the Installation Manual of Original Equipment manufacturer (OEM) and Relevant para of RDSO specification No. RDSO/SPN/165/2004 with latest amendment should be strictly followed.
- All the racks of IPS should be connected to REB (Room Earth Bar) by stranded copper conductor/cadmium bronze wire rope. REB should be connected to separate Ring earthing should be provided.

5.38 POWER SUPPLY DISTRIBUTION WIRING:

- The equipments are to be wired in Relay room, Station Master's Office, power supply arrangements, as per circuit diagram. The necessary guide lines given have and followed by railway should be strictly followed while preparing the different wiring diagrams. The two copies of each WD should be checked by RAILTEL.
- Contact numbering for the Relays should be made by the contractor as per the approved circuit diagram issued by the railway and type of Relay proposed to be used on the installation.
- Wiring inside one rack for shelf type and plug in type (Metal to Carbon) Contact Relays, Relay rack wiring housing plug in type Relays conforming to BRS-930 and BRS-931 and shelf type Relays conforming to BS-1659 should be done with "PVC" insulated unsheathed flame retarding type single core flexible wire 1100V grade having 0.6/0.2mm annealed copper conductor and nominal

cross sectional area of 0.5 Sq.mm of common colour code to the specification IS:694". For wiring these Relays the above wires should be terminated in eyelets/lugs of Standard design.

- d. Wiring of proved type Relays (metal to metal contact)
- e. For wiring the above Relays the use of single brand tinned copper wire of 0.6mm and 1.0mm/1100V grade PVC insulated flame proof should be used. The use of multi core cable of 100 cores, 60 core, 40 core and 20 core having the above conductor dia and grade is permitted. Size of conductor should be chosen based on current to be carried through these conductors. The wire and cable used should generally conform to IS: 694.
- f. The wiring between the terminal board of the panel and the unwired tag block on the Relay rack is to be carried out using multi-core cables (40 core or 60 core) 0.6mm/1.0mm dia annealed lined copper wire to IS-694. The wiring on the Q series Relay rack is to be carried out by 16/0.2mm dia. single core multi strand flexible A.T. copper wire to IS: 694.
- g. Soldering at the tag block terminals should made using good quality solder and flux. Care must be taken to prevent dropping of excessive solder from terminal thereby causing failure/unwanted connection or short by fusing of PVC insulation in row below it. It is advisable to raise the wires by mechanical means and temporarily interposing a wooden or plastic sheet between the adjacent rows while soldering, to collect the excessive solder that may be dropping out.
- h. After testing, the loose wires on the cable ladder should be neatly bunched and laced with twine black. The contractor should adopt suitable colour code for wiring as required by the Railway's representative. Spare conductors to an extent of 10% are to be provided on the interconnecting wire runs for future developments.
- i. Various supplies associated with signalling viz., 110V AC, 110V DC, 60V DC, 24V DC, 12/24V AC and 12/24V DC flashing are to be brought out to the Relay/equipment room as per instructions.
- j. The incoming cables to the Relay room are to be neatly arranged and fixed to the cable supporting and guiding rack. The duct should be filled with sand and plastered neatly to avoid entry of mice or reptiles.
- k. After the complete testing by the RAILTEL representative and before commissioning the installation, the contractor should arrange necessary sealing leads and wires for sealing the Relays.
- l. The nomenclature of each Relay should be painted both in front and rear side of each Relay with contact configuration. The Relay index sheet duly painted of details of Relay and their position in the Relay rack should be manufactured out of Decolum/Novapan sheet and fixed in the Relay room. All the Relays to be plugged should be checked visually and defect if any, noticed should be replaced, duly reporting the same to the Railways. As made Relay rack wiring and contact chart of all Relays should be prepared in linen/polyester sheets, duly signed and handed over to RAILTEL for preparation of handing over documents to maintenance organization.
- m. Suitable arrangements should be made in the Relay rack for fixing condenser and resistance unit, required for slow to Release feature. Letter painting should be made against each unit to identify circuit for which it is used.
- n. All circuits should be carefully protected by individual fuses in the Relay room and

locations grouped preferably to facilitate easy fault location. Fuses should be so arranged that they can be easily be placed without causing interference of fuses and the circuits in which they are used should be prepared and kept in the Relay room. Fuses for all Signalling circuits should be of the non- deteriorating type as per RDSO specification.

5.39 THE FOLLOWING REGISTERS SHALL BE OPENED FOR SIGNAL MAINTENANCE STAFF:

- a) Track circuit history register,
- b) Track circuit maintenance register,
- c) LED Signal lamp replacement register, d) Battery maintenance register,
- e) MSDAC Maintenance register
- f) Block joint maintenance register,
- g) Axle counter Channel Level register h) Assets Register
- i) Glued Joint Register
- j) Cable insulation Register k) Consent Memo Register
- l) EJ Box Channel Level Register m) Earth resistance Register
- n) Failure Memo Register
- o) Point Trk CKT Bond Connections Register p) Relay Overhauling/Insp Register
- q) Work Cum Insp Register
- r) Any other Registers that Railway may find necessary during Execution s) Telecom assets Register
- t) Telecom equipments maintenance register
- u) Electronic interlocking maintenance register
- v) EI assets register as per site in charge instructions.

In addition Contractor and ESM shall jointly ensure Sealing of equipment's where required shall be done Entries shall be made in the signal history book regarding new S&T assets commissioned.

5.40 Arrangement of Vehicle and Temporary Accommodation:

(a). During FAT/SAT/Qaulity Audit/Pre-NI/Ni: Contractor shall arrange Vehicle and temporary accommodation for Railway official involved.

(b) During NI Period:

Contractor shall arrange Jerry can 20 liter, Electric Drilling machine 01 Nos, Navatal locks Godrej 10 nos, key chains with ring 10 nos, chair 20 nos, double key lock 10 nos Tool kit for ESM 5nos, Manufacture, and fixing of Sighting Board 5 nos, fixing of Calling on/Warning/ Stop boards 5 nos, fixing of Telephone/Plunger box 5 nos, Transportation of materials (for above 50 Kms. only), Transportation of light material/men with tools/documents from central location to site of work, Hiring of vehicle for Railways/RailTel involved, Temporary accommodation during line block, Fixing PVC pipe (25mm) with bends (30m+10bends).

5.41 Released Material.

- 1) Prior to start of the execution work at site contractor shall jointly prepare a list of existing signaling gears along with RAILTEL and Railway representative,
- 2) The Released S&T material shall be neatly stacked at a place near the station from where it has been Released on the instruction of site engineer and it will be transported and stacked as per **Para 1.2 (xiii) of Brief Scope of Work.**
- 3) The material shall not be Released by breaking or damaging or cutting. It should be neatly Released through the nut bolts/clamps etc.
- 4) The Released material shall be reconciled by RAILTEL representative before Releasing the final bill to the contractor. Cost of any lost or damaged material shall be recovered from the contractor

from his bills.

- 5) The security and safety of the Released material will be the responsibility of the contractors.

5.42 MISCELLANEOUS:

WOOD WORK:

5.42.1 Wherever woodwork is involved, the wooden planks are to be supplied by the contractor and he shall ensure the wood of good quality, which shall be varnished/ painted as specified. All wood boards shall be varnished and hard wood shelves should be black painted.

5.42.2 Wooden cross of approved type should be provided for the newly erected colour light signals, till they are commissioned.

5.42.3 Wooden Board and shelves are to be properly polished before fixing the terminals and equipments on it, as advised by the Engineer.

5.42.4 Material used for this table is not less than 18mm thick NOVAPAN PLYWOOD or better material

5.42.5 Outer surface covered with good quality of white Sunmica.

5.42.6 Doors of cabinet shall be with Concealed Cabinet Hinges

5.42.6 Outside doors shall be with locking arrangement.

5.42.7 All the equipments, relays and terminals are to be marked by lettering on it as advised by the Engineer.

Sample pictures for installation practice for Cross Arm, Coil Pit behind boxes, HDPE pipe for future cable entry, Quad twisting, cable entry for GI bend, MS flat earthing at location boxes, GI flat for armour earthing in boxes are given in Tender document.

.....

ENCLOSURE – 1 Vol – III

ANNEXURE-I TO ENCL-1(Vol. – III)

PERFORMA FOR INSULATION RESISTANCE TEST.

The following are the Insulation resistance test results conducted by us on _____ Core capacity cable laid between _____ and _____ on date _____ at _____ station.

Core	1	2	3	4	5	6	7	8	E
1									
2									
3									
4									
5									
6									
7									
8									

Signature of the representative of the contractor

Signature of the representative of the Railways Engineer

ANNEXURE-II TO ENCL-1(Vol.- III)
PERFORMA FOR LOOP RESISTANCE TEST

The following are the loop resistance test results conducted by us on _____ Core capacity cable laid between _____ and _____ on date _____ at _____ station.

Core	1	2	3	4	5	6	7	8	 E
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								

Signature of the representative of the contractor

Signature of the representative of the Railways Engineer

ANNEXURE-III TO ENCL-1(Vol – III)

METHOD OF FINDING OUT THE RESISTANCE OF AN EARTH AND
PERFORMA

Earths should be tested by means of a Wheatstone Bridge or a G.P.O. Detector or a Megger Earth tester/electronic earth tester. Two iron bars with terminals fixed on them and suitable length of wire should be used as temporary Earths.

To test an Earth, iron bars should be driven about 6 mtr. From the earth to be tested and 6 mtr. From each other.

The bars should be used as temporary Earth and driven in the ground for 1 mtr., 0.25 mtr. At a time then work backwards & forwards so as to leave a space for watering. Salt water should be used to ensure that the bars make a good connection with the Earth. Should salt be not available a weak solution of Sal ammoniac in water may be used.

The resistance in ohms between the respective earths should be tested with Wheatstone Bridge or G.P.O. detector or megger earth tester and Performa to be filled.

S. No.	Date	No. of Location/Signal Earthed	Resistance Measured (in Ohms)	Remarks

Signature of the representative of the contractor

Signature of the representative of the Railways Engineer

TECHNICAL SPECIFICATION (FOR DRAWING)**TECHNICAL SPECIFICATION FOR DESIGN OF RAILWAY SIGNALLING DRAWINGS INCLUDING CIRCUITS/WIRING DIGRAMS ETC**

All the plans should be compliable with requirement of RE area and as per site requirement.

The designing of circuit diagrams shall be done as per extant Northern Railway practice, SEM, General and subsidiary rules, the guide lines provided by RDSO and as per the latest rules prescribed by the Northern Railway. Wiring diagram for provision of DATA LOGGER shall be prepared on separate sheets.

All drawings shall be prepared with suitable CAD system. All original drawings shall be supplied in tracing film as per Northern Railway practice. All drawings shall be prepared on A 3 size or as required. Each drawing sheet shall have Border Line, Margin, Name Plate/Approval Column, Alteration column and drawing space as per latest approved practice of Northern Railway.

At least 20% of available drawing space shall be kept blank at the bottom of each original sheet, above name plate/approval column, to accommodate future expansion.

In addition to the above specifications the contractor shall follow any other standards as followed by the S&T deptt. Of Northern Railway during preparation of drawings.

All original drawings and prints shall have Relay contact no/terminal no/fuse no. already incorporated.

During preparation of the drawings the following shall be kept in view:

Optimization in using of Relays.

Economization in using Relay contacts.

Optimization in using of cables.

All original drawings shall be printed through Ink jet Plotter.

No hand correction shall be allowed on the original tracing. If any connection is required on a sheet the original tracing of that particular sheet shall be replaced with a new one and the same shall be submitted for fresh approval of Railway.

Railway reserves the right to add/delete/modify the requirement of drawings at any point of time.

No. of check prints, as required Railway shall be submitted till final approval

After the initial checking is over, subsequent drawings shall be submitted in original tracing only.

In case of repeated mistakes the drawings shall be rejected and fresh drawing shall be submitted by the contractor for which no extra payment shall be made by Railway.

In case of any modification in Engineering plan or interlocking plan the subsequent modifications in all drawings shall be carried out by the contractor at his own cost.

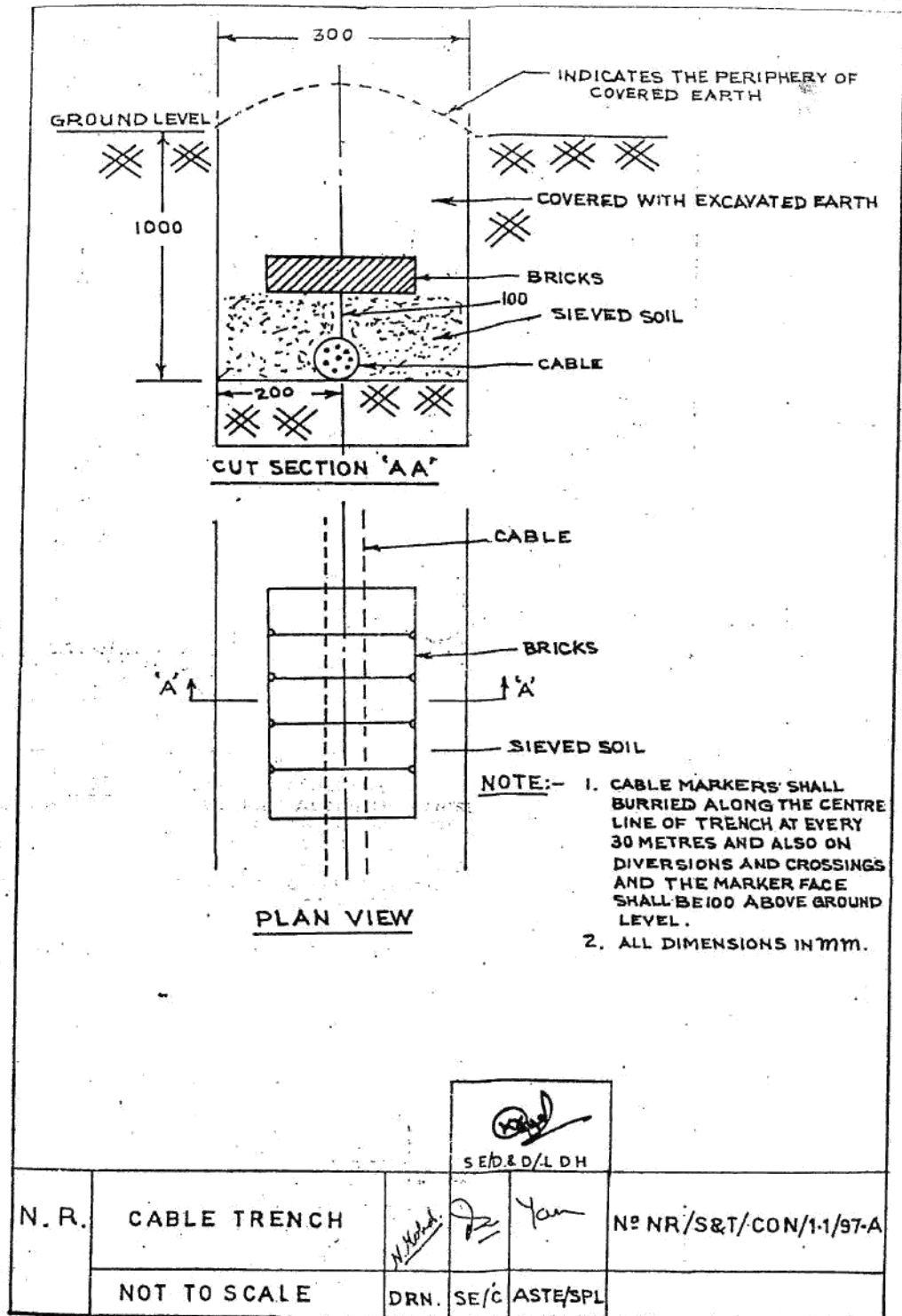
The contractor shall be responsible for collection of all field data from the site of work for preparation of 'As made' drawings.

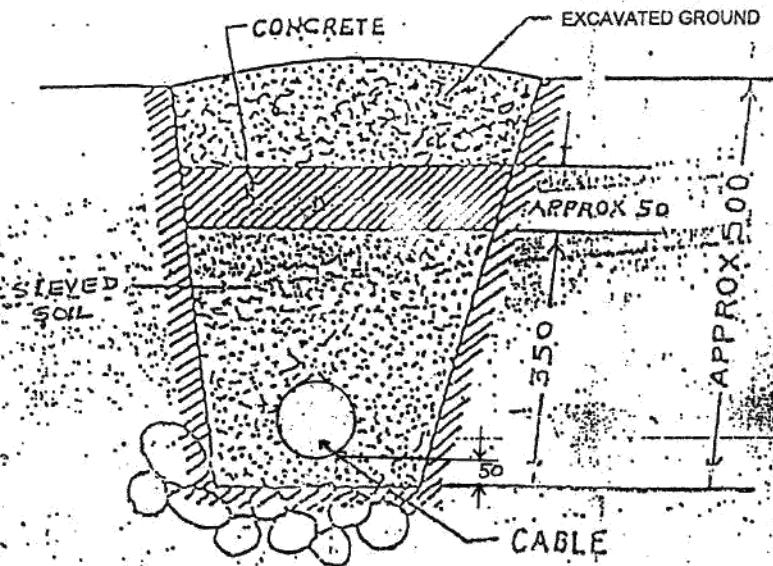
Original tracings of approved drawings shall be submitted by the contractor to the Railways after completion of work, incorporating all the corrections.

Inspection & Approval: Inspection as per schedule and approval by GGM/SIGNAL.

For all technical discussions with Railways regarding the work, the authorized qualified Design Engineer(s), who is well versed in Railway signaling system shall attend concerned Railway offices and represent the tenderer.

Tender Drawings





NO. R/S&T/CON/1.1/97A1

R. D. S. O.

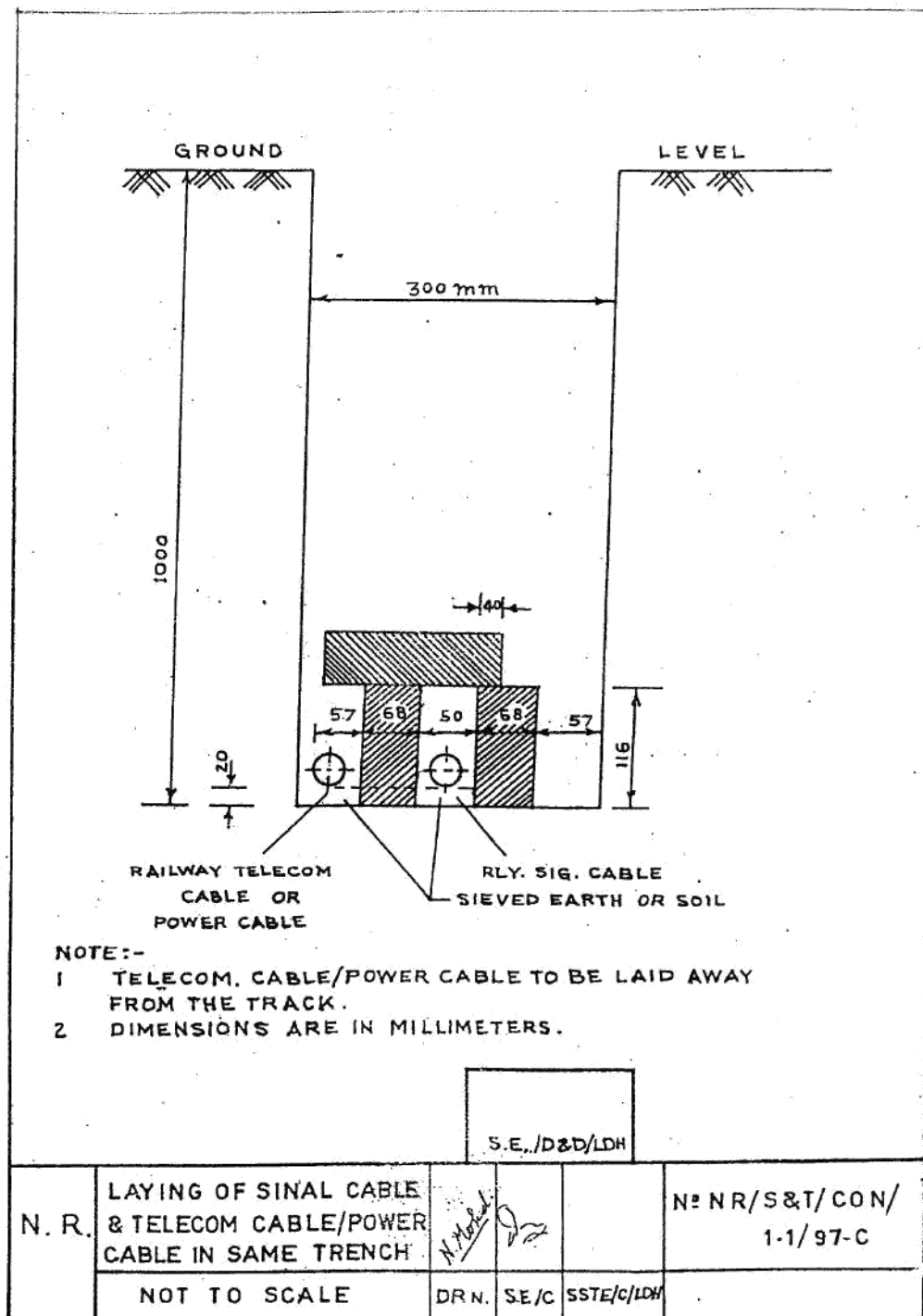
1. NOT TO SCALE
2. ALL DIMENSIONS IN MM

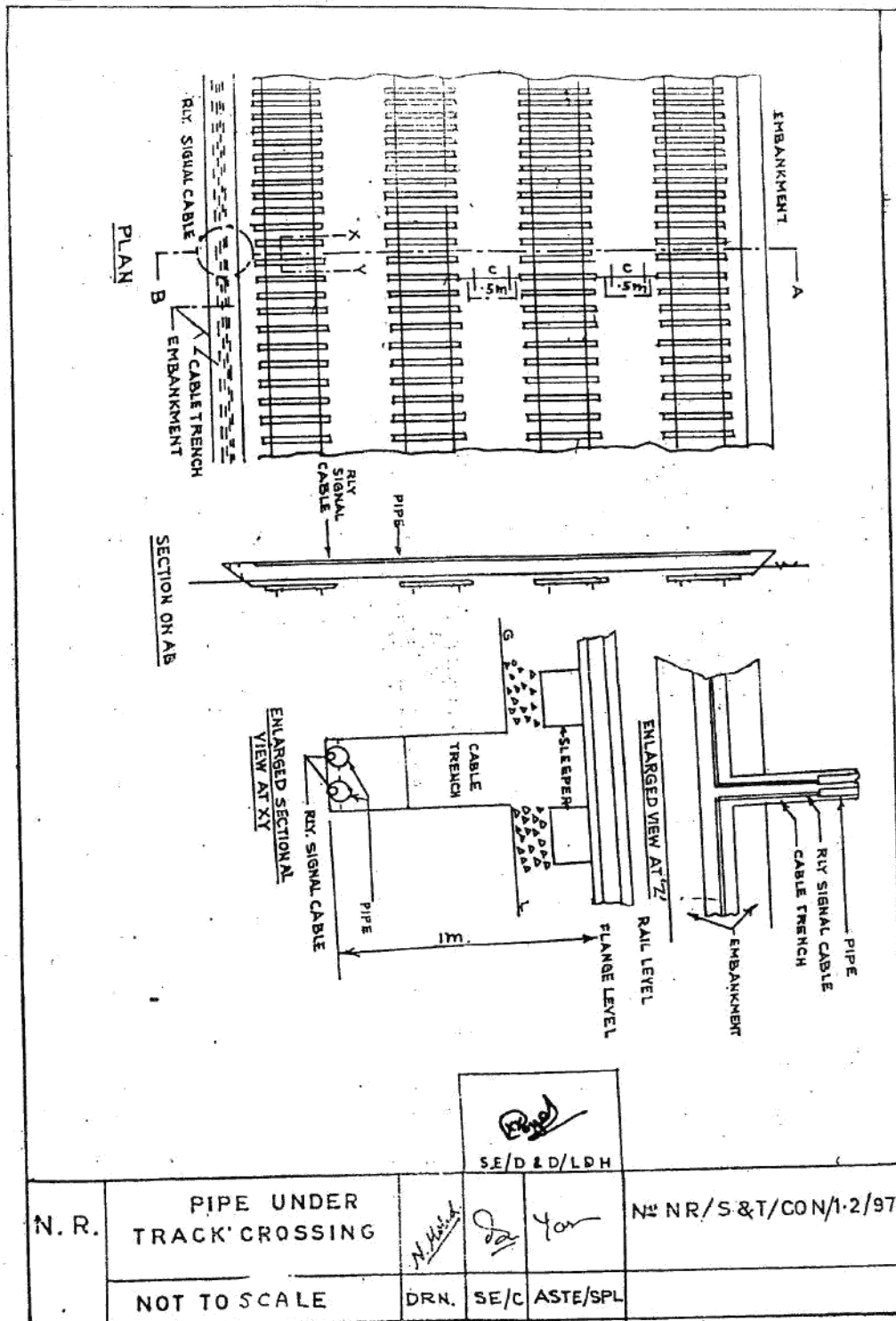
Page 137 of 15

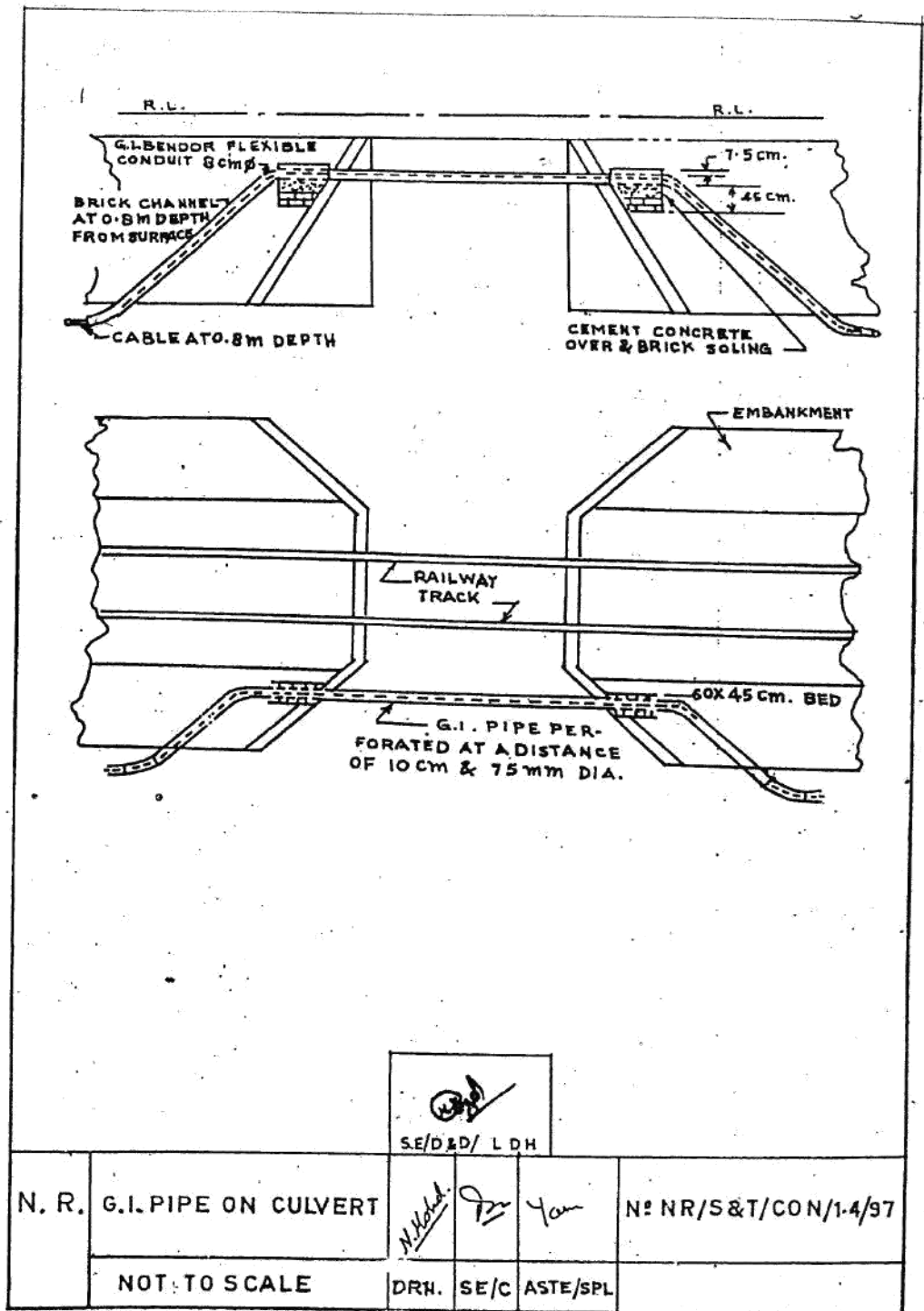
LAYING OF CABLES
IN ROCKY AREA

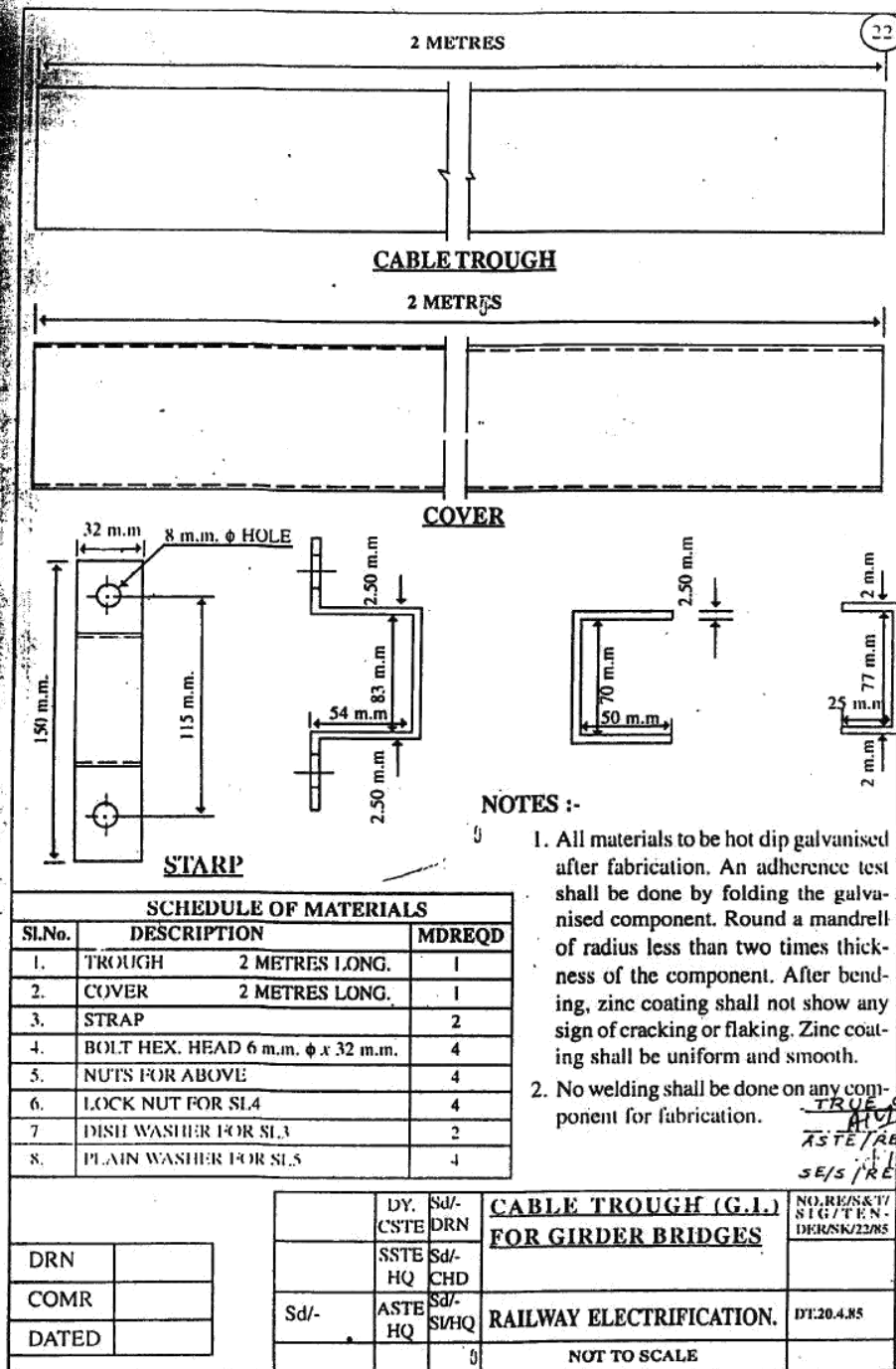
NR/S&T/CON/1.1/97-A1

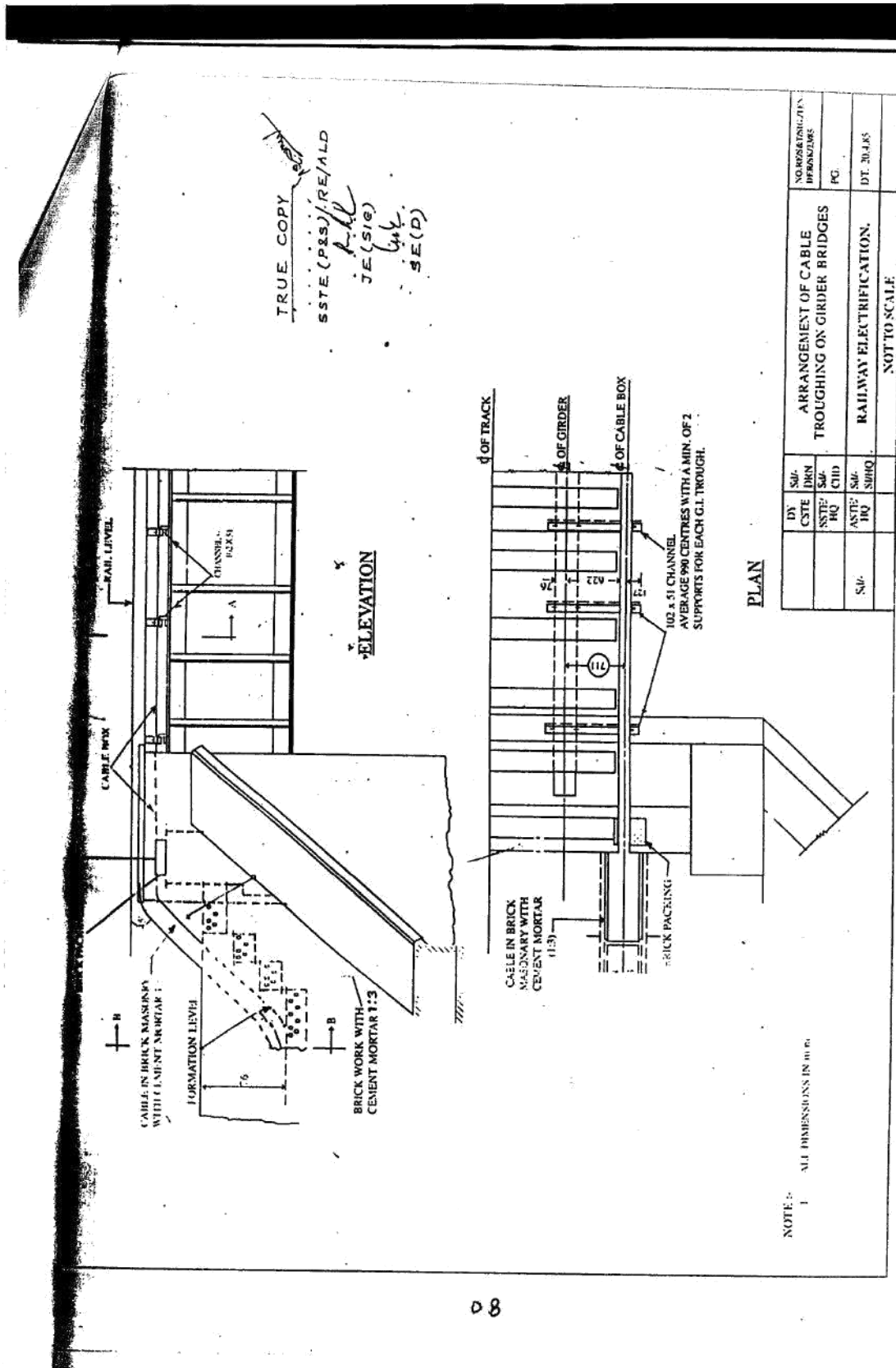
03



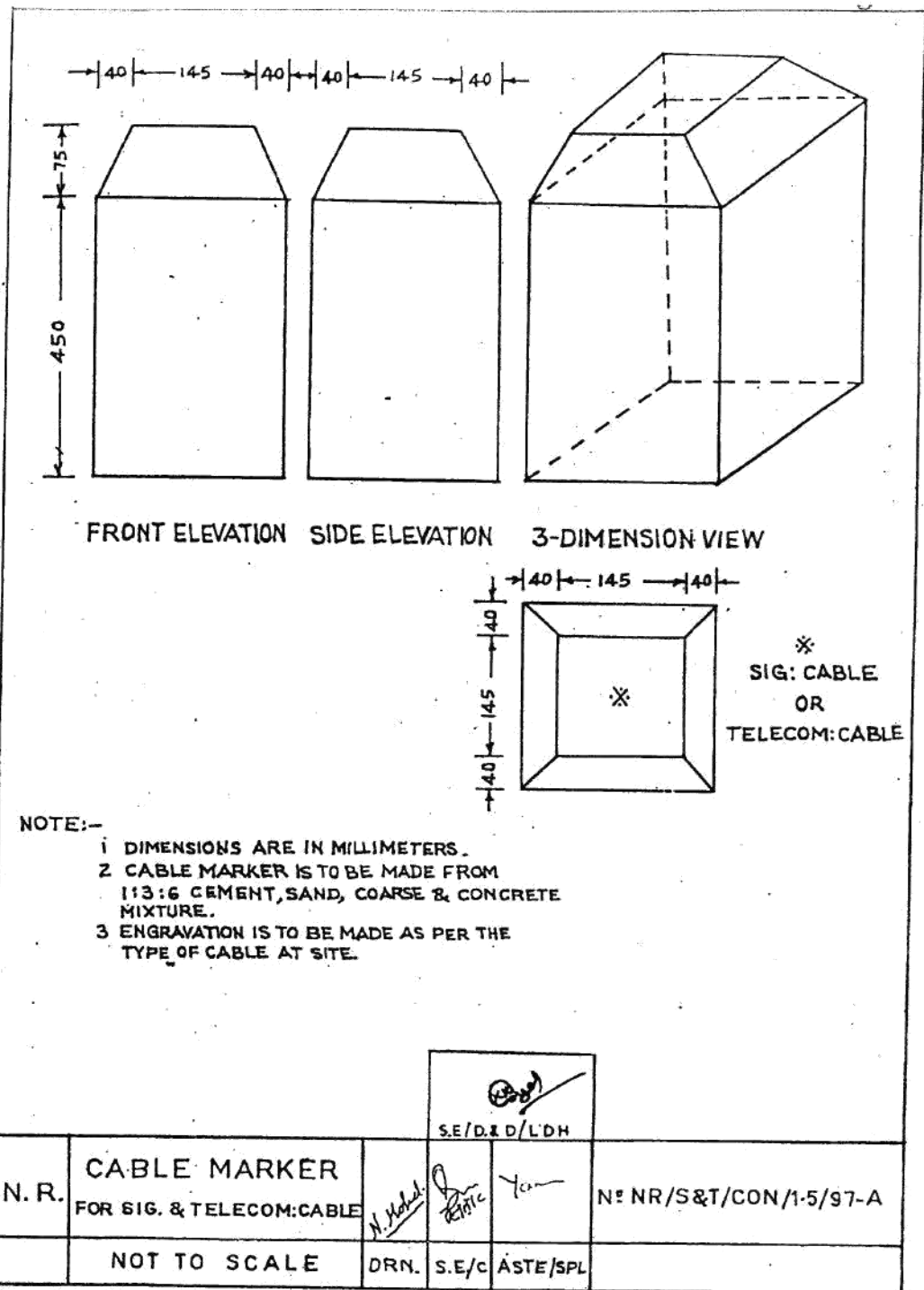


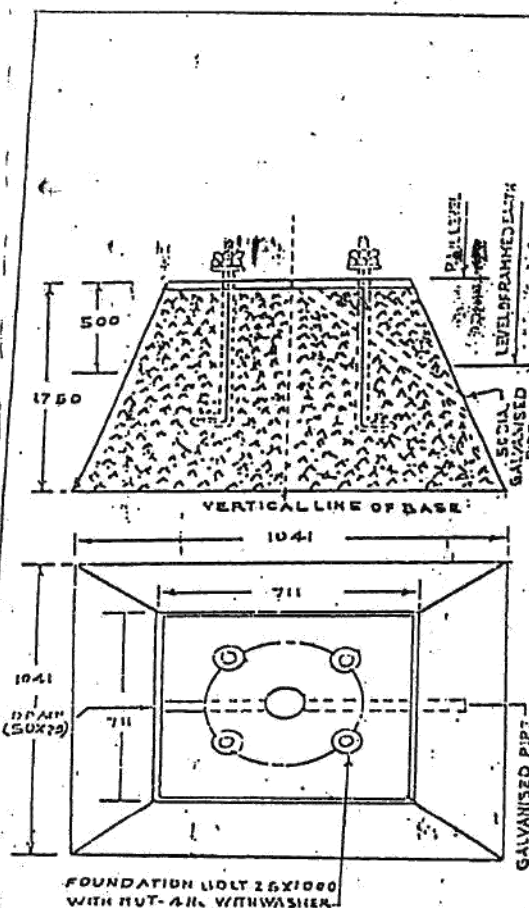






08

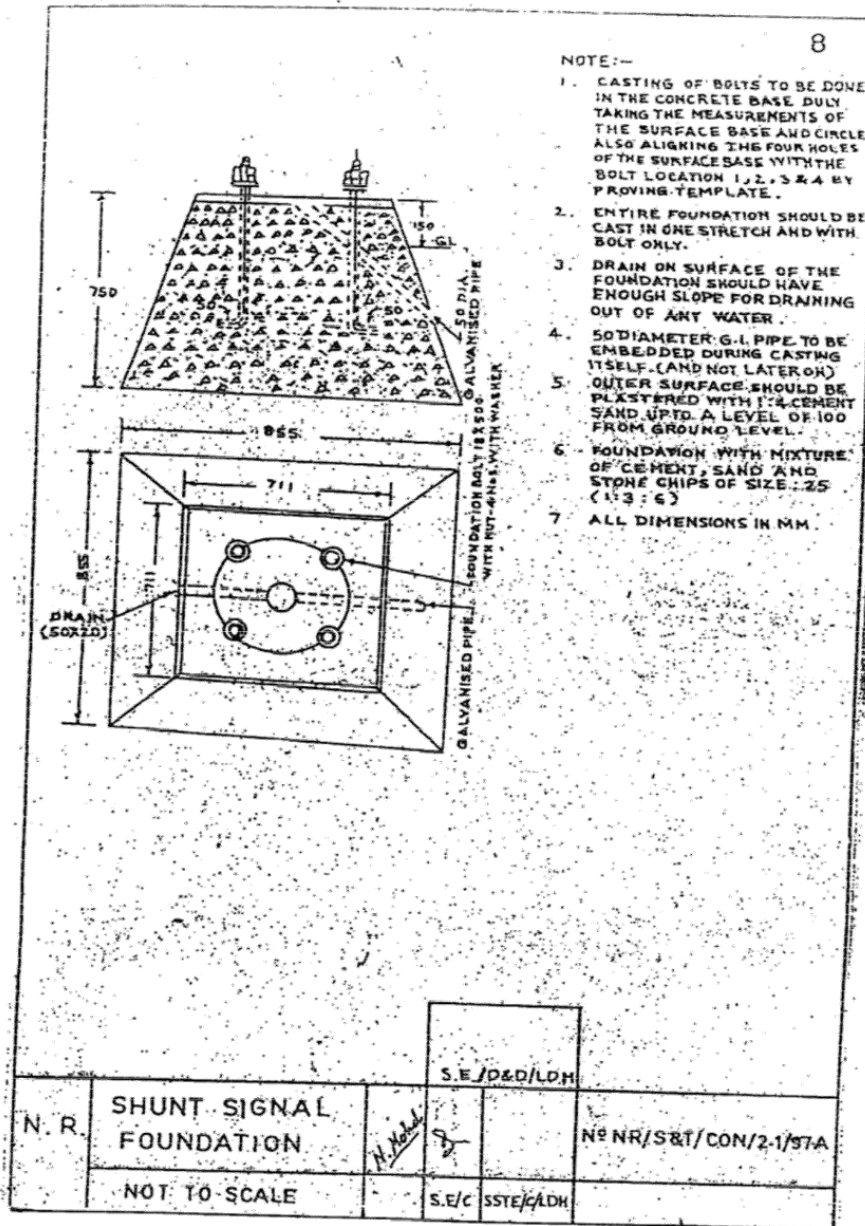


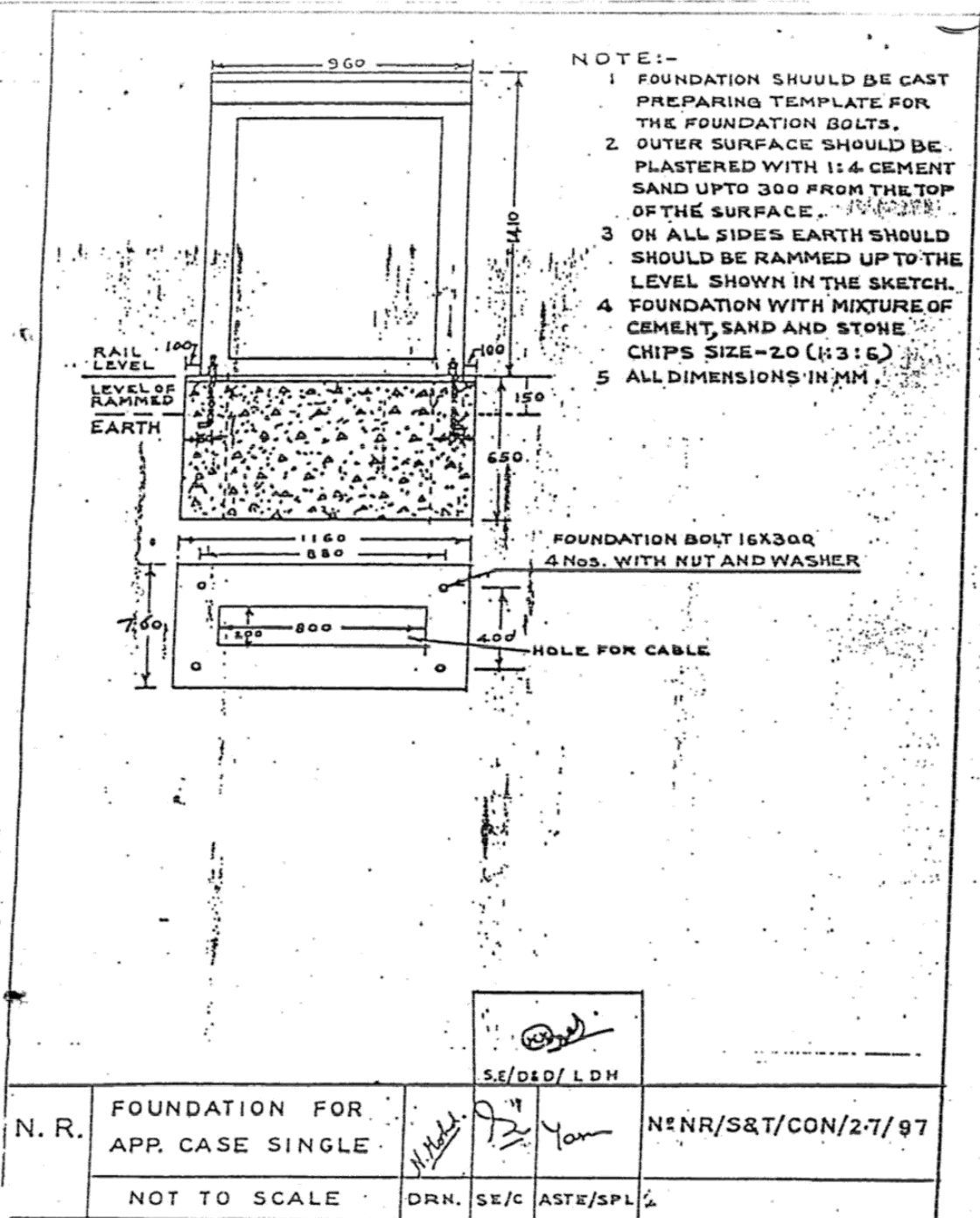


NOTE :- CASTING OF BOLTS TO BE DONE

1. CASTING OF BOLTS TO BE DONE IN THE CONCRETE BASE DULY TAKING THE MEASUREMENTS OF THE SURFACE BASE AND CIRCLE ALSO ALIGNING THE FOUR HOLES OF THE SURFACE BASE WITH THE BOLT LOCATION 1, 2, 3 & 4 BY PROVING A TEMPLATE.
2. ENTIRE FOUNDATION SHOULD BE CAST IN ONE STRETCH AND WITH 2. BOLT ONLY.
3. DRAIN ON SURFACE OF THE FOUNDATION SHOULD HAVE ENOUGH SLOPE FOR DRAINING OUT ANY WATER.
4. 50 DIA. G.I. PIPE TO BE EMBEDDED DURING CASTING ITSELF. (& NOT LATER ON)
5. AFTER CASTING OF BASE AND CURING OF THE SAME IS OVER THE FOUR SIDES OF THE BASE TO BE CLEARED OF ALL LEFT OVER CONCRETE AND SIDES DULY RAMMED WITH EARTH UP TO 500 BELOW THE TOP OF THE BASE.
6. WHERE REQUIRED PITCHING ON THE RELEVANT SIDES OF THE RAMMED SURFACE WITH 225 TO 300 SIZE BOULDERS SHALL BE DONE & FILLING THE CREVICES WITH 1:6:12 CONCRETE WITH FINE 20 STONE CHIPS. PITCHING WILL BE TO THE FULL HEIGHT OF THE RAMMED EARTH.
7. OUTER SURFACE SHOULD BE PLASTERED FROM TOP OF FOUNDATION WITH 1:2 CEMENT SAND UP TO A LEVEL OF 50 BELOW.
8. FOUNDATION WITH MIXTURE OF CEMENT, SAND AND STONE CHIPS SIZE-25 (1:3:6)
9. ALL DIMENSIONS IN MM.

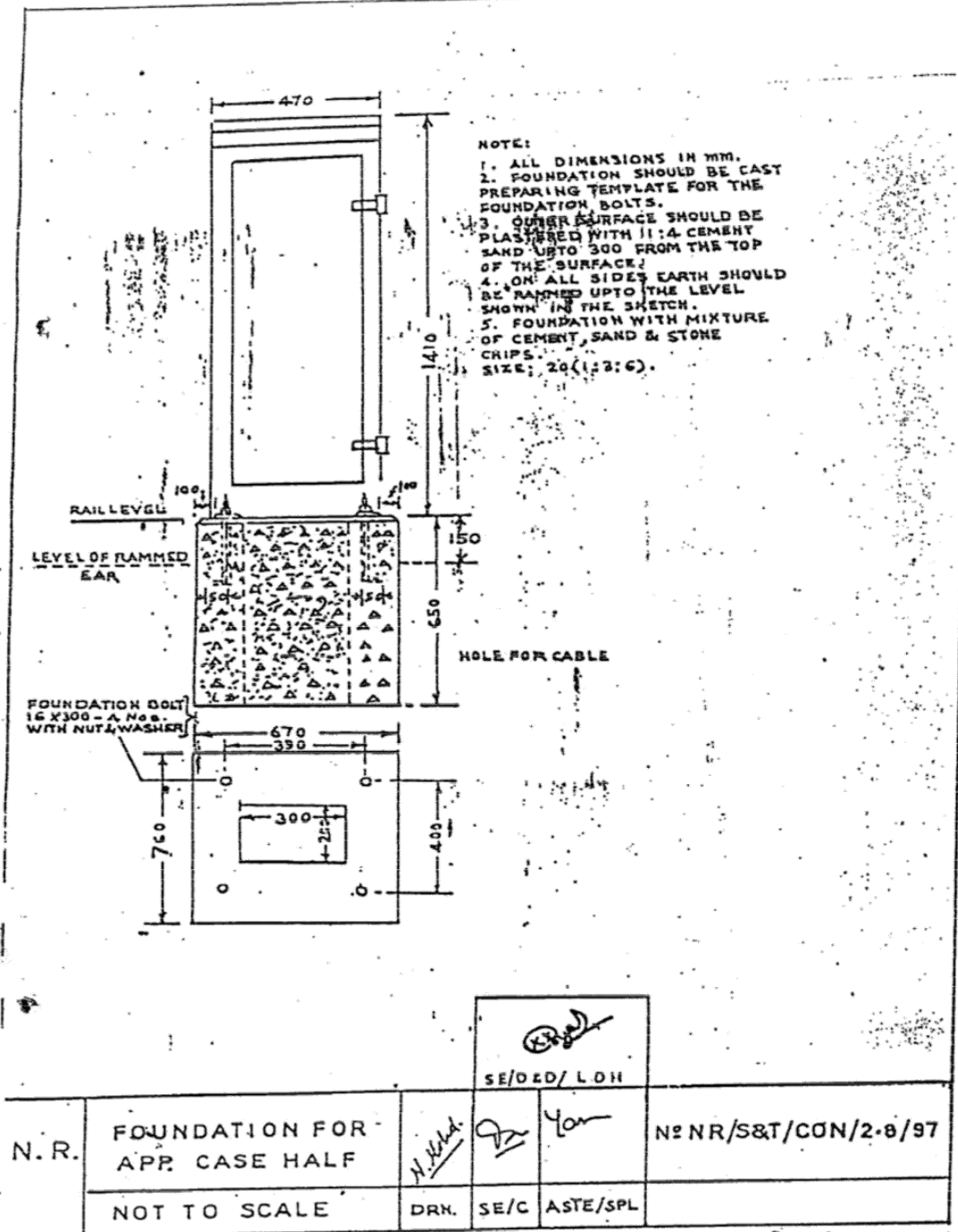
N.R. SIGNAL FOUNDATION		SE/D&D/LDH		N: NR/S&T/CON/2-1/97
NOT TO SCALE	DRN.	SE/C	ASTE/SPL	

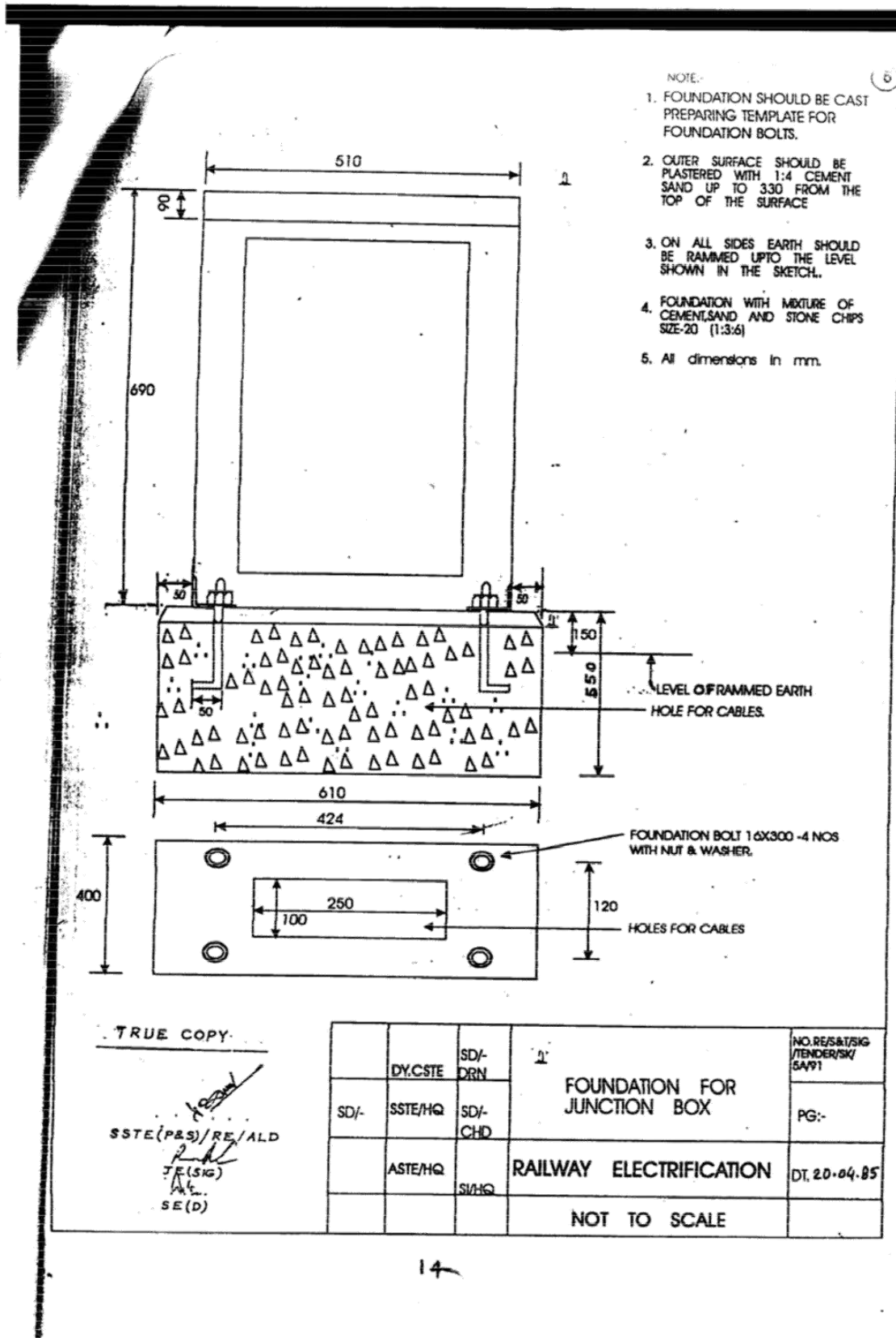


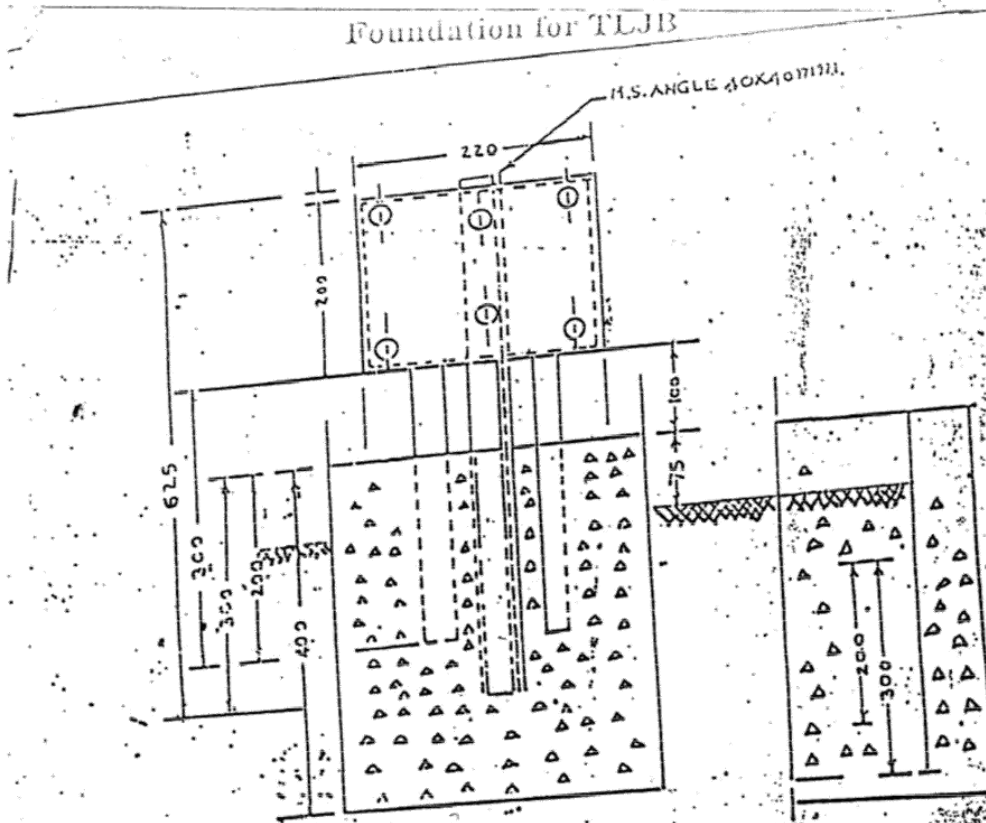


12

NR/S&T/CON/2-7/97







NOTE :-

1. OUTER SURFACE SHOULD BE PLASTERED WITH 1:3 CEMENT: SAND UP TO 300mm FROM THE TOP OF THE SURFACE (13mm THICK)
2. ON ALL SIDES EARTH SHOULD BE RAMMED UP TO THE LEVEL SKETCH.
3. FOUNDATION WITH MIXTURE OF CEMENT & GRAVEL AND STONE CHIPS SIZE - 20 (1:3:6)
4. ALL DIMENSIONS ARE IN MM.
5. NOT TO SCALE

CH/AD/LDS

I.R.

FOUNDATION FOR
T.L. JUNCTION BOX

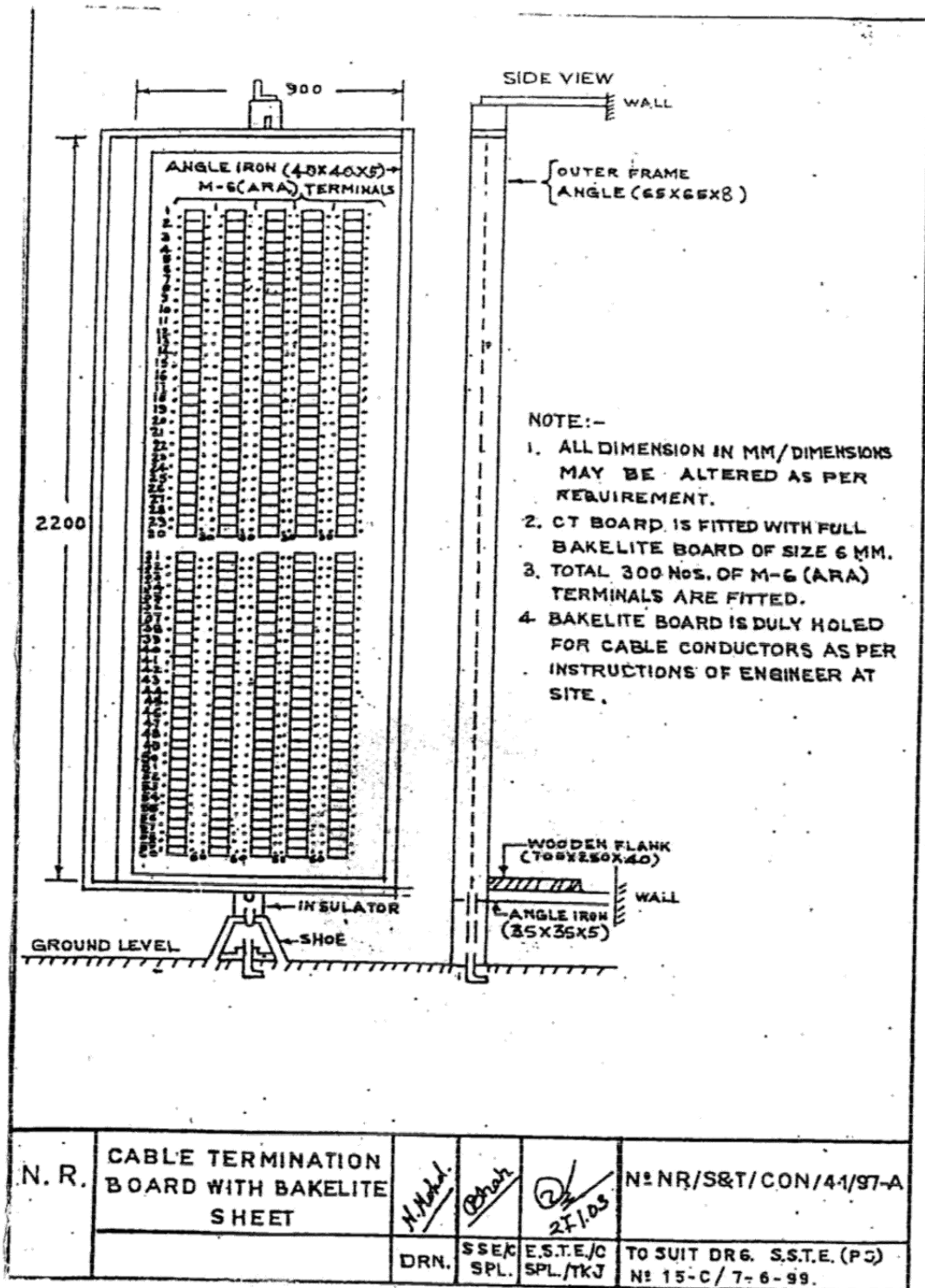
CDN/SE/C

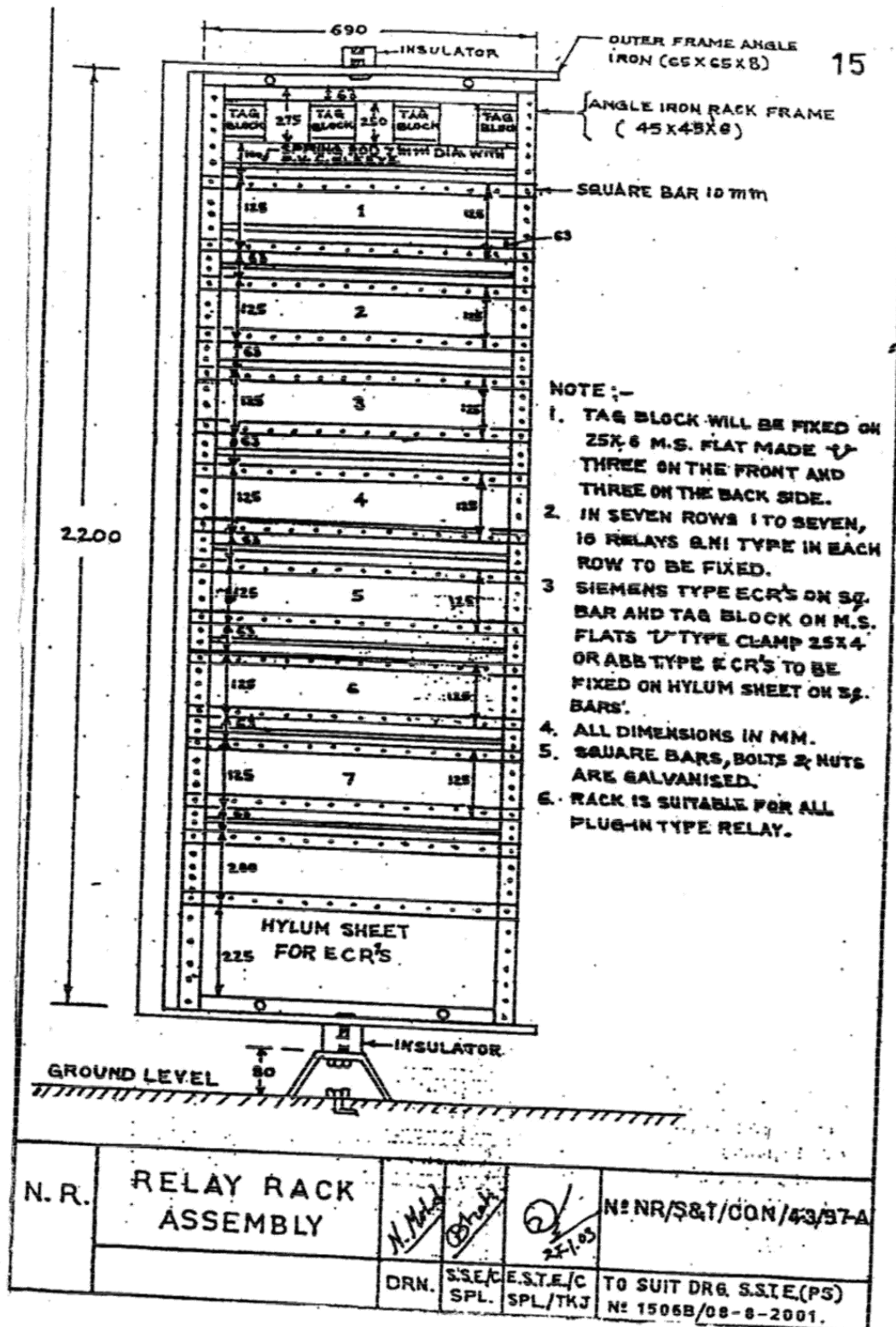
ASTE/C

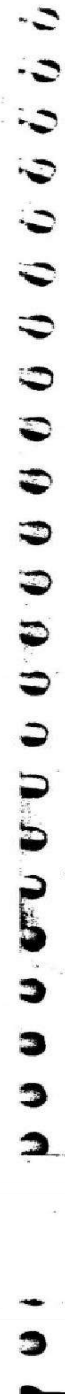
NR/S&T/CON/3.2/97/A

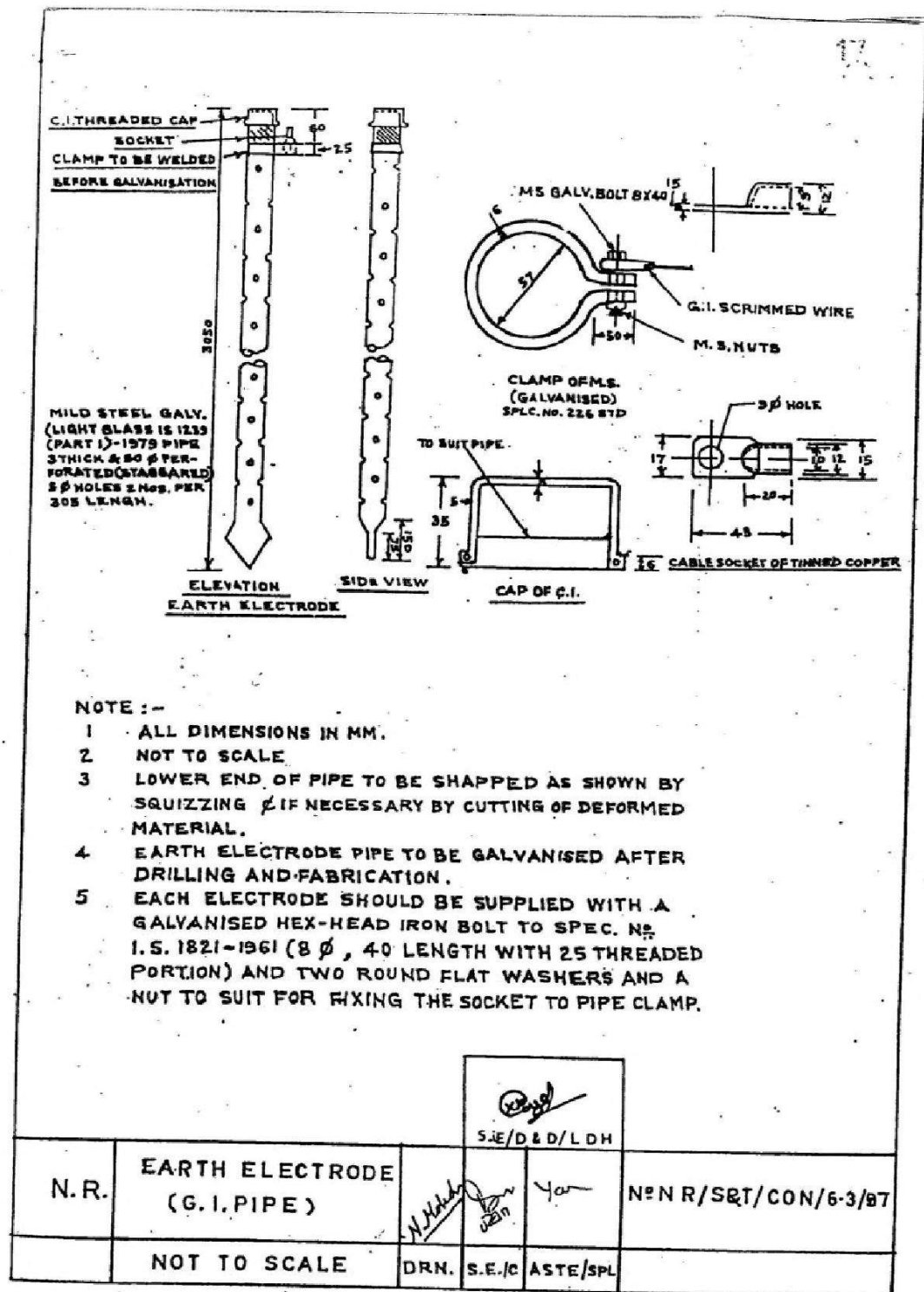
15

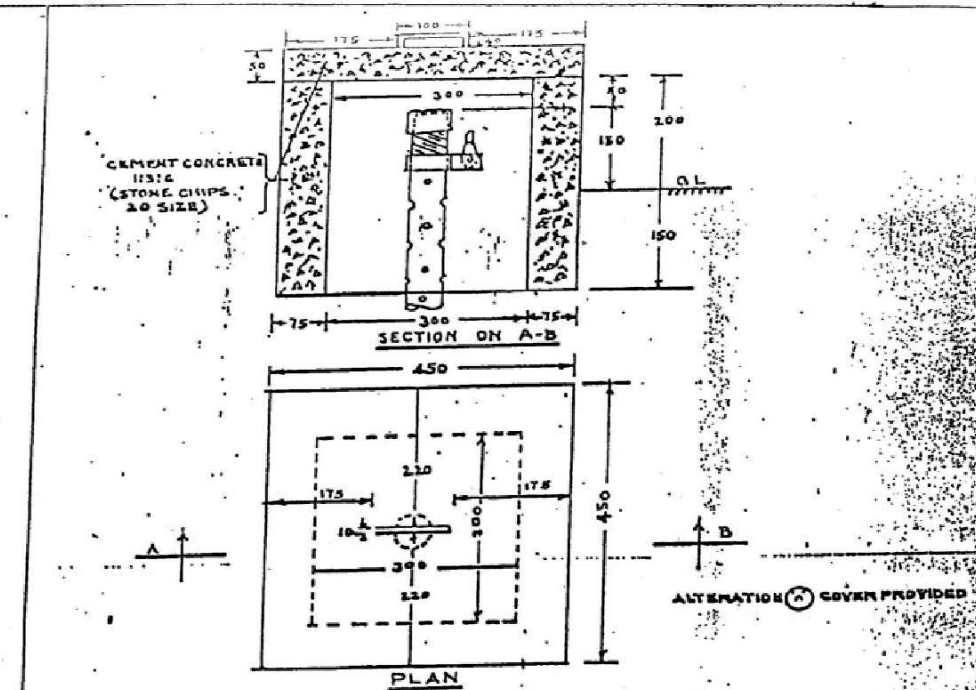
NR/S&T/CON/3.2/97-A







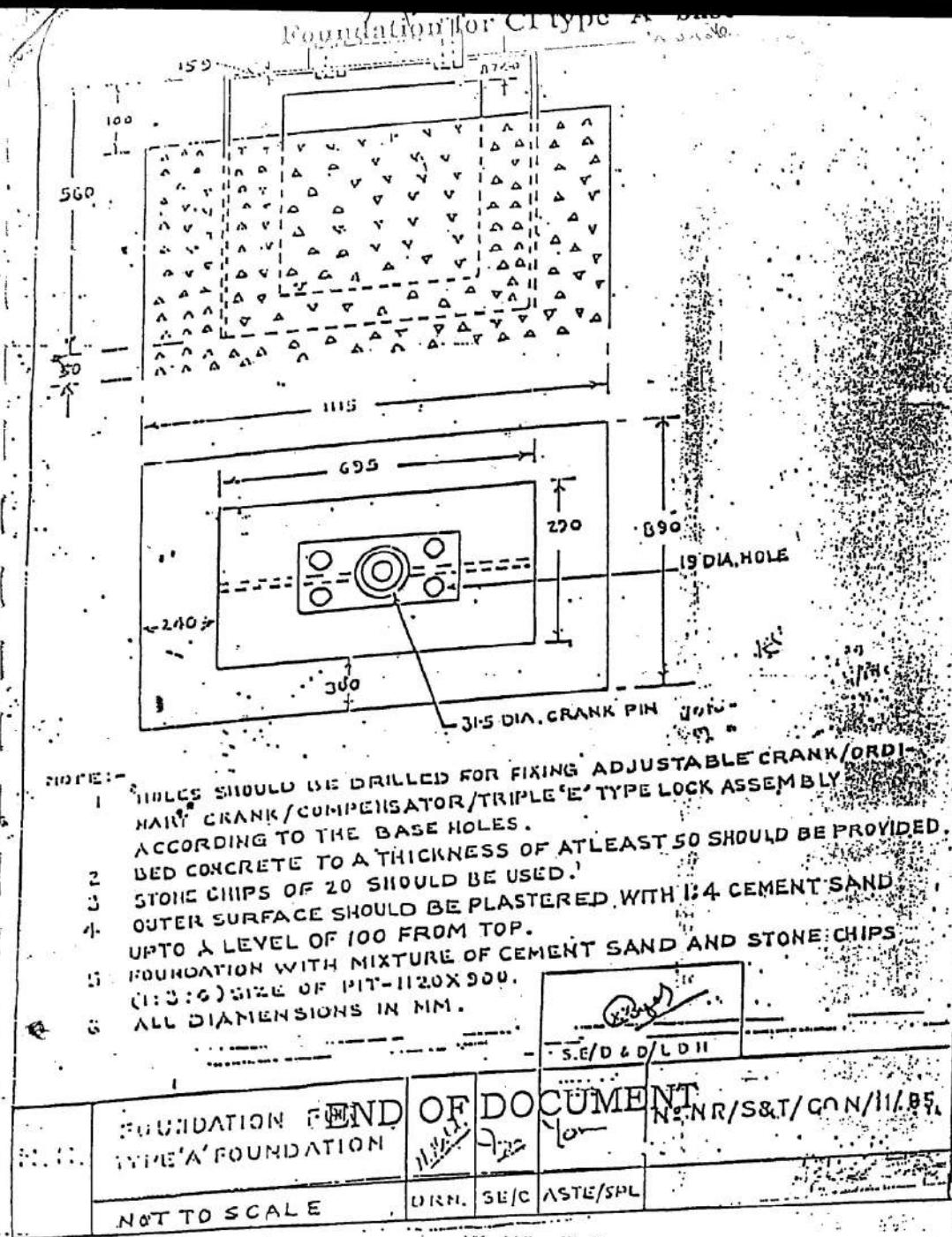


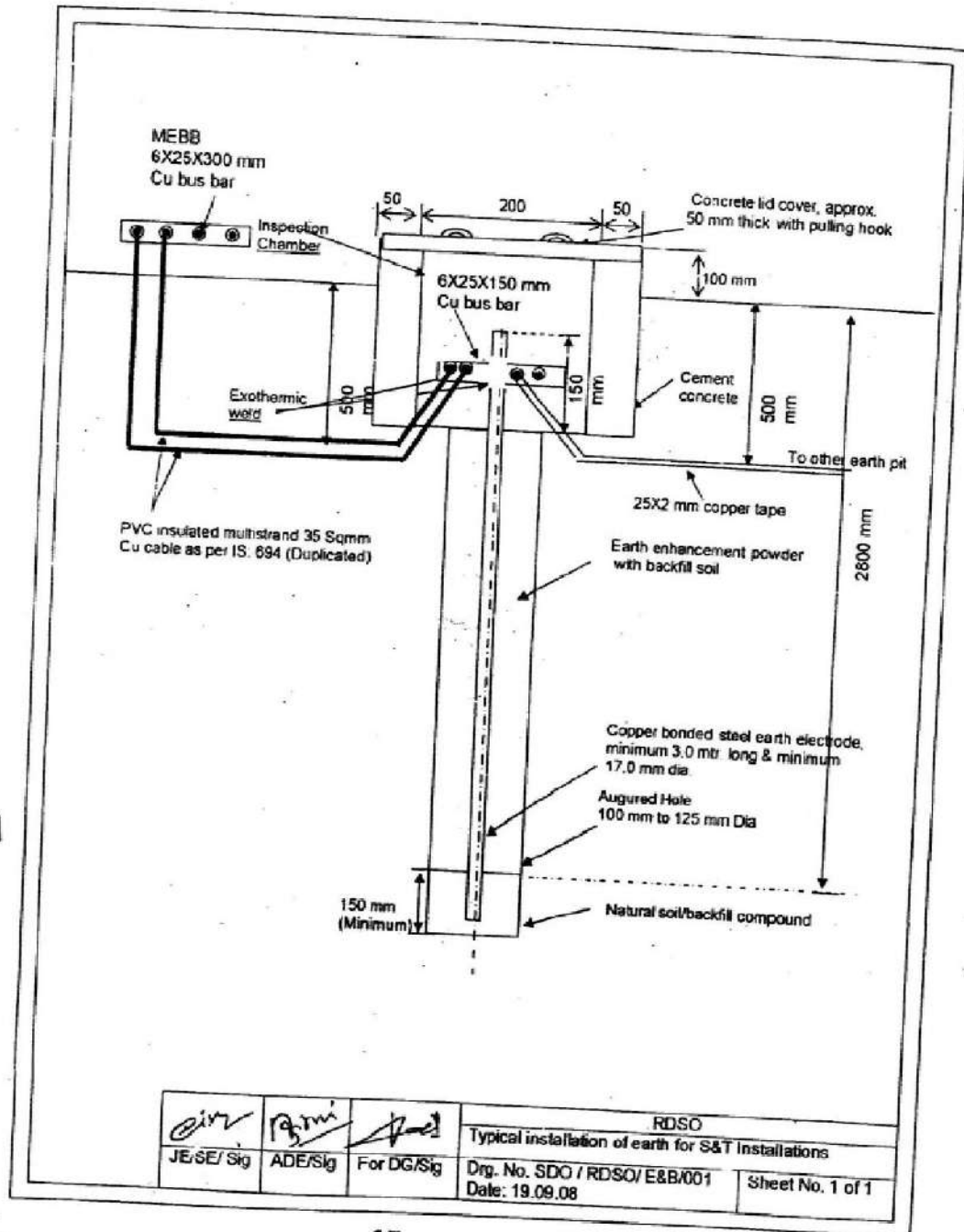


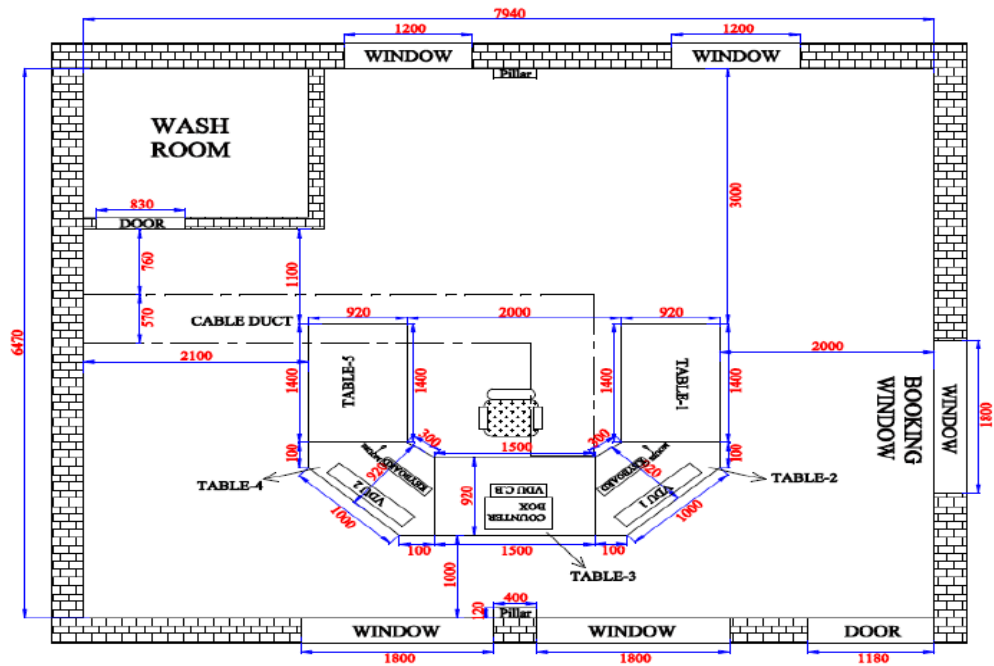
NOTE:-

1. OUTER SURFACE ABOVE GROUND LEVEL SHOULD BE PLASTERED WITH 1: 4 CEMENT SAND.
2. ALL DIMENSIONS IN MM.

		 SE/DE D/LDH	
N R	C.C. ENCLOSURE EARTH ELECTRODE AND HANDLE	 GE/BE	Ya NR/S&T/CON/ 6-4/97
	NOT TO SCALE	DRN. SE/C	ASTE/SPL







Drg No. RCIL /VDU TABLE/1/22

VDU CUM Block Table with cabinet

NOTE:

1. Material used for this table is not less than 18mm thick NOVAPAN PLYWOOD or better material
2. Outer surface covered with good quality of white Sunmica.
3. Doors of cabinet shall be Concealed Cabinet Hinges
4. Outside doors shall be with locking arrangement.

[illegible]

Appendix – 1/ Vol – III

LIST OF SIGNALLING MATERIALS WITH THEIR SPECIFICATION / DRAWINGS:

1. Un-screened PVC insulated Armoured signalling cable Copper conductor solid/ stranded, ___core ___Sq. mm as per specification No.IRS-S-63 with latest amendments. The core of the cable shall be identified as per Para 3.2.5/3.2.6 of the specification.
2. Cable signalling underground screened with galvanised double steel tape as per IRS-S-35, S-63 with latest amendments ___core ___Sq. mm.
3. Jelly filled cables as per specification IRS-TC-41-97 with latest amendment.
4. Cable as per IRS-63 with latest amendments, PVC insulated steel tape armoured and PVC sheathed Copper/ Aluminium conductor solid/stranded size ___core___ Sq. mm. conductor conforming to IS: 1554 (latest).
5. Six quad having 0.5 mm dia. or 0.9 mm dia. conductors underground cable for Axle counter for use in Railway Electrified areas as per IRS TC-30-2005 (Ver.-1) with amendt-no3 or Latest.
6. Indoor cables, copper conductor, PVC insulated and sheathed as per IRS S:76/89 with latest amendments size ___core ___mm dia.
7. Single core, size___mm, nominal cross sectional area___, solid/stranded Copper conductor, PVC insulated in___colour as per IRS/76 with latest amendments.
8. Apparatus case steel single as per sketch No.RE/S&T/ALD/SK/219/82 with alteration 'A' and 221/82 with alteration 'B'. The key and handle should be @ one each per 2 apparatus cases.
9. Apparatus case steel half as per sketch No.RE/S&T/ALD/SK/220/82 with Alteration 'A' and 221/82 with alteration 'B'. The key and handle should be @ one each per 2 apparatus cases.
10. Junction box steel as per sketch No.RE/S&T/ALD/SK/227/82 corrected up to 30.6.86 and 228/82 corrected up to 18.1.93. The key and handle should be @ one each per 2 junction boxes.
11. Track lead Jn. Box as per IRS(s) Drg. No.SA-20101/M made of FRP material (FRP material conforming to RDSO SPN 151/97 or latest) complete with 450 mm long 25 mm dia. pipe.
12. Signal colour light Multi Unit type 4 aspect without side light, signal transformers, lamps and lenses as per RDSO Drg. No.SA-23001 A/M(Adv.) specification IRS:S-26/64 or latest.
13. Signal Colour light multi unit type 3 aspect without side light lenses, lamps and signal transformers as per RDSO Drg. No.SA-23002 A/M(Adv.) latest specification IRS: S-26/64 or latest.
14. Signal colour light multi unit type 2 Aspect without side light lenses, lamps and signal transformer as per RDSO Drg. No.SA-23003 A/M (Adv.) latest. The mounting socket should

be provided for 140 mm dia. to RDSO Drg. No.S-23005 M(Adv.) Latest. Specification IRS:S-26/64 or latest.

15. Colour Light signalling tubular post as per IRS Spec. No.IRS-S-6-81 or latest, 3.6 metres long.

16. Colour Light signalling tubular post as per IRS spec.No.IRS/S-6-81 or latest, 4.6 metres long.

17. Colour Light signalling tubular post as per IRS spec. No.IRS/S-6-81 or latest, 5.6 metres long.

18. Route Indicator directional type 5 units Arm 1 way as per Drg. No.SA-23401 (Adv) latest & spec. IRS:S-66 (latest) complete with fittings but without lamps, lenses and signal transformer along with mounting sockets 140mm dia. to RDSO Drg. No.S-23005/M(Adv.) Latest.

19. Route Indicator Directional type 5 Unit Arm 2 way as per Drg. No.SA-23402 (Adv.) latest & spec. IRS:S-66(latest) complete with fittings but without lamps, lenses and signal transformer along with mounting sockets 140mm dia. to RDSO Drg. No.S-23005/M(Adv.)Latest. (Suitable arrangement should be provided to fix the Arm as per Unit combination 'a' and 'b' indicated on the Drg.)

20. Route Indicator Directional type 5 Unit Arm 3 way as per Drg. No.SA-23403 (Adv) latest & spec. IRS:S-66 (latest) complete with fittings but without lamps, lenses and signal transformer along with mounting sockets 140mm dia. to RDSO Drg. No.S-23005/M(Adv.) Latest. (Suitable arrangement should be provided to fix the Arm as per Unit combination 'a' and 'b' indicated on the Drg.)

21. LED Signal Lighting unit(110Volt AC LED) as per RDSO/SPN/153/2004(revision 3.0).

22. Ladder for colour light signal multi unit type 5.5 metres as per RDSO Drg. No.SA-23155 (Adv.) with latest alteration.

23. Ladder for colour light signal multi unit type 4.5 metres as per RDSO Drg. No.SA-23153 (Adv.) with latest amendments.

24. Ladder for colour light signal multi unit type 3.5 metres as per RDSO Drg. No.SA-23150 (Adv.) with latest amendments.

25. Signal Base for 140 mm dia. post as per IRS(s) Drg. No.S-2011/M with latest amendments.

26. Signal Bracket colour position light for 140 mm outside dia. post as per RDSO Drg. No.SA-23080 (Adv.) latest.

27. OFF set Bracket Suitable for colour light signal, 140 mm outside dia. post.

28. 'P' Marker (Non-illuminated) as per Drg.No. RE/S&T/Sig/Tender/SK/ 36/ 85 dated 20.04.85.

29. A/G/C Marker (Non-illuminated) as per Drg.no.SA-23451(Adv.)/SA-23476(Adv.)

30. Bakelite sheet as per IS spec.no.IS-1998-1962 B22.

31. Signal Cable Marker as per Drg.No. CORE/S&T/ALD/SK/373/93 Pg.10, ALT-A.

32. Block Section/Shunting Limit Board as per RDSO Drg.No.SA-2373 (Adv.) latest.

33. Cable Trough (GI) for girder Bridges as per Drg.No. RE/ S&T /SIG/ Tender/ SK/22/85 dt. 20.04.85.
34. Earth electrode as per Drg. No. RE/S&T/SIG/Tender/SK/26A/85.
35. RCC pipe 150 mm dia. 2 metre long with collars to IS specn. No.458/1971 or latest.
36. Signal shunt position light 2 position as per RDSO Drg. No. SA-23840 (Adv.) with latest amendments.
37. Repeater Luminous Signal green as per IRS Drg. No. SA-23271 C/M with latest amendments.
38. Repeater Luminous Signal Red as per IRS Drg. No SA-23271 A/M with latest amendments.
39. Repeater Luminous Signal Yellow as per IRS Drg. No SA-23271 B/M with latest amendments.
40. Indicator Luminous Stencil type 'F' as per IRS Drg. No. SA-23296/M with latest amendments.
41. Indicator Luminous Stencil type 'L' as per IRS Drg. No. SA-23295/M with latest amendments.
42. Indicator Luminous Stencil type 'N' as per IRS Drg. No. SA-23291/M with latest amendments.
43. Indicator Luminous Stencil type 'OFF' as per IRS Drg. No. SA-23293/M with latest amendments.
44. Indicator Luminous Stencil type 'ON' as per IRS Drg. No. SA-23294/M with latest amendments.
45. Indicator Luminous Stencil type 'R' as per IRS Drg. No. SA-23292/M with latest amendments.
46. Indicator Luminous Stencil type case complete as per IRS Drg. No. SA-23297/M with latest amendments.
47. Circuit Controller 2 Way (modified design) lever as per RDSO Drg. No. SA-20245 Advance with latest amendments.
48. Circuit Controller 4 Way (modified design) lever as per RDSO Drg. No. SA-20266 Advance with latest amendments.
49. Circuit Controller 6 Way (modified design) lever as per RDSO Drg. No. SA-20276 Advance with latest amendments.
50. Circuit Controller 8 Way (modified design) lever as per RDSO Drg. No. SA-20286 Advance with latest amendments.
51. Earth Leakage detector single channel/ multi channel suitable to work on 110 voltage 50 Hz single phase AC as per RDSO Specification No. 256-1971 (Revised 1977 or latest complete with electro- magnetic counter.
52. Terminal Block (M6- Terminals) as per IRS Specification NO. IRS-S-75-91(latest) and IRS Drg. No. SA-23741/A/with latest alteration.
53. Fuse Link cylindrical head (2A, 4A and so on) non-deteriorating type, non-indication type as per IRS Specification No. IRS-S-78-92 or latest.

54. Fuse Block as per IRS(S) Drg. NO. SA-23748 with latest alterations.
55. Block instrument double line as per RDSO specn. No. IRS-S-22(latest) similar to SGE token-less block instrument.
56. Block filter unit as per IRS: S-68(latest).
57. Point rodding (Solid) as per IRS Drg. No. S-3635 A with latest amendments.
58. Foundation type 'A' as per IRS Drg. No. S-3529/M (Adv.) with latest amendments.
59. Foundation type 'B' as per IRS Drg. No. S-3536/M (Adv.) with latest amendments.
60. Switch Extension piece (BG) LH as per RDSO Drg. NO. S-6063/M (Adv.) with latest amendments.
61. Switch Extension piece (BG) RH as per RDSO Drg. NO. S-6062/M (Adv.) with latest amendments.
62. Lug Eye (Butt end) as per RDSO Drg. NO. S-3631/M (Adv.) with latest amendments.
63. Flush joint 32 mm (Butt end) as per RDSO Drg. NO. SA-6051/M (Adv.) with latest amendments.
64. Solid joint 32 mm (Butt end as per RDSO Drg. No. SA-6050/M (Adv.) with latest amendments.
65. Solid joint 20 mm (Butt end as per RDSO Drg. No. SA-2160/M (Adv.) with latest amendments.
66. Joint Screw 20 mm (Butt end as per RDSO Drg. No. SA-2162 /M (Adv.) with latest amendments.
67. Point rodding connections for Siemens Electric Point Machine as per RDSO Drg. No. SA-8800-01 (Adv.) with latest amendments.
68. Point connection for IRS rotary point machine complete as per RDSO Drg. No. RDSO/S/3361-62 with latest amendments.
69. Electric Point and Lock Detector with cross protection contacts as per RDSO Drg. No. SA-23331 (Adv.) with latest detectors slide plug to RDSO Drg. No. SA- 23386 (Adv.) latest RDSO specification IRS S: 49 with latest amendments.
70. 4-wire/2 wire train traffic control equipments Duel tone multifrequency signalling as per IRS TC-60-2007 or latest.
71. Datalogger System for Railway S&T installation as per IRS: S-99/2006 or Latest.
72. Thermo-shrinkable jointing kit for jointing underground cable as per RDSO/SPN/TC/772010(Rev.2) or latest.
73. Choke type 'B' having annealed enamelled copper wire, as per IRS-S-65/83 or latest.
74. Resistance adjustable 0 to 30 ohms as per Specification No. RE/S&T/ALD/Store/Specn. /12-B dated 11.2.87 and sketch No. RE/S&T/ALD/SK/180/81 with Alt. 'B' or Latest.
75. Surge discharger type 'A' non-restoring type as per IRS-S-52-76 with latest amendments but without hard ware materials i.e. Bolts, Nuts, Washers etc. and connection cables and Aluminium terminal lugs.
76. Track feed battery charger working on 110 Volts. AC to charge 1 or 2 or 3 or 4 lead acid cells as per IRS Specn. No. IRS-S- 89/93 or latest.

77. Secondary cell-low maintenance IRS: S-88/93 (latest).
78. Battery chargers as per IRS Specn. No. IRS-S-86/92 with latest amendments with auto charging facility.
79. Battery charger for maintenance free valve regulated batteries as per IRS –93/96(B) with latest amendments.
80. Inverter for Railway signalling installations for ‘On Line’ applications (with Sine Wave Output) as per IRS Specn. No. IRS-S-82/92 (latest).
81. Accumulator lead acid stationary with tubular positive plates to IS-1651 latest 2V each of __AH 10 hours rate of discharge, complete with inter-cell connectors, Bolts & Nuts and acid level indicators (Floats) dry and uncharged. The cells should be subjected to life test as per procedure laid down.
82. Secondary cells maintenance free as per IRS: S-93/96/A with latest amendments.
83. Fail safe Electronics Time Delay Relay as per RDSO Specn. NO. IRS-S- 61/2000 (amdt-1) or latest to be operated on 60V DC/24V DC.
84. Fail Safe Electronic Flasher device as per RDSO/SPN/173/2002 or latest.
85. Point contactor unit as per RDSO Specn. No. IRS: S-46(with latest amendment) and Firm’s specification .
86. Relays – ‘Q’ series Neutral Line(Metal to Carbon) as per BRS: 930(NON- ACI) andBRS:931A (ACI).
87. Relays- Track Plug-IN type 9&4 ohm (Metal to Carbon) as per BRS:938A,939A and 966(appendix F2).
88. Relays-Universal plug-in type ECRS (Metal to Carbon contact) for LED signal lamp as per BRS:940,941A
and 942 with latest amendments.
89. Relays special type as per BRS:930,932A,933A,935A,937A, 943,960 and RDSO/SPN-84/88 and Firms specification.
90. Electric Lifting Barrier as per IRS: S-41/70 (amendments no 2) or latest.
91. Single Section Digital Axle Counter as per RDSO/SPN/177/2003 ver.-1 with amendments 2 or latest and Firms specification.
92. Thermo plastic Rail insulation joints as per RDSO/SPN-168/2005 or latest.
93. ARA Terminal Block & Fuse Block made of PBT as per IRS:S75/2006(REV.2) and Drg.SA-23741A,SA23745,SA-23746,SA23748,SA23756.
94. Relays – 3 position DC polarised (Metal to Metal) as per IRS: S-31/80 (latest).
95. Insulated rod joint 32mm Butt end as per RDSO Drg. No. SA-3637/M/(Adv.) with latest amendments.
96. Insulation for Gauge Tie Plate (BG) complete with insulating bush and washer each set comprising of
 - 96.1 Insulating Plate for Gauge Tie Plate BG as per RDSO Drg. No.T-10372 or latest – 1 Nos.
 - 96.2 Insulating bushing for insulated stretcher-bar BG as per RDSO Drg.No.T-10368 or latest–3 Nos.

- 96.3 Insulating washer for insulated stretcher-bar BG as per RDSO Drg.No.T-10371 or latest– 6 Nos.
97. Insulation for altering stretcher bars (BG) each set comprising of :
- 97.1 Insulating plate for altering insulated stretcher bars BG as per RDSO Drg. No. T- 10384 or latest 2 Nos.
- 97.2 Insulating bushing for altering insulated stretcher bar BG as per RDSO Drg. No. T-10535 or latest – 4 Nos.
98. Insulating for stretcher bars BG, each set comprising of: -
- 98.1 Insulating Side Plate for insulated stretcher bars BG as per RDSO Drg. No. T-10367 or latest–2No.
- 98.2 Insulating bushing for insulated stretcher bar BG as per RDSO Drg. No. T-10368 or latest – 4Nos.
- 98.3 Insulating washer for insulated stretcher bar BG as per RDSO Drg. NO. T-10371 or latest – 8Nos.
99. Insulated Rail Joint Nylon (Four Channel Type) 60 Kg. UIC complete as per RDSO Drg. No. SA-22171(Adv.) latest RDSO Specn. IRS: S-40(latest).
100. Insulated Rail Joint Nylon (Four Channel Type) 52 Kg. complete as per RDSO Drg. No. SA-22101(Adv.) latest RDSO Specn. IRS: S-40 (latest).
101. Insulated Rail Joint Nylon (Four Channel Type) 90 R complete as per RDSO Drg. No. SA-22111(Adv.) latest without iron and steel parts. RDSO Specn. IRS: S-40(latest).
102. Insulated Rail Joint Nylon (Four Channel Type) 75 hour complete as per RDSO Drg. No. SA-22121.(Adv.) latest without iron & steel parts. Specn. IRS: S-40 (latest).
103. Insulated Rail Joint Nylon (Four Channel Type) 60 R complete as per RDSO Drg. No.SA-22131. (Adv.) latest without iron and steel parts. Specification IRS: S-40 (latest).
104. Insulated Rail Joint Nylon Fish-Plate (52Kg) as per RDSO Drg. No.S-22102. (Adv.) with latest amendments.
105. Rail Joint Insulated backing plate (52Kg) as per RDSO Drg. No.S-28107. (Adv.) with latest amendments.
106. Rail Joint Insulated backing plate ‘90R’ as per RDSO Drg. No.S-22117. (Adv.) with latest amendments.
107. Rail Joint Insulated ferrule (52 Kg) as per RDSO Drg. No.S-22108. (Adv.) with latest amendments.
108. Channel pin single Groove 7mm dia. (for 4 mm dia. Bond wire) as per RDSO Drg. No.S-69/A. (Adv.) with latest amendments.
109. Bond wire clip (52 Kg + 90 R) as per RDSO Drg. No.S-22167 (Adv.) with latest amendments.
110. Magneto Telephone Desk Type to IRS TC-36-85 or latest.
111. Terminal strip 8 Way/10 Way as per IRS Specification No.IRS-S-79/92(amd.2) with latest amendments DRG no SA-24811 and SA-24812.
112. Wire Insulator as per IRS specification No.IRS-S-47-74 (latest).

113. Single line Axle Counter block proving system with multiplexer and block interface as per RDSO Drg. Nos.

113.132010-2A, 32010-3A, 32010-4A, 32010-5 & 32010-6 for station with axle counter.

113.2 32010-2B, 32010-3B, 32010-4B & 32010-6 for station without axle counter.

114. The copy of specifications can be purchased from following sources:

114.1 **IRS specification**

114.1.1 Manager of Publications, Government of India Civil Lines, New Delhi- 110054.

114.1.2 Government of India Book Depot 8-K.S.Roy Road, Calcutta-700001.

114.2 **RDSO Specifications & RDSO Drawings:**

114.2.1 RDSO, Manak Nagar, Lucknow.

114.3 **DOT/TEC/ITD Specification:**

114.3.1 Khurshid Lal Bhawan, Janpath New Delhi-110001.

114.4 **B.I.S. Specification:**

114.4.1 Directorate General, Indian Standards Institution, 9-Bahadur Shah Zafar Marg, New Delhi.

114.4.2 F-Block, Unity Building Narsimharaja Square, Bangalore 560002.

114.4.3 534- Sardar Vallabh Bhai Patel Road, Bombay.

114.4.4 5- Chowringhee Approach, PO Principal Street, Calcutta-700072.

114.4.5 Ahimsa Building (1st Floor) CSCO, 82-83 Sector 27-C Chandigarh 160017.

114.4.6 5-8-56/57, L. N. Gupta Marg, Hyderabad-500001.

114.4.7 117/418-B, Sarvodaya Nagar, Kanpur-208005.

114.4.8 C.I.T. Campus Adayar Madras - 600020.

114.4.9 The specifications and drawings referred but not enclosed in the tender documents may be seen in the office of concerned field unit on any working day.

NOTE: All the specifications shall be as per their latest version/amendment/specification.

TECHNICAL SPECIFICATION (FOR DRAWING)
**TECHNICAL SPECIFICATION FOR DESIGN OF RAILWAY SIGNALLING
 DRAWINGS INCLUDING CIRCUITS/WIRING DIAGRAMS ETC**

1. All the plans should be compliable with requirement of RE area and as per site requirement.
2. The designing of circuit diagrams shall be done as per extant Northern Railway practice, SEM, General and subsidiary rules, the guide lines provided by RDSO and as per the latest rules prescribed by the Northern Railway. Wiring diagram for provision of DATA LOGGER shall be prepared on separate sheets.
3. All drawings shall be prepared with suitable CAD system. All original drawings shall be supplied in tracing film as per Northern Railway practice. All drawings shall be prepared on A 3 size or as required. Each drawing sheet shall have Border Line, Margin, Name Plate/Approval Column, Alteration column and drawing space as per latest approved practice of Northern Railway. The tracing film shall be of **“Double Matte polyester film of 75 micron thickness of inkjet printing”**.
4. At least 20% of available drawing space shall be kept blank at the bottom of each original sheet, above name plate/approval column, to accommodate future expansion.
5. In addition to the above specifications the contractor shall follow any other standards as followed by the S&T deptt. of Northern Railway during preparation of drawings.
6. All original drawings and prints shall have Relay contact no./terminal no./fuse no. already incorporated.
7. During preparation of the drawings the following shall be kept in view:
 - a) Optimization in using of Relays.
 - b) Economization in using Relay contacts.
 - c) Optimization in using of cables.
8. All original drawings shall be printed through Ink jet Plotter.
 - a) No hand correction shall be allowed on the original tracing. If any connection is required on a sheet the original tracing of that particular sheet shall be replaced with a new one and the same shall be submitted for fresh approval of Railway.
 - b) RCIL reserves the right to add/delete/modify the requirement of drawings at any time.
 - c) No. of check prints, as required by RCIL/Railway shall be submitted till final approval
 - d) After the initial checking is over, subsequent drawings shall be submitted in original tracking only.
 - e) In case of repeated mistakes the drawings shall be rejected and fresh drawing shall be submitted by the contractor for which no extra payment shall be made by RCIL/Railway.
 - f) In case of any modification in Engineering plan or interlocking plan the subsequent modifications in all drawings shall be carried out by the contractor at his own cost.
 - g) The contractor shall be responsible for collection of all field data from the site of work for preparation of ‘As made’ drawings.
 - h) Original tracings of approved drawings shall be submitted by the contractor to the RCIL after completion of work, incorporating all the corrections.
9. Inspection & Approval: Inspection as per schedule and approval by N.Rly.

VOLUME-IV

GENERAL CONDITIONS OF CONTRACT

PART I**Instructions to Tenderers (ITT)**

1.0 Applicability: These instructions and conditions of contract shall be applicable for this tender of RAILTEL for execution of 'Works' as defined in GFR 2017.

1.01 Order of Precedence of Documents: In a contract agreement, in case of any difference, contradiction, discrepancy, with regard to conditions of tender/contract, specifications, drawings, Bill(s) of Quantities etc., forming part of the tender/contract, the following shall be the order of precedence:

- i. Letter of Award/Acceptance(LOA)
- ii. Bill(s) of Quantities
- iii. Special Conditions of Contract
- iv. Technical Specifications as given in tender documents
- v. Drawings
- vi. Indian Railways General Conditions of Contract updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.
- vii. Indian Railways Unified Standard Specification (IRUSS-2019) updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents, if applicable in the contract.
- viii. CPWD Specifications 2019 Vol I & II updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents, if applicable in the contract.
- ix. Indian Railways Unified Standard Specifications (Works and Material) 2010 updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents, if applicable in the contract.
- x. IR Specifications/Guidelines updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.
- xi. Relevant B.I.S. Codes updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.

1.1 Interpretation: These Instructions to Tenderers shall be read in conjunction with the General Conditions of Contract which are referred to herein and shall be subject to modifications additions or suppression by Special Conditions of Contract and/or Special Specifications, if any, annexed to the Tender Forms.

1.2 Definition: In these Instructions to Tenderers, the following terms shall have the meanings assigned hereunder except where the context otherwise requires:

(a) "RCIL" shall mean RailTel Corporation Of India Limited (RCIL),
a "Miniratna" enterprise of Government of India under Ministry of Railways
Regd. Off: 6th Floor, IIIrd Block, Delhi Technology Park, Shastri Park, Delhi-110053. T: +91-

11-22185933, F: +91-11-22185978

(b) “General Manager of Railway” shall mean the Officer-in-Charge of the general superintendence and control of the Zonal Railway/Production Unit and shall also include Addl. General Manager, General Manager (Construction) and shall mean and include their successors of the Successor Railway.

(c) “Chief Engineer of Railway” shall mean the Officer-in-Charge of the Engineering Department of Railway and shall also include Chief Engineer (Construction), Chief Electrical Engineer, Chief Electrical Engineer (Construction), Chief Signal & Telecom Engineer, Chief Signal & Telecom Engineer (Project), Chief Mechanical Engineer and shall mean and include their successors of the Successor Railway.

(d) “Divisional Railway Manager of Railway” shall mean the Officer-in-Charge of a Division of Zonal Railway and shall mean and include Divisional Railway Manager of the Successor Railway.

(e) “Engineer” shall mean the DGM/Sig/RCIL
6th Floor, IIIrd Block, Delhi Technology Park,
Shastri Park, Delhi-110053. T: +91-11-22185933 Fax -27580070
E – Mail: aks@railtelindia.com

(f) “Tenderer” shall mean the person / firm / co-operative or company whether incorporated or not who tenders for the works with a view to execute the works on contract with the RCIL and shall include their representatives, successors and permitted assigns.

(g) “Limited Tenders” shall mean tenders invited from all or some contractors on the approved or select list of contractors with the RCIL.

(h) “Open Tenders” shall mean the tenders invited in open and public manner and with adequate notice.

(i) “Works” shall mean the works contemplated in the drawings and Bill(s) of Quantities set forth in the tender forms and required to be executed according to the specifications.

(j) “Specifications” shall mean the Specifications for Materials and Works of the Railway as specified under the authority of the Ministry of Railways or Chief Engineer of Railway or as amplified, added to or superseded by special specifications if any, appended to the Tender Forms.

(k) Standard Schedule of Rates (SSOR) shall mean the schedule of Rates adopted by the Railway, which includes-

1. “Unified Standard Schedule of Rates of the Railway (USSOR)” i.e. the Standard Schedule of Rates of the Railway issued under the authority of the Chief Engineer of Railway from time to time, updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents;
2. “Delhi Schedule Of Rates (DSR)” i.e. the Standard Schedule of Rates published by Director General/ Central Public Works Department, Government of India, New Delhi, as adopted and modified by the Railway under the authority of the Chief Engineer of Railway from time to time, updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.

(l) “Drawings” shall mean the maps, drawings, plans and tracings, or prints thereof annexed to the Tender Forms.

(m) “Contractor’s authorized Engineer” shall mean a graduate engineer or equivalent, having more than 3 years experience in the Relevant field of construction work involved in the contract, duly approved by the Engineer.

(n) Date of inviting tender shall be the date of publishing tender notice on IREPS website if

tender is published on website or the date of publication in newspaper in case tender is not published on website.

(o)“Bill of Quantities” shall mean Schedule of Item(s) included in the tender document along with respective quantities.

1.3 Words importing the singular number shall also include the plural and vice versa where the context requires.

CREDENTIALS OF CONTRACTORS

2. Application for Registration and Approved list of contractors:

2.1 Works of construction and of supply of material shall be entrusted for execution to contractors whose capabilities and financial status have been investigated and approved to the satisfaction of the Railway. A list of approved contractors may also be maintained by the Railway. The said list be revised periodically once in a year or so by giving wide publicity through advertisements etc. For registration, the contractor including a contractor who is already on the approved list shall apply to the concerned General Manager (Construction) of Railway / Chief Administrative Officer (Construction) of Railway / Principal Chief Engineer of Railway / Principal Chief Signal & Telecommunication Engineer of Railway / Principal Chief Mechanical Engineer of Railway / Principal Chief Electrical Engineer of Railway / Divisional Railway Manager of Railway, furnishing particulars regarding:

(a) his position as an independent contractor specifying engineering organization available with details of partners / staff / engineers employed with qualifications and experience;

(b) his capacity to undertake and carry out works satisfactorily as vouched for by a responsible official or firm; details about the transport equipments, construction tools and plants etc. required for the work, maintained by him;

(c) his previous experience of works similar to that to be contracted for, in proof of which original certificates or testimonials may be called for and their genuineness verified, if needs be, by reference to the signatories thereof;

(d) his knowledge from actual personal investigation of the resources of the area/zone or zones in which he offers to work;

(e) his ability to supervise the work personally or by competent and duly authorized agent;

(f) his financial position;

2.2 An applicant shall clearly state the categories of works and the area/zone/division(s)/district(s) in which he desires registration in the list of approved contractors.

2.3 The selection of contractors for enlistment in the approved list would be done by a committee for different value of slabs as notified by Railway.

2.4 An annual fee as prescribed by the Railway from time to time would be charged from such approved contractors to cover the cost of sending notices to them and clerkage for tenders etc. Notices shall be sent to them on registered e-mail address and registered postal address.

TENDERS FOR WORKS

3. Tender Form: Tender Forms shall embody the contents of the contract documents either directly or by reference and shall be as per specimen form, Annexure-I. e-Tender Forms shall be issued free of cost to all tenderers.

4. Omissions & Discrepancies: Should a tenderer find discrepancies in or omissions from the drawings or any of the Tender Forms or should he be in doubt as to their meaning, he should at once notify the authority inviting tenders. The tender inviting authority may, if deemed necessary, clarify the same to all tenderers. It shall be understood that every endeavour has been made to avoid any error which can materially affect the basis of tender and successful tenderer shall take upon himself and provide for the risk of any error which may subsequently be discovered and shall make no subsequent claim on account thereof.

5. Bid security (EMD):

- (1) (a) The tenderer shall be required to submit the Bid security (EMD) with the tender for the due performance with the stipulation to keep the offer open till such date as specified in the tender, under the conditions of tender. The Bid security (EMD) shall be as under:

Value of the Work	Bid security (EMD)
For works estimated to cost up to ₹ 1 crore	2% of the estimated cost of the work
For works estimated to cost more than ₹ 1 crore	₹ 2 lakh plus ½% (half percent) of the excess of the estimated cost of work beyond ₹ 1 crore subject to a maximum of ₹ 1 crore

Note:

- (i) The Bid security (EMD) shall be rounded off to the nearest ₹100. This Bid security (EMD) shall be applicable for all modes of tendering.
- (ii) Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of Bid security (EMD) detailed above.
- (iii) Labour Cooperative Societies shall submit only 50% of above Bid security (EMD) detailed above.

(b) It shall be understood that the tender documents have been issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not **resile** from his offer or modify the terms and conditions thereof in a manner not acceptable to the Engineer. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the RCIL.

(c) If his tender is accepted, this Bid security (EMD) mentioned in sub para (a) above will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the General Conditions of Contract. The Bid security (EMD) of other Tenderers shall, save as herein before provided, be returned to them, but the RCIL shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.

- (2) The Bid security (EMD) shall be deposited either in cash through e-payment gateway.

6. Care in Submission of Tenders:

- (a) (i) Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender forms are adequate and all inclusive to accord with the provisions in Clause-37 of the General Conditions of Contract for the completion of works to the entire satisfaction of the Engineer.
- (a)(ii) Tenderers will examine the various provisions of The Central Goods and Services Tax Act, 2017(CGST)/ Integrated Goods and Services Tax Act, 2017(IGST)/ Union Territory Goods and Services Tax Act, 2017(UTGST)/ respective state's State Goods and Services Tax Act (SGST) also, as notified by Central/State Govt.& as amended from time to time and applicable taxes before bidding. Tenderers will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.
- (a)(iii) The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to RCIL immediately after the award of contract, without which no payment shall be Released to the Contractor. The Contractor shall be responsible for deposition of applicable GST to the concerned authority.
- (a)(iv) In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/ SGST Act, the RAILTEL shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.
- (b) When work is tendered for by a firm or company, the tender shall be signed by the individual legally authorized to enter into commitments on their behalf.
- (c) The RCIL will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. It may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.

6.1 The tenderers shall submit a copy of Affidavit stating that all their statements/documents submitted alongwith bid are true and factual. Standard format of Affidavit to be submitted by the Tenderer is enclosed as **Annexure-V**. Non submission of above certificate by the Tenderer shall result in **summarily** rejection of his/their bid. It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested/digitally signed by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.

CONSIDERATION OF TENDERS

7. Right of RCIL to Deal with Tenders: The RCIL reserves the right of not to invite tenders for any of Railway/RCIL work or works or to invite open or limited tenders and when tenders are called to accept a tender in whole or in part or reject any tender or all tenders without assigning reasons for any such action. In case if tender is accepted in part by RCIL administration, Letter of Acceptance shall be issued as counter offer to the Tenderer, which shall be subject to acceptance by the Tenderer.

7A. Two Packets System of Tendering: With a view to assess the tenders technically without being influenced by the financial bids, 'Two Packets System of tendering' shall be

adopted wherein tender documents provide for the same.

7B. Pre Bid Conference: (Not Applicable)

7C. Make in India Policy: Provisions of Make in India Policy 2017 issued by Govt. of India, as amended from time to time, shall be followed for consideration of tenders.

7D. Permission to Bid for a Tenderer from a country which shares Land boundary with India: Any Tenderer from the countries sharing a land border with India will be eligible to bid in any procurement of works (including turnkey projects) only if the Tenderer is registered with the Competent Authority. The Competent Authority for registration will be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India. For interpretation of this para, Department of Expenditure, Ministry of Finance, Government of India letter F.No.6/18/2019-PPD dated 23/07/2020 shall be referred.

7E. Clarification of Bids: To assist in the examination, evaluation & comparison and pre-qualification of the Tender, the RCIL may, at its discretion, ask any Tenderer for a clarification of its Bid. Any clarification submitted by a Tenderer that is not in response to a request by the RCIL shall not be entertained or considered. The RCIL request for clarification and the response of the Tenderer in this regard shall be in writing.

However, if a Tenderer does not provide clarification of its bid by the date and time communicated in the RCIL request for clarification, the bid shall be evaluated as per the documents submitted along with the bid.

8. Execution of Contract Document: The Tenderer whose tender is accepted shall be required to appear in person at the office of concerned Engineer, or if tenderer is a firm or corporation, a duly authorized representative shall appear (there would be no need for appear in person if agreement is signed digitally) and execute the contract agreement within seven days of notice from RCIL that the Contract Agreement is ready. Failure to do so shall constitute a breach of the agreement affected by the acceptance of the tender. The Contract Agreement shall be entered into by RCIL only after submission of valid Performance Guarantee by the Contractor. In such cases the RCIL may determine that such tenderer has abandoned the contract and there upon his tender and acceptance thereof shall be treated as cancelled and the RAILTEL shall be entitled to forfeit the full amount of the Bid security (EMD) and other dues payable to the Contractor under this contract. The failed Contractor shall be debarred from participating in the re-tender for that work.

9. Form of Contract Document: Every contract shall be complete in respect of the document it shall so constitute. Not less than 2 copies of the contract document shall be signed by the competent authority and the Contractor and one copy given to the Contractor (there would be no need of signing two copies if agreement is signed digitally).

(a) For Zone Contracts, awarded on the basis of the percentage above or below the applicable chapter(s) of Standard Schedule of Rates (SSOR) for the whole or part of financial year, the contract agreement required to be executed by the tenderer whose tender is accepted shall be as per specimen form, Annexure-II. During the currency of the Zone Contract, work orders as per specimen form Annexures-III, for works not exceeding ₹ 5,00,000 each, shall be issued by the Divisional Railway Manager / Executive Engineer under the agreement for Zone Contract. **(Not Applicable)**

(b) For contracts for specific works, the contract document required to be executed by the tenderer whose tender is accepted shall be an agreement as per specimen form Annexure- IV.

TENDER FORM (First Sheet)

Tender No. _____

Name of Work _____

To

The RailTel Corporation Of India Limited

Delhi Technology Park

Shastri Park

New Delhi-110053

1. I/We _____ have read the various conditions to tender attached hereto and agree to abide by the said conditions. I/We also agree to keep this offer open for acceptance for a period of _____ days from the date fixed for closing of the tender and in default thereof, I/We will be liable for forfeiture of my/our "Bid security (EMD)". I/We offer to do the work for Railway/RCIL, at the rates quoted in the attached bill(s) of quantities and hereby bind myself/ourselves to complete the work in all respects within _____ months from the date of issue of letter of acceptance of the tender.

2. I/We also hereby agree to abide by the Indian Railways General Conditions of Contract, with all correction slips up-to-date and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by RCIL in the annexed Special Conditions/Specifications, Standard Schedule of Rates (SSOR) with all correction slips up-to-date for the present contract.

3. A Bid security (EMD) of ₹ _____ has already been deposited online/ submitted as Bank Guarantee bond. Full value of the Bid security (EMD) shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:

- (a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;
- (b) I/We do not execute the contract documents within seven days after receipt of notice issued by the RCIL that such documents are ready; and
- (c) I/We do not commence the work within fifteen days after receipt of orders to that effect.

4. (a) I/We am/are a Startup firm registered by Department of Industrial Policy and Promotion (DIPP) and my registration number is valid upto (Copy enclosed) and hence exempted from submission of Bid security (EMD).

5. We are a Labour Cooperative Society and our Registration No. is with and hence required to deposit only 50% of Bid security (EMD).

6. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Witnesses:

(1) _____

(2) _____

Signature of Tenderer(s)

Date _____

Address of the Tenderer(s)

ANNEXURE - I (Contd. ...)

TENDER FORM (Second Sheet)

1. Instructions to Tenderers and Conditions of Tender: The following documents form part of Tender / Contract:

- (a) Tender Forms – First Sheet and Second Sheet
- (b) Special Conditions/Specifications (enclosed)
- (c) Bill(s) of quantities (enclosed)
- (d) General Conditions of Contract and Standard Specifications (Works and Materials) of Indian Railways as amended/corrected upto latest correction slips, copies of which can be seen in the office of RCIL on payment of prescribed charges.
- (e) Standard Schedule of Rates (SSOR) as amended / corrected upto latest correction slips, copies of which can be seen in the office of RCIL on payment of prescribed charges.
- (f) All general and detailed drawings pertaining to this work which will be issued by the Engineer or his representatives (from time to time) with all changes and modifications.

2. Drawings for the Work: The Drawing for the work can be seen in the office of the RCIL at any time during the office hours. The drawings are only for the guidance of Tenderer(s). Detailed working drawings (if required) based generally on the drawing mentioned above, will be given by the Engineer or his representative from time to time.

3. The Tenderer(s) shall quote his / their rates as a percentage above or below for all items shown in the Bill(s) of Quantities attached. The quantities shown in the attached Bill(s) of Quantities are given as a guide and are approximate only and are subject to variation according to the needs of the RCIL. The RCIL does not guarantee work under each item of the Bill(s) of Quantities. The tenderer(s) shall quote rates / rebates only at specified place in Tender Form supplied by RCIL. Any revision of rates / rebates submitted (quoted) through a separate letter whether enclosed with the bid (Tender Form) or submitted separately or mentioned elsewhere in the document other than specified place shall be summarily ignored and will not be considered.

4. Tenders containing erasures and / or alterations of tender documents are liable to be rejected. Any correction made by tender(s) in his/their entries must be attested by him / them.

5. The works are required to be completed within a period of 3 (Three) months from the date of issue of acceptance letter.

6. Bid security (EMD):

(a) Subject to exemptions provided under para 5(1) (a) of Part-1 (ITT) of this document, the tender must be accompanied by a Bid security (EMD) as mentioned in tender documents, failing which the tender shall be summarily rejected.

(b) The Tenderer(s) shall keep the offer open for a minimum period of 90 days from the date of closing of the Tender. It is understood that the tender documents have been issued to the Tenderer(s) and the Tenderer(s), is / are permitted to tender in consideration of the stipulation on his / their part that after submitting his / their tender subject to the period being

extended further, if required by mutual agreement from time to time, he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to RCIL. Should the tenderer fail to observe or comply with the foregoing stipulation, the amount deposited or Bank guarantee bond submitted as Bid security (EMD) for the due performance of the above stipulation, shall be forfeited to the RCIL.

- (c) If his tender is accepted,
 - (i) the Bid security (EMD) mentioned in sub para(a) above deposited in cash through e-payment gateway will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the General Conditions of Contract;
 - (ii) the Bid security (EMD) mentioned in sub para(a) above submitted as Bank guarantee bond, will be encashed as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the General Conditions of Contract.
 - (iii) The Bid security (EMD) of other Tenderers shall, save as herein before provided, be returned to them, but the RCIL shall not be responsible for any loss or depreciation to the Bid security (EMD) that may happen thereto while in their possession, nor be liable to pay interest thereon.
- (d) In case Contractor submits the Term Deposit Receipt/Bank Guarantee Bond towards either the Full Security Deposit or the Part Security Deposit equal to or more than Bid security (EMD), the RCIL shall return the Bid security (EMD) so retained as per sub para(c) above, to the Contractor.

7. Rights of the RCIL to deal with Tender: The authority for the acceptance of the tender will rest with the RCIL. It shall not be obligatory on the said authority to accept the lowest tender or any other tender, and tenderer(s) shall neither demand any explanation for the cause of rejection of his/ their tender nor the RCIL to assign reasons for declining to consider or reject any particular tender or tenders.

8. If the tenderer(s) deliberately gives / give wrong information in his / their tender or creates / create circumstances for the acceptance of his / their tender, the RCIL reserves the right to reject such tender at any stage.

9. If any partner(s) of a partnership firm expires after the submission of its tender or after the acceptance of its tender, the RCIL shall deem such tender as cancelled/contract as terminated under clause 61 of the General Conditions of Contract, unless the firm retains its character as per partnership agreement. If a sole proprietor expires after the submission of tender or after the acceptance of tender, the RCIL shall deem such tender as cancelled / contract as terminated under clause 61 of the General Conditions of Contract.

10. Eligibility Criteria:

10.1 Technical Eligibility Criteria:

(a) The tenderer must have successfully completed or substantially completed any one of the following categories of work(s) during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:

- (i) Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or
- (ii) Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or
- (iii) One similar work costing not less than the amount equal to 60% of advertised value of the tender.

(b) In case of tenders for composite works : **(Not Applicable)**

Note for Item 10.1:

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.

10.2. Financial Eligibility Criteria: The tenderer must have minimum average annual contractual turnover of 1.5 V/N crores; 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.

The tenderers shall submit requisite information as per Annexure-VIB, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.

10.3 Bid Capacity: The tender/technical bid will be evaluated based on bid capacity formula detailed as Annexure-VI.

10.4 No Technical and Financial credentials are required for tenders having advertised value up to Rs 50 lakh.

10.5 Credentials if submitted in foreign currency shall be converted into Indian currency i.e., Indian Rupee as under:

The conversion rate of US Dollars into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India or entity authorized by RBI to do so for the Relevant date or immediately previous date for which rates have been published. Where, Relevant date shall be as on the last day of month previous to the one in which tender is invited. In case of any other currency, the same shall first be converted to US Dollars as on the last day of month previous to the one in which tender is invited, and the amount so derived in US Dollars shall be converted into Rupees at the aforesaid rate. The conversion rate of such currencies shall be the daily representative exchange rates published by the International Monetary Fund for the Relevant date or immediately previous date for which rates have been published.

[Explanation for Para 10 of the Tender Form (Second Sheet) including Para 10.1 to 10.5 - Eligibility Criteria:

1. Substantially Completed Work means an ongoing work in which payment equal to or more than 90% of the present contract value (excluding the payment made for adjustment of Price variation (PVC), if any) has been made to the contractor in that ongoing contract and no proceedings of termination of contract on Contractor's default has been initiated. The credential certificate in this regard should have been issued not prior to 60 days of date of invitation of present tender.
2. In case a work is started prior to 07 (seven) years, ending last day of month previous to the one in which tender is invited, but completed in last 07 (seven) years, ending last day of month previous to the one in which tender is invited, the completed work shall be considered for fulfillment of credentials.
3. If a work is physically completed and completion certificate to this extent is issued by the concerned organization but final bill is pending, such work shall be considered for fulfillment of credentials
4. In case of completed work, the value of final bill (gross amount) including the PVC amount (if paid) shall be considered as the completion cost of work. In case final bill is pending, only the total gross amount already paid including the PVC amount (if paid) shall be considered as the completion cost of work.

In case of substantially completed work, the total gross amount already paid including the PVC amount (if paid), as mentioned in the certificate, shall be considered as the cost of substantially completed work.

5. If a Tenderer has successfully completed a work as subcontractor and the work experience certificate has been issued for such work to the subcontractor by a Govt. Organization or public listed company as defined in Note for Item 10.1 Para 10 of the Tender Form (Second Sheet), the same shall be considered for the purpose of fulfillment of credentials.
6. In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost including the PVC amount (if paid) of that completed work or substantially completed work, shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.
7. In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the present tender under consideration, the credentials of partner A will be considered to the extent of 0.3×0.2 * value of the work done in the previous entity. For this purpose, the tenderer shall submit along with his bid all the Relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.
8. In case of existing partnership firm, if any one or more partners quit the partnership firm, the credentials of remaining partnership firm shall be re-worked out i.e., the quitting partner(s) shall take away his credentials to the extent of his share on the date of quitting the partnership firm (e.g. in a partnership firm of partners A, B & C having share 30%, 30% & 40% respectively and credentials of Rs 10 crore; in case partner C quits the firm,

the credentials of this partnership firm shall remain as Rs 6 crore). For this purpose, the tenderer shall submit along with his bid all the Relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.

9. In case of existing partnership firm if any new partner(s) joins the firm without any modification in the name and PAN/TAN no. of the firm, the credentials of partnership firm shall get enhanced to the extent of credentials of newly added partner(s) on the same principles as mentioned in item 6 above. For this purpose, the tenderer shall submit along with his bid all the Relevant documents which include copy of previous partnership deeds, dissolution/splitting deeds and proof of surrender of PAN No.(s) in case of dissolution of partnership firm etc.
10. Any partner in a partnership firm cannot use or claim his credentials in any other firm without leaving the partnership firm i.e., In a partnership firm of A&B partners, A or B partner cannot use credentials of partnership firm of A&B partners in any other partnership firm or propriety firm without leaving partnership firm of A&B partners.
11. In case a partner in a partnership firm is replaced due to succession as per succession law, the proportion of credentials of the previous partner will be passed on to the successor.
12. If the percentage share among partners of a partnership firm is changed, but the partners remain the same, the credentials of the firm before such modification in the share will continue to be considered for the firm as it is without any change in their value. Further, in case a partner of partnership firm retires without taking away any credentials from the firm, the credentials of partnership firm shall remain the same as it is without any change in their value.
13. In a partnership firm "AB" of A&B partners, in case A also works as propriety firm "P" or partner in some other partnership firm "AX", credentials of A in propriety firm "P" or in other partnership firm "AX" earned after the date of becoming a partner of the firm AB shall not be added in partnership firm AB.
14. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.
15. In case company A is merged with company B, then company B would get the credentials of company A also.]

11. Tenderer Credentials:

Documents testifying tenderer previous experience and financial status should be produced along with the tender.

Tenderer(s) who is / are not borne on the approved list of the Contractors of Railway shall submit along with his / their tender:

- (i) Certificates and testimonials regarding contracting experience for the type of job for which tender is invited with list of works carried out in the past.
- (ii) Audited Balance Sheet duly certified by the Chartered Accountant regarding contractual payments received in the past.
- (iii) The list of personnel / organization on hand and proposed to be engaged for the tendered work. Similarly list of Plant & Machinery available on hand and proposed to be inducted and hired for the tendered work.

- (iv) A copy of certificate stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the certificate to be submitted by the Tenderer is enclosed as Annexure-V. Non submission of a copy of certificate by the Tenderer shall result in summarily rejection of his/their bid. It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self attested / digitally signed by which they/he are/is qualifying the Qualifying Criteria mentioned in the Tender Document.
- (v) The RCIL reserves the right to verify all statements, information and documents submitted by the Tenderer in his tender offer, and the Tenderer shall, when so required by the RCIL, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification, by the RCIL shall not Relieve the Tenderer of its obligations or liabilities hereunder nor will it affect any rights of the RCIL there under.
- (vi) (a) In case of any information submitted by tenderer is found to be false, forged or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender Bid security (EMD) besides banning of business for a period of upto five years.
 (b) In case of any information submitted by tenderer is found to be false, forged or incorrect after the award of contract, the contract shall be terminated. Bid security (EMD), Performance Guarantee and Security Deposit available with the RCIL shall be forfeited. In addition, other dues of the contractor, if any, under this contract shall be forfeited and agency shall be banned for doing business for a period of upto five years.

12. Non-compliance with any of the conditions set forth therein above is liable to result in the tender being rejected.

13. Execution of Contract Documents: The successful Tenderer(s) shall be required to execute an agreement with the RCIL for carrying out the work according to the General Conditions of Contract, Special Conditions / Specifications annexed to the tender and Standard Specifications (Works and Materials) of Railway as amended/corrected upto latest correction slips, mentioned in tender form (First Sheet).

14. Documents to be Submitted Along with Tender

(i) The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / Company / Registered Society / Registered Trust / Hindu Undivided Family (HUF) / Limited Liability Partnership (LLP) etc. The tenderer(s) shall enclose the attested copies of the constitution of their concern, and copy of PAN Card along with their tender. Tender Documents in such cases are to be signed by such persons as may be legally competent to sign them on behalf of the firm, company, association, trust or society, as the case may be.

(ii) Following documents shall be submitted by the tenderer:

(a) Sole Proprietorship Firm:

(i) All documents in terms of Para 10 of the Tender Form (Second Sheet) above.

(b) HUF:

- (i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF.
 - (ii) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above.
- (c) **Partnership Firm:**
- (i) All documents as mentioned in para18 of the Tender Form (Second Sheet).
- (d) **Joint Venture (JV): Not Applicable**
- (e) **Company registered under Companies Act2013:**
- (i) The copies of **MOA (Memorandum of Association) / AOA (Articles of Association)** of the company
 - (ii) A copy of Certificate of Incorporation
 - (iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company.
 - (iv) All other documents in terms Para 10 of the Tender Form (Second Sheet) above.
- (f) **LLP (Limited Liability Partnership):**
- (i) A copy of LLP Agreement
 - (ii) A copy of Certificate of Incorporation
 - (iii) A copy of Power of Attorney/Authorization issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP.
 - (iv) An undertaking by all partners of the LLP that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP or JV in which they were / are partners/members. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.
 - (v) All other documents in terms of Para 10 of the Tender Form (Second Sheet).
- (g) **Registered Society & Registered Trust:**
- (i) A copy of Certificate of Registration
 - (ii) A copy of Memorandum of Association of Society/Trust Deed
 - (iii) A copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust.
 - (iv) A copy of Rules & Regulations of the Society
 - (v) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above.

(iii) If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm / Partnership firm / Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.

(iv) After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF/LLP etc. shall be neither asked nor considered, if submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in RAILTEL's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted.

(v) A tender from JV shall **NOT** be considered.

(vi) The RCIL will not be bound by any change of power of attorney or in the composition of the firm made subsequent to the submission of tender. RCIL may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.

15. The tenderer whether sole proprietor / a company or a partnership firm / registered society / registered trust / HUF / LLP etc if they want to act through agent or individual partner(s), should submit along with the tender, a copy of power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person, specifically authorizing him/them to sign the tender, submit the tender and further to deal with the Tender/ Contract up to the stage of signing the agreement except in case where such specific person is authorized for above purposes through a provision made in the partnership deed / Memorandum of Understanding / Article of Association /Board resolution, failing which tender shall be summarily rejected.

A separate power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person, shall be submitted after award of work, specifically authorizing him/them to deal with all other contractual activities subsequent to signing of agreement, if required.

Note: A Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Tenderers from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian Embassy if it carries a conforming Apostille certificate.

16. Employment/Partnership etc. of Retired Railway/RCIL Employees:

(a) Should a tenderer

i) be a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, whether in the executive or administrative capacity or whether holding a pensionable post or not, in the Engineering or any other department of any of the railways/RCIL owned and administered by the President of India for the time being, OR

ii) being partnership firm / registered society / registered trust etc have as one of its partners/members a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, OR

iii) being an incorporated company have any such retired Engineer of the gazetted rank or any other gazetted officer working before his retirement as one of its directors

AND

in case where such Engineer or officer had not retired from government service at least 1 year prior to the date of submission of the tender

THEN

the tenderer will give full information as to the date of retirement of such Engineer or gazetted officer from the said service and as to whether permission for taking such contract, or if the Contractor be a partnership firm or an incorporated company, to become a partner or director as the case may be, has been obtained by the tenderer or the Engineer or officer, as the case may be from the President of India or any officer, duly authorized by him in this behalf, shall be clearly stated in writing at the time of submitting the tender.

- b) In case, upon successful award of contract, should a tenderer depute for execution of the works under or to deal matters Related with this contract, any retired Engineer of gazette rank or retired gazetted officer working before his retirement in the Engineering or any other department of any of the railways/ RCIL owned and administered by the President of India for the time being, and now in his employment, then the tenderer will ensure that retired Engineer or retired gazetted officer had retired from government service at least 1 year prior to the date of his employment with tenderer and in case he had retired from service within a year then he possesses the requisite permission from the President of India or any officer, duly authorized by him in this behalf, to get associated with the tenderer.
- c) Should a tenderer or Contractor being an individual, have member(s) of his family or in the case of partnership firm/ company / registered society / registered trust etc. one or more of his partner(s)/shareholder(s) or member(s) of the family of partner(s)/shareholder(s) having share of more than 1% in the tendering entity employed in gazetted capacity in the Engineering or any other department of the railway/ RCIL, then the tenderer at the time of submission of tender, will inform the authority inviting tenders the details of such persons.

Note: -If information as required as per 16.a), b), c) above has not been furnished, contract is liable to be dealt in accordance with provision of clause 62 of the General Condition of contract.

17. Joint Venture (JV) in Works Tender: Not Applicable

18. Participation of Partnership Firms in works tenders:

18.1 The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act.

18.2 The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have either been registered with the Registrar or the partnership deed should have been notarized as per the Indian Partnership Act, prior to submission of tender.

18.3 Separate identity / name should be given to the partnership firm. The partnership firm should have PAN / TAN number in its own name and PAN / TAN number in the name of any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.

18.4 Once the tender has been submitted, the constitution of the firm shall not normally be allowed to be modified / altered / terminated during the validity of the tender as well as the

currency of the contract except when modification becomes inevitable due to succession laws etc., in which case prior permission should be taken from RCIL and in any case the minimum eligibility criteria should not get vitiated. The re-constitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the RCIL and the tenderer shall have no claims what-so-ever. Any change in the constitution of Partnership firm after submission of tender shall be with the consent of all partners and with the signatures of all partners as that in the Partnership Deed. Failure to observe this requirement shall render the offer invalid and full Bid security (EMD) shall be forfeited.

If any Partner/s withdraws from the firm after submission of the tender and before the award of the contract, the offer shall be rejected and Bid security (EMD) of the tenderer will be forfeited. If any new partner joins the firm after submission of tender but prior to award of contract, his / her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to his share in the previous firm. In case the tenderer fails to inform RCIL beforehand about any such changes / modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of the contract conditions liable for determination of the contract under Clause 62 of the General Conditions of Contract.

18.5 A partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender.

18.6 The tender form shall be submitted only in the name of partnership firm. The Bid security (EMD) shall be submitted by partnership firm. The Bid security (EMD) submitted in the name of any individual partner or in the name of authorized partner (s) shall not be considered.

18.7 On issue of Letter of Acceptance (LOA) to the partnership firm, all the guarantees like Performance Guarantee, Guarantee for various Advances to the Contractor shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable.

18.8 On issue of Letter of Acceptance (LOA), contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner.

18.9 In case the Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement.

(a) Joint and several liabilities:

The partners of the firm to which the Letter of Acceptance (LOA) is issued, shall be jointly and severally liable to the RCIL for execution of the contract in accordance with General and Special Conditions of the Contract. The partners shall also be liable jointly and severally for the loss, damages caused to the Railway/RCIL during the course of execution of the contract or due to non-execution of the contract or part thereof.

(b) Duration of the partnership deed and partnership firm agreement:

The partnership deed/partnership firm agreement shall normally not be modified/altered/terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any change carried out by partners in the constitution of the firm without permission of RCIL, shall constitute a breach of the contract, liable for determination of the contract under Clause 62 of the General Conditions of Contract.

(c) Governing laws: The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws.

(d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner/s and that of the RCIL.

18.10 The tenderer shall clearly specify that the tender is submitted on behalf of a partnership firm. The following documents shall be submitted by the partnership firm, with the tender:

- (i) A notarized copy of the Partnership Deed or a copy of the Partnership deed registered with the Registrar.
- (ii) A notarized or registered copy of Power of Attorney in favour of the individual to tender for the work, sign the agreement etc. and create liability against the firm.
- (iii) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP in which they were / are partners/members. Any Concealment / wrong information in regard to above shall make the bid ineligible or the contract shall be determined under Clause 62 of the General Conditions of Contract.
- (iv) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above.

18.11 Evaluation of eligibility of a partnership firm:

Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfillment of the eligibility criteria laid down in Para 10 of the Tender Form (Second Sheet) above.

19.0 Advances to Contractor – Not Applicable

(Signature of RCIL)
(Designation)
(Date)_____

(Signature of Tenderer(s))

(Date)

ANNEXURE - I (Contd. ...)

TENDER FORM (Third Sheet)

Name of Work: _____

BILL OF QUANTITIES

1. Standard Schedule of Rates (SSOR) Items:

SL	Item No. of SSOR	Description of Item of Work	Approximate Quantity	Unit	Rates in Figures and Words to be filled by tenderer (₹)	Amount (₹)
1	2	3	4	5	6	7

2. Non Standard Schedule of Rates (SSOR) Items:

SL	Item No.	Description of Item of Work	Approximate Quantity	Unit	Rates in Figures and Words to be filled by tenderer (₹)	Amount (₹)
1	2	3	4	5	6	7

The quantities shown in above Bill of Quantities are approximate and are as a guide to give the tenderer(s) an idea of quantum of work involved. The RCIL reserves the right to increase/ decrease and/or delete or include any of the quantities given above and no extra rate will be allowed on this account.

I/We undertake to do the work at _____ % above/below the rates quoted above for each item.

Dated _____

Signature of the Tenderer(s)

Note: Columns 1 to 7 shall be filled by the office of the Authority inviting tender. Only % above/below shall be filled by the Tenderer(s).

CONTRACT AGREEMENT OF WORKS

CONTRACT AGREEMENT NO. _____ DATED _____

ARTICLES OF AGREEMENT made this _____ day of _____ 20____
between the RAILTEL Administration hereafter called the "RCIL" of the one part and
_____ herein after called the "Contractor" of other part.

WHEREAS the Contractor has agreed with the RCIL for performance of the works
_____ set forth in the Bill(s) of Quantities hereto annexed upon the General
Conditions of Contract, updated with correction slips issued up to date of inviting tender or as
otherwise specified in the tender documents and the Special Conditions and Special
Specifications, if any and in conformity with the drawings here-into annexed AND WHEREAS
the performance of the said works is an act in which the public are interested.

NOW THIS INDENTURE WITNESSETH that in consideration to the payments to be
made by the RCIL, the Contractors will duly perform the said works in the said Bill(s) of
Quantities set forth and shall execute the same with great promptness, care and accuracy in a
workman like manner to the satisfaction of the Railway/ RCIL and will complete the same in
accordance with the said specifications and said drawings and said conditions of contract on or
before the _____ day of _____ 20____ and will maintain the said works for a period of
_____ Calendar months from the certified date of their completion and will observe, fulfill
and keep all the conditions therein mentioned (which shall be deemed and taken to be part of
this contract, as if the same have been fully set forth herein), AND the RCIL, both hereby agree
that if the Contractor shall duly perform the said works in the manner aforesaid and observe
and keep the said terms and conditions, the RCIL will pay or cause to be paid to the Contractor
for the said works on the final completion thereof the amount due in respect thereof at the rates
specified in the Bill(s) of Quantities hereto annexed.

Contractor _____ (Signature) RAILTEL: Designation _____

Address _____

Date _____

Date _____

Signature of **Witnesses** (to Signature of Contractor) with address:**Witnesses:**_____

ANNEXURE-V

Reference -Para 6.1 of ITT

**FORMAT FOR AFFIDAVIT TO BE SUBMITTED / UPLOADED BY TENDERER
ALONGWITH THE TENDER DOCUMENTS**

(To be given by Tenderer on Stamp Paper of appropriate value)

AFFIDAVIT

I.....(*Name and designation*)**appointed as the attorney/authorized signatory of the tenderer (including its constituents),
M/s_____ (hereinafter called the tenderer) for the purpose of the Tender documents for the work of _____ as per the tender No._____ of _____ RCIL, do hereby solemnly affirm and state on the behalf of the tenderer including its constituents as under:

1. I/we the tenderer (s) am/are signing this document after carefully reading the contents.
2. I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the tender documents from Indian Railway website www.ireps.gov.in . I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the RCIL Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. **I/We also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.**
6. **I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.**
7. I/we certify that I/we the tenderer(s) is/are not blacklisted or debarred by Railways/ RAILTEL or any other Ministry / Department of Govt. of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/ member of the partnership firm/LLP/JV/Society/Trust.
8. I/we understand that if the contents of the affidavit submitted by us are found to be forged/false or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the Bid security (EMD) besides banning of business for a period of upto five year. Further, I/we (*insert name of the tenderer*)** _____and all my/our constituents understand that my/our offer shall be summarily rejected.
9. I/we also understand that if the contents of the affidavit submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of Bid security (EMD)/Security

Deposit and Performance guarantee besides any other action provided in the contract including banning of business for a period of upto five year.

10. I/We have read the clause regarding restriction on procurement from a Tenderer of a country which shares a land border with India and certify that I am/We are not from such a country or,
if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfil all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed)

DEPONENT

Place:
Dated:

VERIFICATION I, the above-named deponent, do verify that the contents of paragraphs 1 to 10 of this affidavit are true and correct to my own knowledge. No part of it is false and nothing material has been concealed. Verified at, on this day of

DEPONENT

****The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by tenderer.**

Annexure –VIA

Para 5 of the Instructions to Tenderers

(Bid security (EMD))

Bank Guarantee Bond from any scheduled commercial bank of
India

DELETED

Annexure –VIB

Reference -Para 10.2 of Tender Form (Second Sheet) of Annexure I of ITT

Each Tenderer must fill in this form:

NAME OF TENDERER

Annual Contractual Turnover Data for the Previous 3/4 Years (Contractual Payment only)			
Year	Amount Currency	Exchange Rate	Indian National Rupees Equivalent
Average Annual Contractual Turnover for last 3 years			

1. The average annual contractual turnover shall be calculated as an average of “total contractual payments” in the previous three financial years. 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.
2. The information supplied shall be substantiated by data in the audited balance sheets and profit and loss accounts for the Relevant years in respect of the Tenderer or all members constituting the Tenderer.
3. Contents of this form should be certified by a Chartered Accountant duly supported by Audited Balance Sheet duly certified by the Chartered Accountant.

SEAL AND SIGNATURE OF THE TENDERER

Certified that all figures and facts submitted in this form have been furnished after full consideration of all observations/notes in Auditor's reports. _____

(Signature of Chartered Accountant)

Name of CA: _____

Registration No: _____

(Seal)

Part II

GENERAL CONDITIONS OF CONTRACT

1. (1) Definitions: In these General Conditions of Contract, the following terms shall have the meaning assigned hereunder except where the context otherwise requires:

(a) RailTel Corporation Of India Limited (RCIL) shall mean, a "Miniratna" enterprise of Government of India under Ministry of Railways.

Regd. Off: 6th Floor, IIIrd Block, Delhi Technology Park, Shastri Park, Delhi-110053. T: +91-11-22185933, F: +91-11-22185978

(b) "General Manager of Railway" shall mean the Officer in-charge of the General Superintendence and Control of the Railway and shall also include Addl. General Manager, the General Manager (Construction) and shall mean and include their successors, of the successor Railway.

(c) "Chief Engineer of Railway" shall mean the Officer in-charge of the Engineering Department of Railway and shall also include Chief Engineer (Construction), Chief Signal & Telecommunication Engineer, Chief Signal & Telecommunication Engineer (Project), Chief Electrical Engineer, Chief Electrical Engineer (Construction), Chief Mechanical Engineer and shall mean & include their successors, of the Successor Railway.

(d) "Divisional Railway Manager of Railway" shall mean the Officer in-charge of a Division of the Railway and shall mean and include the Divisional Railway Manager of the Successor Railway.

(e) "Engineer" shall mean the **DGM/Sig/RCIL**

6th Floor, IIIrd Block, Delhi Technology Park,

Shastri Park, Delhi-110053. T: +91-11-22185933 Fax -27580070

E – Mail: aks@railtelindia.com

(g) "Contractor" shall mean the Person/Firm/LLP/Trust/Co-operative Society or Company whether incorporated or not who enters into the contract with the RCIL and shall include their executors, administrators, successors and permitted assigns.

(h) "Contract" shall mean and include the Agreement, the Work Order, the accepted Bill(s) of Quantities modified by the tender percentage for items of works quantified, or not quantified, the General Conditions of Contract, the Special Conditions of Contracts, if any; the Drawing, the Specifications, the Special Specifications, if any and Tender Forms, if any.

(i) "Works" shall mean the works to be executed in accordance with the contract.

(j) "Specifications" shall mean the Standard Specifications for Materials & Works of Railway as specified by Railway under the authority of the Chief Engineer of Railway or as amplified, added to or superseded by Special Specifications, if any.

(k) Standard Schedule of Rates (SSOR) shall mean the schedule of Rates adopted by the Railway, which includes-

1. "Unified Standard Schedule of Rates of the Railway (USSOR)" i.e. the Standard Schedule of Rates of the Railway issued under the authority of the Chief Engineer of Railway from time to time, updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents;

2. "Delhi Schedule Of Rates (DSR)" i.e. the Standard Schedule of Rates published by Director General/ Central Public Works Department, Government of India, New Delhi, as adopted and modified by the Railway under the authority of the Chief Engineer of Railway from time to time, updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.

(l) "Drawing" shall mean the maps, drawings, plans and tracings or prints there of annexed to the contract and shall include any modifications of such drawings and further drawings as may be issued by the Engineer from time to time.

(m) "Constructional Plant" shall mean all appliances or things of whatsoever nature required for the execution, completion or maintenance of the works or temporary works (as hereinafter defined) but does not include materials or other things intended to form or forming part of the permanent work.

(n) "Temporary Works" shall mean all temporary works of every kind required for the execution completion and/or maintenance of the works.

(o) "Site" shall mean the lands and other places on, under, in or through which the works are to be carried out and any other lands or places provided by the RCIL/ Railway for the purpose of the contract.

(p) "Period of Maintenance" shall mean the specified period of maintenance from the date of completion of the works, as certified by the Engineer.

(q) 'Contractor's authorized Engineer' shall mean a graduate Engineer or equivalent, having more than 3 years experience in the Relevant field of construction work involved in the contract, duly approved by Engineer.

(r) Date of inviting tender shall be the date of publishing tender notice on IREPS website if tender is published on website or the date of publication in newspaper in case tender is not published on website.

(s) "Bill of Quantities" shall mean Schedule of Item(s) included in the tender document along with respective quantities and rates, accepted by the RCIL.

1. (2) Singular and Plural: Words importing the singular number shall also include the plural and vice versa where the context requires.

1.(3) Headings and Marginal Headings: The headings and marginal headings in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof the contract.

GENERAL OBLIGATIONS

2. (1) Execution Co-Relation and Intent of Contract Documents: The contract documents shall be signed in triplicate by the RCIL and the Contractor. The contract documents are complementary and what is called for by anyone shall be as binding as if called for by all, the intention of the documents is to include all labour and materials, equipments and transportation necessary for proper execution of work. Materials or works not covered by or properly inferable from any heading or class of the specifications shall not be supplied by the RCIL to the Contractors unless distinctly specified in the contract documents. Materials or works described in words which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

2.(2) If a work is transferred from the jurisdiction of one region of RCIL to another region of RAILTEL or to a Project authority or vice versa while contract is in subsistence, the contract shall be binding on the Contractor and the Other region in the same manner & take effect in all respects as if the Contractor and the other region were parties thereto from the inception and the corresponding officer or the Competent Authority in the other region of RCIL will exercise the same powers and enjoy the same authority as conferred to the Predecessor RCIL/Project under the original contract/agreement entered into.

2. (3) If for administrative or other reasons the contract is transferred to the other region of RAILTEL, the contract shall, notwithstanding any things contained herein contrary there to, be binding on the Contractor and the other region of RCIL in the same manner and take effect in all respects as if the Contractor and the other region of RCIL had been parties thereto from the date of this contract.

3. (1) Law Governing the Contract: The contract shall be governed by the law for the time being in force in the Republic of India.

3.(2) Compliance to Regulations and Bye-Laws: The Contractor shall conform to the provision of any statute Relating to the works and regulations and bye-laws of any local authority and of any water and lighting companies or undertakings, with whose system the work is proposed to be connected and shall before making any variation from the drawings or the specifications that may be necessitated by so confirming give to the Engineer notice specifying the variation proposed to be made and the reason for making the variation and shall not carry out such variation until he has received instructions from the Engineer in respect thereof. The Contractor shall be bound to give all notices required by statute, regulations or bye-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

3.(3) Environmental and Forest clearances:

The RAILTEL represents and warrants that the environmental and forest clearances pertaining to the work commensurate with the progress of work/agreed programme, will be obtained by Engineer. In the event of any delay in securing respective clearances leading to delay in execution of work, the Contractor shall be entitled to Extension of Time for the period of such delay in accordance with the provisions of Clause-17A(ii).

4. Communications to be in Writing: All notices, communications, reference and complaints made by the RCIL or the Engineer or the Engineer's Representative or the Contractor inter-se concerning the works shall be in writing or e-mail on registered e-mail IDs i.e. the e mail id provided for correspondence in the contract agreement, otherwise email id registered with IREPS and no notice, communication, reference or complaint not in writing or through e-mail, shall be recognized.

5. Service of Notices on Contractors: The Contractor shall furnish to the Engineer the name, designation and address of his authorized agent and all complaints, notices, communications and references shall be deemed to have been duly given to the Contractor, if delivered to the Contractor or his authorized agent or left at or posted to the address so given and shall be deemed to have been so given in the case of posting on day on which they would have reached such address in the ordinary course of post/ e-mail or on the day on which they were so delivered or left. In the case of contract by partners, any change in the constitution of the firm shall be forthwith notified by the Contractor to the Engineer.

6. Occupation and Use of Land: No land belonging to or in the possession of the Railway/RCIL shall be occupied by the Contractor without the permission of the RCIL. The Contractor shall not use, or allow to be used the site for any purposes other than that of executing the works. Whenever non-RCIL bodies/persons are permitted to use Railway/RCIL premises with competent authority's approval, conservancy charges as applicable from time to time may be levied.

7. Assignment or Subletting of Contract: The Contractor shall not assign or sublet the contract or any part thereof or allow any person to become interested therein in any manner whatsoever without the special permission in writing of the RCIL, save as provided below. Any breach of this condition shall entitle the RCIL to rescind the contract under Clause 62 of these Conditions and also render the Contractor liable for payment to the RCIL in respect of any loss or damage arising or ensuing from such cancellation; provided always that execution of the details of the work by petty Contractor under the direct and personal supervision of the Contractor or his agent shall not be deemed to be sub-letting under this clause.

In case Contractor intends to subcontract part of work, he shall submit a proposal in writing seeking permission of RCIL for the same. While submitting the proposal to RCIL, Contractor shall ensure the following:

- (a) (i) Total value of work to be assigned to sub-contractor(s) shall not be more than 50% of total contract value.

(i) The subcontractor shall have successfully completed at least one work similar to work proposed for subcontract in last 5 years, ending date of submission of proposal by Contractor to RCIL, costing not less than 35% value of work to be subletted, through a works contract. For fulfilment of above, Work Experience Certificate issued by a Govt. Department/Organisation shall be considered. Further, Work Experience Certificate issued by a Public listed company shall be considered provided the company is 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, registered at least 5 years back from the date of submission of proposal by Contractor to RCIL and work experience certificate issued by a person authorised by the Public Listed Company to issue such certificates.

Note: for subletting of work costing up to Rs 50 lakh no previous work experience shall be asked for by the RCIL.

In case contractor submits subcontractor's work experience certificate issued by public listed company, the contractor 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.

- (ii) There is no banning of business with the sub-contractor in force over Railways/ RCIL.
- (b) The Contractor shall provide to the Engineer a copy of the agreement to be entered into by Contractor with subcontractor. No subcontractor shall be permitted without a formal agreement between Contractor and subcontractor. This agreement shall clearly define the scope of work to be carried out by subcontractor and the terms of payment in clear & unambiguous manner.
- (c) On receipt of approval from RCIL, Contractor shall enter into a formal agreement legally enforceable in Court of Law with subcontractor and submit a copy of the same to the Engineer.
- (d) The Contractor shall intimate to the Engineer not less than 7 days in advance, the intended date of commencement of subcontractor's work.
- (e) Once having entered into above arrangement, Contractor shall discontinue such arrangement, if he intends to do so at his own or on the instructions of Engineer, with prior intimation to RCIL.
- (f) The Contractor shall indemnify RCIL against any claim of subcontractor.
- (g) The Contractor shall Release payment to the Sub-contractor(s) promptly and shall endeavour to resolve all issues amicably and speedily with the Sub-contractor(s), so that the execution of work is not affected in any manner whatsoever.
- (h) In addition to issuance of work experience certificate to Contractor, the Engineer, when, based on documents, is satisfied that subcontracted work has been carried out by

subcontractor, shall issue work experience certificate to the subcontractor also for the portion of work subcontracted and successfully completed by the sub-contractor.

Note: Work Experience Certificate to the subcontractor shall be issued only when the contractor's work is complete and contractor is entitled for the issuance of Work Experience Certificate. However, in the same contract, when the RCIL, based on documents, is satisfied that the subcontractor has successfully carried out subletted work; without issuance of work experience certificate to subcontractor at this stage, the RCIL can, only once, consider the successfully completed subletted work for the fulfilment of eligibility for further subletting of work to the subcontractor in the same contract. When the contractor's work is complete and contractor is entitled for the issuance of work experience certificate, the subcontractor shall be issued one Work Experience Certificate for the total scope of work executed by the subcontractor in the contract.

- (i) The responsibility of successful completion of work by subcontractor shall lie with Contractor. Subcontracting will in no way Relieve the Contractor to execute the work as per terms of the Contract.
- (j) Further, in case Engineer is of the view that subcontractor's performance is not satisfactory, he may instruct the Contractor to remove the subcontractor from the work and Contractor has to comply with the above instructions with due promptness. Contractor shall intimate the actual date of discontinuation of subcontract to Engineer. No claim of Contractor whatsoever on this account shall be entertained by the RCIL and this shall be deemed as 'excepted matter' (matter not arbitrable).
- (k) The permitted subcontracting of work by the Contractor shall not establish any contractual Relationship between the sub-contractor and the RCIL and shall not Relieve the Contractor of any responsibility under the Contract.

8. Assistance by RAILTEL for the Stores to be obtained by the Contractor: Owing to difficulty in obtaining certain materials (including Tools & Plant) in the market, the RAILTEL may have agreed without any liability therefore to endeavour to obtain or assist the Contractor in obtaining the required quantities of such materials as may be specified in the Tender. In the event of delay or failure in obtaining the required quantities of the aforesaid material, the Contractor shall not be deemed absolved of his own responsibility and shall keep in touch with the day to day position regarding their availability and accordingly adjust progress of works including employment of labour and the RCIL shall not in any way be liable for the supply of materials or for the non-supply thereof for any reasons whatsoever nor for any loss or damage arising in consequence of such delay or non-supply.

9. Railway Passes: No free Railway passes shall be issued by the RCIL to the Contractor or any of his employee/worker.

10. Carriage of Materials: No forwarding orders shall be issued by the RCIL for the conveyance of Contractor's materials, tools and plant by train which may be required for use in the works and the Contractor shall pay full freight charges at public tariff rates therefor.

11. Use of Ballast Trains: The Railway/ RCIL may agree to allow the Contractor use of the ballast or material trains under such conditions as shall be specially prescribed, provided that the Contractor shall pay for the use thereof charges calculated at public tariff rates on the marked carrying capacity of each vehicle subject to specified minimum charge per day or part of day and provided further that the Contractor shall indemnify the Railway/RCIL against any claims or damages arising out of the use or misuse thereof and against any liabilities under the Workmen's Compensation Act, 1923 or any statutory amendments thereto.

12. Representation on Works: The Contractor shall, when he is not personally present

on the site of the works place, keep a responsible agent at the works during working hours who shall on receiving reasonable notice, present himself to the Engineer and orders given by the Engineer or the Engineer's representative to the agent shall be deemed to have the same force as if they had been given to the Contractor. Before absenting himself, the Contractor shall furnish the name and address of his agent for the purpose of this clause and failure on the part of the Contractor to comply with this provision at any time will entitle the RCIL to rescind the contract under Clause 62 of these Conditions.

13. Relics and Treasures: All gold, silver, oil, other minerals of any description, all precious stones, coins, treasures Relics antiquities and other similar things which shall be found in or upon the site shall be the property of the Railway and the Contractor shall duly preserve the same to the satisfaction of the Railway and shall from time to time deliver the same to such person or persons as the RCIL may appoint to receive the same.

14. Excavated Material: The Contractor shall not sell or otherwise dispose of or remove except for the purpose of this contract, the sand, stone, clay ballast, earth, trees, rock or other substances or materials which may be obtained from any excavation made for the purpose of the works or any building or produced upon the site at the time of delivery of the possession thereof but all the substances, materials, buildings and produce shall be the property of the Railway provided that the Contractor may, with the permission of the Engineer, use the same for the purpose of the works either free of cost or pay the cost of the same at such rates as may be determined by the Engineer.

15. Indemnity by Contractors: The Contractor shall indemnify and save harmless the RAILTEL from and against all actions, suit, proceedings, losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against the RCIL's by reason of any act or omission of the Contractor, his agents or employees, in the execution of the works or in his guarding of the same. All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

16.(1) Security Deposit: The Security Deposit shall be 5% of the contract value. The Bid security (EMD) submitted by the Contractor with his tender will be retained/encashed by the RCIL as part of security for the due and faithful fulfillment of the contract by the Contractor. Provided further that, if Contractor submits the Cash or Term Deposit Receipt issued from a Scheduled commercial bank of India or irrevocable Bank Guarantee Bond from a Scheduled commercial bank of India, either towards the Full Security Depositor the Part Security Deposit equal to or more than Bid security (EMD), the RCIL shall return the Bid security (EMD), to the Contractor.

Balance of Security Deposit may be deposited by the Contractor in cash or Term Deposit Receipt issued from Scheduled commercial bank of India or irrevocable Bank Guarantee bond issued from Scheduled commercial bank of India, or may be recovered at the rate of 6% of the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Contractor, the RCIL may retain any amount due for payment to the Contractor on the pending "on account bills" so that the amounts so retained (including amount guaranteed through Performance Guarantee) may not exceed 10% of the total value of the contract.

The Irrevocable Bank Guarantee submitted towards Security deposit shall be initially valid up to the stipulated date of Maintenance period plus 60 days and shall be extended from time to time, depending upon extension of contract granted in terms of Clause 17A and 17B of the General Conditions of Contract.

Note: Security Deposit deposited in cash by the Contractor or recovered from the running bills of a Contractor or submitted by contractor as Term Deposit Receipt(s) can be

refunded/returned to the contractor, in lieu of irrevocable Bank Guarantee bond issued from scheduled commercial bank of India, to be submitted by him, for an amount equal to or more than the already available Security Deposit, provided however that, in a contract of value less than Rs. 50 Crore, such refund/ return of the already available Security Deposit is permitted up to two times and in a contract of value equal to or more than Rs. 50 Crore, such refund / return of the already available Security Deposit is permitted up to three times.

16.(2) (i) Refund of Security Deposit: Security Deposit mentioned in sub clause (1) above shall be returned to the Contractor along with or after, the following:

- (a) Final Payment of the Contract as per clause 51.(1) **and**
- (b) Execution of Final Supplementary Agreement or Certification by Engineer that RCIL has No Claim on Contractor **and**
- (c) Maintenance Certificate issued, on expiry of the maintenance period as per clause 50.(1), in case applicable.

16. (2) (ii) Forfeiture of Security Deposit: Whenever the contract is rescinded as a whole under clause 62 (1) of these conditions, the Security Deposit already with RCIL under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of these conditions, the Security Deposit shall not be forfeited.

16.(3) No interest shall be payable upon the Bid security (EMD) and Security Deposit or amounts payable to the Contractor under the Contract, but Government Securities deposited in terms of Sub-Clause 16.(4)(b) of this clause will be payable with interest accrued thereon.

16.(4) Performance Guarantee

The procedure for obtaining Performance Guarantee is outlined below:

- (a) The successful Tenderer shall have to submit a Performance Guarantee (PG) within 21 (Twenty one) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 21 (Twenty one) days and upto 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 12% per annum shall be charged for the delay beyond 21(Twenty one) days, i.e. from 22nd day after the date of issue of LOA. Further, if the 60th day happens to be a declared holiday in the concerned office of the RCIL, submission of PG can be accepted on the next working day.

In all other cases, if the Contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract is liable to be terminated. In case contract is terminated RCIL shall be entitled to forfeit Bid security (EMD) and other dues payable to the contractor against that particular contract, subject to maximum of PG amount. In case a tenderer has not submitted Bid security (EMD) on the strength of their registration as a Startup recognized by Department of Industrial Policy and Promotion (DIPP) under Ministry of Commerce and Industry, DIPP shall be informed to this effect.

The failed Contractor shall be debarred from participating in re-tender for that work.

- (b) The successful Tenderer shall submit the Performance Guarantee (PG) in any of the following forms, amounting to 5% of the original contract value:-
 - (i) A deposit of Cash;
 - (ii) Irrevocable Bank Guarantee;

- (iii) Government Securities including State Loan Bonds at 5% below the market value;
 - (iv) Pay Orders and Demand Drafts tendered by any Scheduled Commercial Bank of India;
 - (v) Guarantee Bonds executed or Deposits Receipts tendered by any Scheduled Commercial Bank of India;
 - (vi) Deposit in the Post Office Saving Bank;
 - (vii) Deposit in the National Savings Certificates;
 - (viii) Twelve years National Defence Certificates;
 - (ix) Ten years Defence Deposits;
 - (x) National Defence Bonds and
 - (xi) Unit Trust Certificates at 5% below market value or at the face value whichever is less. Also, FDR in favour of RailTel Corporation Of India Limited, New Delhi may be accepted.
- (c) The Performance Guarantee shall be submitted by the successful Tenderer after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid upto the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the Contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.
- (d) The value of PG to be submitted by the Contractor is based on original contract value and shall not change due to subsequent variation(s) in the original contract value.
- (e) The Performance Guarantee (PG) shall be Released after physical completion of the work based on 'Completion Certificate' issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily.
- (f) Whenever the contract is rescinded, the Performance Guarantee already submitted for the contract shall be encashed.
- (g) The Engineer shall not make a claim under the Performance Guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
- (i) Failure by the Contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.
 - (ii) Failure by the Contractor to pay President of India any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer.
- (iii) The Contract being determined or rescinded under clause 62 of these conditions.

17. Force Majeure Clause: If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of any war, hostility, acts of public enemy, civil commotion, sabotage, serious loss or damage by fire, explosions, epidemics/pandemics, strikes, lockouts or acts of God (hereinafter, referred to events) provided, notice of the happening of any such event is given by either party to the other within 30 days from the date of occurrence thereof, neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non-performance or delay in

performance, and works under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, and the decision of the Engineer as to whether the works have been so resumed or not shall be final and conclusive, PROVIDED FURTHER that if the performance in whole or in part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 120 days, either party may at its option terminate the contract by giving notice to the other party.

17A Extension of Time in Contracts: Subject to any requirement in the contract as to completion of any portion or portions of the works before completion of the whole, the Contractor shall fully and finally complete the whole of the works comprised in the contract (with such modifications as may be directed under conditions of this contract) by the date entered in the contract or extended date in terms of the following clauses:

- (i) **Extension due to Modification:** If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause thereof shall arise.
- (ii) **Extension for Delay not due to RAILTEL or Contractor:** If in the opinion of the Engineer, the progress of work has any time been delayed by any act or neglect of RCIL's employees or by other Contractor employed by the RCIL under Sub-Clause (4) of Clause 20 of these Conditions or in executing the work not forming part of the contract but on which Contractor's performance necessarily depends or by reason of proceeding taken or threatened by or dispute with adjoining or to neighbouring owners or public authority arising otherwise through the Contractor's own default etc. or by the delay authorized by the Engineer pending arbitration or in consequences of the Contractor not having received in due time necessary instructions from the Engineer for which he shall have specially applied in writing to the Engineer or his authorized representative then upon happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer within 15 days of such happening, but shall nevertheless make constantly his best endeavours to bring down or make good the delay and shall do all that may be reasonably required of him to the satisfaction of the Engineer to proceed with the works. The Contractor may also indicate the period for which the work is likely to be delayed and shall be bound to ask for necessary extension of time.
- (iii) **Extension for Delay due to RCIL:** In the event of any failure or delay by the RCIL to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the RCIL due to any other cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the Contractor to damages or compensation therefor, but in any such case, the RCIL may grant such extension or extensions of the completion date as may be considered reasonable.

The Contractor shall indicate the period for which the work is likely to be delayed and shall seek extension of time as may be considered necessary under clause 17A(i) or/and 17A(ii) or/ and 17A(iii) above, as soon as the cause thereof shall arise and, in any case, not less than one month before the expiry of the date fixed for completion of the works. The Engineer shall consider the same and shall grant and communicate such extension of time as in his opinion is reasonable having regard to the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for works so carried forward to the extended period of time; the same rates, terms and conditions of contract being applicable, as

if such extended period of time was originally provided in the original contract itself.

The non-submission of request for extension or submission of request within less than one month before the expiry of the date fixed for completion of the works, shall make him ineligible for extension under these sub clauses, subject to final decision of Engineer.

17B Extension of Time with Liquidated Damages (LD) for delay due to Contractor: The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed not later than the date(s) as specified in the contract. If the Contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in Clause 17 and 17A, the Engineer may, if satisfied that the works can be completed by the Contractor within reasonable short time thereafter, allow the Contractor for further extension of time (Proforma at Annexure-VII) as the Engineer may decide. On such extension the RCIL will be entitled without prejudice to any other right and remedy available on that behalf, to recover from the Contractor as agreed damages and not by way of penalty for each week or part of the week, a sum calculated at the following rates of the contract value of the works.

For the purpose of this Clause, the contract value of the works shall be taken as value of work as per contract agreement including any supplementary work order/contract agreement issued. Provided also, that the total amount of liquidated damages under this condition shall not exceed 5% of the contract value or of the total value of the item or groups of items of work for which a separate distinct completion period is specified in the contract.

S.No.	Duration of extension of time under Clause 17B	Rate of Liquidated Damages
(i)	Up to Twenty Five percent of original period of completion including period of extension of time granted under Section 17A(i)	As decided by Engineer, between 0.01% to 0.05% of contract value for each week or part of the week
(ii)	Above Twenty Five percent but upto Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)	0.10 % of contract value for each week or part of the week
(iii)	Above Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)	0.30 % of contract value for each week or part of the week

Provided further, that if the RCIL is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the RCIL shall be entitled without prejudice to any other right or remedy available in that behalf, to appropriate the contractor's Security Deposit and rescind the contract under Clause 62 of these Conditions, whether or not actual damage is caused by such default.

NOTE:

In a contract, where extension(s) of time have been allowed once under clause 17B, further request(s) for extension of time under clause 17A can also be considered under exceptional circumstances. Such extension(s) of time under clause 17A shall be without any Liquidated damages, but the Liquidated damages already recovered during extension(s) of time granted previously under clause 17B shall not be waived. However, Price variation during such extension(s) shall be dealt as applicable for extension(s) of time under clause 17B.

17C Bonus for Early Completion of Work: (Not Applicable)

18.(1) Illegal Gratification: Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner or agent or servant or anyone on his behalf, to any officer or employee of the RCIL or to any person on his behalf in Relation to obtaining or execution of this or any other contract with the RCIL shall, in addition to any criminal liability which he may incur, subject Contractor to the rescission of the contract and all other contracts with the RCIL and to the payment of any loss or damage resulting from such decision and the RCIL shall be entitled to deduct the amounts so payable from the Contractor's bills/Security Deposit or any other dues of Contractor with the RCIL.

18.(2) The Contractor shall not lend or borrow from or have or enter into any monetary dealings or transactions either directly or indirectly with any employee of the RCIL and if he shall do so, the RCIL shall be entitled forthwith to rescind the contract and all other contracts with the RCIL. Any question or dispute as to the commission of any such offence or compensation payable to the RCIL under this Clause shall be settled by the RCIL, in such a manner as he shall consider fit & sufficient and his decision shall be final & conclusive. In the event of rescission of the contract under this Clause, the Contractor will not be paid any compensation whatsoever except payments for the work done upto the date of rescission.

EXECUTION OF WORKS

19.(1) Contractor's understanding: It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the progress of the works, the general and local conditions, the labour conditions prevailing therein and all other matters which can in any way affect the works under the contract.

19.(2) Commencement of Works: The Contractor shall commence the works within 15 days after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without delay

19.(3) Accepted Programme of Work: The Contractor who has been awarded the work shall as soon as possible but not later than 30 days after the date of receipt of the acceptance letter in respect of contracts with initial completion period of two years or less or not later than 90 days for other contracts have to submit the detailed programme of work indicating the time schedule of various items of works in the form of Bar Chart/PERT/CPM. He shall also submit the details of organisation (in terms of labour and supervisors), plant and machinery that he intends to utilize (from time to time) for execution of the work within stipulated date of completion. The programme of work amended as necessary by discussions with the Engineer, shall be treated as the agreed programme of the work for the purpose of this contract and the Contractor shall endeavor to fulfill this programme of work. The progress of work will be watched accordingly and the liquidated damages will be with reference to the overall completion date. Nothing stated herein shall preclude the Contractor in achieving earlier completion of item or whole of the works than indicated in the programme.

In Contracts for works of New Line/Gauge Conversion/Doubling/Railway Electrification, finalized through Tenders having advertised value more than Rs.50crores, the Contractor shall submit a detailed time programme to the Engineer within 30 days after issue of LOA. The program shall include the physical and Financial Progress vis-à-vis program and forecast cash flow adopting Project Management Software such as **Primavera/Sure Track/MS Project etc.** The program must identify the milestones, interface requirements and program reporting elements. The Contractor shall supply, free of cost one set of authorized software to

the Engineer and the soft copy of structured program for the project. This shall be updated every month. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress. Each programme shall include:

The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage, Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing, each of these stages for work by each Subcontractor, if any, the sequence and timing of inspections and tests specified in the Contract, and a supporting report which includes:

- a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
- details showing the Contractor's reasonable estimate for the number of each class of Contractor's Personnel & Equipment, required on the Site for each major stage.

Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Engineer shall be entitled to Rely upon the programme when planning their activities.

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer within 15 days in accordance with this Sub-Clause.

19.(4) Setting out of Works: The Contractor shall be responsible for the correct setting out of all works in Relation to original points, lines and levels of reference at his cost. The Contractor shall execute the work true to alignment, grade, levels and dimensions as shown in the drawing and as directed by the Engineer's representative and check these at frequent intervals. The Contractor shall provide all facilities like labour and instruments and shall co-operate with the Engineer's representative for checking of all alignment, grades, levels and dimensions. If, at any time, during the progress of the works any error appear or arise in any part of the work, the Contractor, on being required so to do by the Engineer's representative shall, at his own cost rectify such errors, to the satisfaction of the Engineer's representative.

Such checking shall not absolve the Contractor of his own responsibility of maintaining accuracy in the work. The Contractor shall carefully protect and preserve all bench marks, sight rails, pegs and other things used in setting out the work.

20.(1) Compliance to Engineer's Instructions: The Engineer shall direct the sequence in which the several parts of the works shall be executed and the Contractor shall execute without delay all orders given by the Engineer from time to time; but the Contractor shall not be Relieved thereby from responsibility for the due performance of the works in all respects.

20.(2) Alterations to be Authorized: No alterations in or additions to or omissions or abandonment of any part of the works shall be deemed authorised, except under written instructions from the Engineer.

20.(3) Extra Works: Should works over and above those included in the contract require to be executed at the site, the Contractor shall have no right to be entrusted with the execution of such works which may be carried out by another Contractor or Contractors or by other means at the option of the RCIL.

20.(4) Separate Contracts in Connection with Works: The RCIL shall have the right to let other contracts in connection with the works. The Contractor shall afford other Contractors reasonable opportunity for the storage of their materials and the execution of their works and shall properly connect and coordinate his work with theirs. If any part of the Contractor's work depends upon proper execution or result upon the work of another Contractor(s), the Contractor shall inspect and promptly report to the Engineer any defects in such works that render it unsuitable for such proper execution and results. The Contractor's failure so-to inspect and report shall constitute an acceptance of the other Contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other Contractor's work after the execution of his work.

21. Instruction of Engineer's Representative: Any instructions or approval given by the Engineer's representative to Contractor in connection with the works shall bind the Contractor as though it had been given by the Engineer provided always as follows:

- (a) Failure of the Engineer's representative to disapprove any work or materials shall not prejudice the power of the Engineer thereafter to disapprove such work or material and to order the removal or breaking up thereof.
- (b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's representative, he shall be entitled to refer the matter to the Engineer who shall there upon confirm or vary such decision.

22.(1) Adherence to Specifications and Drawings: The site and the detailed drawings shall be made available to the contractor commensurate with the accepted programme of work submitted under clause 19(3). The whole of the works shall be executed in perfect conformity with the specifications and drawings of the contract. If Contractor performs any works in a manner contrary to the specifications or drawings or any of them and without such reference to the Engineer, he shall bear all the costs arising or ensuing therefrom and shall be responsible for all loss to the RCIL.

22.(2) Drawings and Specifications of the Works: The Contractor shall keep one copy of Drawings and Specifications at the site, in good order, and such contract documents as may be necessary, available to the Engineer or the Engineer's Representative.

22.(3) Ownership of Drawings and Specifications: All Drawings and Specifications and copies thereof furnished by the RCIL to the Contractor are deemed to be the property of the RCIL. They shall not be used on other works and with the exception of the signed contract set, shall be returned by the Contractor to the RCIL on completion of the work or termination of the Contract.

22.(4) Compliance with Contractor's Request for Details: The Engineer shall furnish with reasonable promptness, after receipt by him of the Contractor's request, additional instructions by means of drawings or otherwise, necessary for the proper execution of the works or any part thereof. All such drawings and instructions shall be consistent with the Contract Documents and reasonably inferable there from.

22.(5) Meaning and Intent of Specification and Drawings: If any ambiguity arises as to the meaning and intent of any portion of the Specifications and Drawings or as to execution or quality of any work or material, or as to the measurements of the works the decision of the Engineer thereon shall be final subject to the appeal (within 7 days of such decision being intimated to the Contractor) to the RCIL who shall have the power to correct any errors, omissions, or discrepancies in aforementioned items and whose decision in the matter in dispute or doubt shall be final and conclusive.

23. Working during Night: The Contractor shall not carry out any work between sun-set and sun-rise without the previous permission of the Engineer. However, if the Engineer is satisfied that the work is not likely to be completed in time except by resorting to night work, he may order the same without confirming any right on the Contractor for claiming any extra payment for the same.

24. Damage to Railway/RAILTEL Property or Private Life and Property: The Contractor shall be responsible for all risk to the work and for trespass and shall make good at his own expense all loss or damage whether to the works themselves or to any other property of the Railway/RAILTEL or the lives, persons or property of others from whatsoever cause in connection with the works until they are taken over by the RCIL, although all reasonable and proper precautions may have been taken by the Contractor. In case the RCIL shall be called upon to make good any costs, loss or damages, or to pay any compensation, including that payable under the provisions of the Workmen's Compensation Act or any statutory amendments thereof to any person or persons sustaining damages as aforesaid by reason of any act, or any negligence or omissions on the part of the Contractor; the amount of any costs or charges including costs and charges in connection with legal proceedings, which the RCIL may incur in reference thereto, shall be charged to the Contractor. The RCIL shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings or in anticipation of legal proceedings being instituted consequent on the action or default of the Contractor, to take such steps as may be considered necessary or desirable to ward off or mitigate the effect of such proceedings, charging to Contractor, as aforesaid; any sum or sums of money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such payment, defence or compromise, and the incurring of any such expenses shall not be called in question by the Contractor.

25. Sheds, Storehouses and Yards: The Contractor shall at his own expense provide himself with sheds, storehouses and yards in such situations and in such numbers as in the opinion of the Engineer is requisite for carrying on the works and the Contractor shall keep at each such sheds, storehouses and yards a sufficient quantity of materials and plant in stock as not to delay the carrying out of the works with due expedition and the Engineer and the Engineer's representative shall have free access to the said sheds, store houses and yards at any time for the purpose of inspecting the stock of materials or plant so kept in hand, and any materials or plant which the Engineer may object to shall not be brought upon or used in the works, but shall be forthwith removed from the sheds, storehouses or yards by the Contractor. The Contractor shall at his own expenses provide and maintain suitable mortar mills, soaking

vats or any other equipments necessary for the execution of the works.

26. Provision of Efficient and Competent Staff at Work Sites by the Contractor:

26.1 The Contractor shall place and keep on the works at all times efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound & proper manner and shall employ only such supervisors, workmen & labourers in or about the execution of any of these works as are careful and skilled in the various trades.

26.2 The Contractor shall at once remove from the works any agents, permitted sub-contractor, supervisor, workman or labourer who shall be objected to by the Engineer and if and whenever required by the Engineer, he shall submit a correct return showing the names of all staff and workmen employed by him.

26.3 In the event of the Engineer being of the opinion that the Contractor is not employing on the works a sufficient number of staff and workmen as is necessary for proper completion of the works within the time prescribed, the Contractor shall forthwith on receiving intimation to this effect deploy the additional number of staff and labour as specified by the Engineer within seven days of being so required and failure on the part of the Contractor to comply with such instructions will entitle the RCIL to rescind the contract under Clause 62 of these conditions.

26A. Deployment of Qualified Engineers at Work Sites by the Contractor:

26A.1 The Contractor shall also employ qualified Graduate Engineer(s) or equivalent, or qualified Diploma Engineer(s), as prescribed in the tender documents.

26A.2 In case the Contractor fails to employ the Engineer, as aforesaid in Para 26A.1, he shall be liable to pay liquidated damages at the rates, as prescribed in the tender documents.

26A.3 No. of qualified Engineers required to be deployed by the Contractor for various activities contained in the works contract shall be specified in the tender documents as 'Special Condition of Contract'.

27.(1) Workmanship and Testing: The whole of the works and/or supply of materials specified and provided in the contract or that may be necessary to be done in order to form and complete any part thereof shall be executed in the best and most substantial workman like manner with materials of the best and most approved quality of their respective kinds, agreeable to the particulars contained in or implied by the specifications and as referred to in and represented by the drawings or in such other additional particulars, instructions and drawings given during the carrying on of the works and to the entire satisfaction of the Engineer according to the instructions and directions which the Contractors may from time to time receive from the Engineer. The materials may be subjected to tests by means of such machines, instruments and appliances as the Engineer may direct and wholly at the expense of the Contractor.

27.(2) Removal of Improper Work and Materials: The Engineer or the Engineer's Representative shall be entitled to order from time to time:

(a) The removal from the site, within the time specified in the order, of any materials which in his opinion are not in accordance with the specifications or drawings.

(b) The substitution of proper and suitable materials, and

(c) the removal and proper re-execution, notwithstanding any previous tests thereof or on account payments therefor, of any work which in respect of materials or workmanship is not in his opinion in accordance with the specifications and in case of default on the part of the Contractor in carrying out such order, the RCIL shall be entitled to rescind the contract under Clause 62 of these conditions.

(d) The provision of Construction and Demolition Waste Management Rule 2016 issued by Ministry of Environment Forest and Climate Change dated 29.03.2016 and published in the

Gazette of India, Part – II, Section -3, Sub-section (ii) are binding upon the Contractor. Contractor shall implement these provisions at worksites, for which no extra payment will be payable.

28. Facilities for Inspection: The Contractor shall afford the Engineer and the Engineer's Representative every facility for entering in and upon every portion of the work at all hours for the purpose of inspection or otherwise and shall provide all labour, materials, planks, ladders, pumps, appliances and things of every kind required for the purpose and the Engineer and the Engineer's Representative shall at all times have free access to every part of the works and to all places at which materials for the works are stored or being prepared.

29. Examination of Work before Covering Up: The Contractor shall give 7 days' notice to the Engineer or the Engineer's Representative whenever any work or materials are intended to be covered up in the earth, in bodies or wall

Is or otherwise to be placed beyond the reach of measurements in order that the work may be inspected or that correct dimensions may be taken before being so covered, placed beyond the reach of measurement in default whereof, the same shall at the option of the Engineer or the Engineer's Representative be uncovered and measured at the Contractor's expense or no allowance shall be made for such work or materials.

30. Temporary Works: All temporary works necessary for the proper execution of the works shall be provided and maintained by the Contractor and subject to the consent of the Engineer shall be removed by him at his expenses when they are no longer required and in such manner as the Engineer shall direct. In the event of failure on the part of the Contractor to remove the temporary works, the Engineer will cause them to be removed and cost as increased by supervision and other incidental charges shall be recovered from the Contractor. If temporary huts are provided by the Contractor on the Railway land for labour engaged by him for the execution of works, the Contractor shall arrange for handing over vacant possession of the said land after the work is completed; if the Contractor's labour refuse to vacate, and have to be evicted by the RCIL, necessary expenses incurred by the RCIL in connection therewith shall be borne by the Contractor.

31.(1) Contractor to Supply Water for Works: Unless otherwise provided in the Contract, the Contractor shall be responsible for the arrangements to obtain supply of water necessary for the works.

31.(2) Water Supply from Railway System: The Railway may supply to the Contractor part or whole of the quantity of the water required for the execution of works from the Railway's existing water supply system at or near the site of works on specified terms and conditions and at such charges as shall be determined by the Railway and payable by the Contractor, provided that the Contractor shall arrange, at his own expense, to effect the connections and lay additional pipelines and accessories on the site and that the Contractor shall not be entitled to any compensation for interruption or failure of the water supply.

31.(3) Water Supply by Railway Transport: In the event of the Railway arranging supply of water to the Contractor at or near the site of works by travelling water tanks or other means, the freight and other charges incurred thereby, including demurrage charges that may be levied, shall be paid by the Contractor in addition to the charges referred to in Sub-Clause (2) of the Clause provided that the Contractor shall not be entitled to any compensation for interruption or failure of the water supply.

31.(4)(a) Contractor to Arrange Supply of Electric Power for Works: Unless otherwise provided in the contract, the Contractor shall be responsible for arrangements to obtain supply of Electric Power for the works.

(b) Electric Supply from the Railway System: The Railway may supply to the Contractor part or whole of the electric power wherever available and possible, required for execution of

works from the Railway's existing electric supply systems at or near the site of works on specified terms and conditions and such charges as shall be determined by the Railway and payable by the Contractor provided the cost of arranging necessary connections to the Railway's Electric Supply systems and laying of underground/overhead conductor, circuit protection, electric power meters, transmission structure, shall be borne by the Contractor and that the Contractor shall not be entitled to any compensation for interruption or failure of the Electric supply system.

32. Property in Materials and Plant: The materials and plant brought by the Contractor upon the site or on the land occupied by the Contractor in connection with the works and intended to be used for the execution thereof shall immediately be deemed to be the property of the Railway. Such of them as during the progress of the works are rejected by the Engineer under Clause 25 of these conditions or are declared by him not to be needed for the execution of the works or such as on the grant of the certificate of completion remain unused shall immediately on such rejection, declaration or grant cease to be deemed the property of the Railway and the Contractor may then (but not before) remove them from the site or the said land. This clause shall not in any way diminish the liability of the Contractor nor shall the Railway be in any way answerable for any loss or damage which may happen to or in respect of any such materials or plant either by the same being lost, stolen, injured or destroyed by fire, tempest or otherwise.

33.(1) Tools, Plant and Materials Supplied by Railway/RCIL: The Contractor shall take all reasonable care of all tools, plant and materials or other property whether of a like description or not belonging to the Railway/RCIL and committed to his charge for the purpose of the works and shall be responsible for all damage or loss caused by him, his agents, permitted sub-contractor, or his workmen or others while they are in his charge. The Contractors shall sign accountable receipts for tools, plants and materials made over to him by the Engineer and on completion of the works shall hand over the unused balance of the same to the Engineer in good order and repair, fair wear and tear excepted, and shall be responsible for any failure to account for the same or any damage done thereto.

33.(2) Hire of RCIL's Plant: The Railway may hire to the Contractor such plant as concrete mixers, compressors and portable engines for use during execution of the works on such terms as may be specified in the special conditions or in a separate agreement for Hire of Plant.

34.(1) Precaution During Progress of Works: During the execution of works, unless otherwise specified, the Contractor shall at his own cost provide the materials for and execute all shoring, timbering and strutting works as is necessary for the stability and safety of all structures, excavations and works and shall ensure that no damage, injury or loss is caused or likely to be caused to any person or property.

34.(2) Roads and Water Courses: Existing roads or water courses shall not be blocked cut through, altered, diverted or obstructed in any way by the Contractor, except with the permission of the Engineer. All compensations claimed for any unauthorized closure, cutting through, alteration, diversion or obstruction to such roads or water courses by the Contractor or his agent or his staff shall be recoverable from the Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India.

34.(3) Provision of Access to Premises: During progress of work in any street or thoroughfare, the Contractor shall make adequate provision for the passage of traffic, for securing safe access to all premises approached from such street or thoroughfare and for any drainage, water supply or means of lighting which may be interrupted by reasons of the execution of the works and shall erect and maintain at his own cost barriers, lights and other safeguards as prescribed by the Engineer, for the regulation of the traffic, and provide watchmen necessary to prevent accidents. The works shall in such cases be executed night and day, if so

ordered by the Engineer and with such vigour so that the traffic way be impeded for as short a time as possible.

34.(4) Safety of Public: The Contractor shall be responsible to take all precautions to ensure the safety of the public whether on public or Railway/RCIL's property and shall post such look out men as may, in the opinion of the Engineer, be required to comply with regulations appertaining to the work. Contractor shall ensure placement of barricading / partitions at the place of work to ensure safety of habitants of adjacent area, failing which Engineer may advise stoppage of work as per his discretion.

34.(5) Display Board: The Contractor shall be responsible for displaying the details of works i.e. name of work, approximate cost, expected date of completion, name and address of the Contractor and address of Engineer on a proper steel Board of size not less than 1m x 1m.

35. Use of Explosives: Explosives shall not be used on the works or on the site by the Contractor without the permission of the Engineer and then also only in the manner and to the extent to which such permission is given. Where explosives are required for the works, they shall be stored in a special magazine to be provided by and at the cost of the Contractor in accordance with the Explosive Rules. The Contractor shall obtain the necessary license for the storage and the use of explosives. All operations in which or for which explosives are employed shall be at the sole risk and responsibility of the Contractor and the Contractor shall indemnify the RCIL in respect thereof.

36.(1) Suspension of Works: The Contractor shall on the order of the Engineer, suspend the progress of the works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension properly protect and secure the work so far as is necessary in the opinion of the Engineer. If such suspension is:

- (a) Provided for in the contract, or
- (b) Necessary for the proper execution of the works or by the reason of weather conditions or by some default on the part of the Contractor, and or
- (c) Necessary for the safety of the works or any part thereof, or
- (d) Necessary for the safety of adjoining public or other property or safety of the public or workmen or those who have to be at the site, or
- (e) Necessary to avoid disruption of traffic and utilities, as also to permit fast repair and restoration of any damaged utilities, or
- (f) Due to instruction of The National Green Tribunal or any other statutory authority due to high level of pollution in the city of worksite.

36.(2) The Contractor shall not be entitled to the extra costs, if any, incurred by him during the period of suspension of the works, but in the event of any suspension ordered by the Engineer for reasons other than aforementioned and when each such period of suspension exceeds 14 days, the Contractor shall be entitled to such extension of time for completion of the works as the Engineer may consider proper having regard to the period or periods of such suspensions and to such compensations as the Engineer may consider reasonable in respect of salaries or wages paid by the Contractor to his employees during the periods of such suspension.

36.(3) Suspension Lasting More than 3 Months: If the progress of the works or any part thereof is suspended on the order of the Engineer for more than three months at a time, the Contractor may serve a written notice on the Engineer requiring permission within 15 days from the receipt thereof to proceed with the works or that part thereof in regard to which progress is suspended and if such permission is not granted within that time the Contractor by further written notice so served may, but is not bound to, elect to treat the suspension where it affects part only of the works as an omission of such part or where it affects the whole of the works, as an abandonment of the contract by the RCIL.

37. Rates for Items of Works:

- (i) The rates, entered in the accepted Bill(s) of Quantities of the Contract are intended

to provide for works duly and properly completed in accordance with the General and Special (if any) Conditions of the Contract and the Specifications and drawings together with such enlargements, extensions, diminutions, reductions, alterations or additions as may be ordered in terms of Clause 42 of these conditions and without prejudice to the generality thereof and shall be deemed to include and cover superintendence and labour, supply, including full freight of materials, stores, patterns, profiles, moulds, fittings, centerings, scaffolding, shoring props, timber, machinery, barracks, tackle, roads, pegs, posts, tools and all apparatus and plant required on the works, except such tools, plant or materials as may be specified in the contract to be supplied to the Contractor by the RCIL, the erection, maintenance and removal of all temporary works and buildings, all watching, lighting, bailing, pumping and draining, all prevention of or compensation for trespass, all barriers and arrangements for the safety of the public or of employees during the execution of works, all sanitary and medical arrangements for labour camps as may be prescribed by the RCIL, the setting of all work and of the construction, repair and upkeep of all center lines, bench marks and level pegs thereon, site clearance, all fees duties, royalties, rent and compensation to owners for surface damage or taxes and impositions payable to local authorities in respect of land, structures and all material supplied for the work or other duties or expenses for which the Contractor may become liable or may be put to under any provision of law for the purpose of or in connection with the execution of the contract and all such other incidental charges or contingencies as may have been specially provided for in the Specifications.

However, if rates of existing GST or cess on GST for Works Contract is increased or any new tax /cess on Works Contract is imposed by Statute after the date of opening of tender but within the original date of completion/date of completion extended under clause 17 & 17A and the Contractor thereupon properly pays such taxes/cess, the Contractor shall be reimbursed the amount so paid.

Further, if rates of existing GST or cess on GST for Works Contract is decreased or any tax/cess on Works Contract is decreased / removed by Statute after the date of opening of tender, the reduction in tax amount shall be recovered from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India.

38. Demurrage and Wharfage Dues: Demurrage charges calculated in accordance with the scale in force for the time being on the Railway and incurred by the Contractor failing to load or unload any goods or materials within the time allowed by the Railway for loading as also wharfage charges, of materials not removed in time, as also charges due on consignments booked by or to him shall be paid by the Contractor, failing which such charges shall be debited to the Contractor's account in the hands of the RCIL and shall be deducted from any sums which may become due to him in terms of the contracts.

39.(1) Rates for Extra Item(s) of Works:

(a) Standard Schedule of Rates (SSOR) Items: Any item of work carried out by the Contractor on the instructions of the Engineer which is not included in the accepted Bill(s) of Quantities but figures in the Standard Schedule of Rates (SSOR), shall be executed at the rates set forth in the "Standard Schedule of Rates (SSOR)" modified by the tender percentage as accepted in the contract for that chapter of Standard Schedule of Rates (SSOR). However, the cumulative value of all such extra item(s) together (modified by the respective tender percentage) shall not exceed 10 % of the original contract value.

For item(s) not covered in this sub clause, the rate shall be decided as agreed upon between the Engineer and the Contractor before the execution of such items of work as per sub clause (b).

(b) Other Items: For any item of work to be carried out by the Contractor but not included in

the accepted Bill(s) of Quantities and also not covered under sub clause (a) above, the Contractor shall be bound to notify the Engineer at least seven days before the necessity arises for the execution of such items of works that the accepted Bill(s) of Quantities does not include rate or rates for such extra work involved. The rates payable for such items shall be decided at the meeting to be held between the Engineer and Contractor, in as short a period as possible after the need for the special item has come to the notice. In case the Contractor fails to attend the meeting after being notified to do so or in the event of no settlement being arrived at, the RAILTEL shall be entitled to execute the extra works by other means and the Contractor shall have no claim for loss or damage that may result from such procedure.

The assessment of rates for extra item(s) shall be arrived at based on the prevailing market rates of labour, machinery & materials and by taking guidance from the following documents in order of priority:

- i. Analysis of Rates for “Unified Standard Schedule of Rates of Indian Railways (USSOR)”
- ii. Analysis of Rates for “Delhi Schedule of Rates issued by CPWD (DSR)”
- iii. Market Analysis

39.(2) Provided that if the Contractor commences work or incurs any expenditure in regard thereto before the rates as determined and agreed upon as lastly hereunto fore-mentioned, then and in such a case the Contractor shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of determination of the rates as aforesaid according to the rates as shall be fixed by the Engineer. However, if the Contractor is not satisfied with the decision of the Engineer in this respect, he may appeal to the RCIL within 30 days of getting the decision of the Engineer, supported by analysis of the rates claimed. The RAILTEL's decision after hearing both the parties in the matter would be final and binding on the Contractor and the RCIL.

40.(1) Handing over of Works: The Contractor shall be bound to hand over the works executed under the contract to the Railway complete in all respects to the satisfaction of the Engineer. The Engineer shall determine the date on which the work is considered to have been completed, in support of which his certificate shall be regarded as sufficient evidence for all purposes. The Engineer shall determine from time to time, the date on which any particular section of the work shall have been completed, and the Contractor shall be bound to observe any such determination of the Engineer.

40.(2) Clearance of Site on Completion: On completion of the works, the Contractor shall clear away and remove from the site all constructional plant, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and works clean and in a workman like condition to the satisfaction of the Engineer. No final payment in settlement of the accounts for the works shall be paid, held to be due or shall be made to the, Contractor till, in addition to any other condition necessary for final payment, site clearance shall have been affected by him, and such clearance may be made by the Engineer at the expense of the Contractor in the event of his failure to comply with this provision within 7 days after receiving notice to that effect. Should it become necessary for the Engineer to have the site cleared at the expenses of the Contractor, the RCIL shall not be held liable for any loss or damage to such of the Contractor's property as may be on the site and due to such removal there from which removal may be affected by means of public sales of such materials and property or in such a way as deemed fit and convenient to the Engineer.

40A Offloading of Part(s) of Work: At the final stage of completion/ commissioning of work, in case the contractor fails to complete the final part(s) of the work and the value of such part(s)

of the work is limited to 5% of the original contract value, the Engineer may allow/decide for offloading of such part(s) of works, either after the Contractor's request in writing to do so or after serving a 14 (Fourteen) days suo-moto notice (as per annexure- VIIA), if the Engineer is of the opinion that :-

- (i) Such Offloading of works (up to 5% of original contract value) would enable successful completion of contract/work,
- (ii) Termination/ Part termination of the contract at this stage is not be in the interest of the RCIL/Railway work;, and
- (iii) The anticipated additional cost for execution of such works through other mode would not be substantial and can be recovered from the pending dues of the contractor;

The Contractor shall be informed, in due course, by the Engineer of the mode and cost of execution of such offloaded work through other agency(ies) (as per annexure- VIIB). The extra expenditure so incurred in execution of the offloaded work, shall be recovered from subsequent Bill(s) or any other dues of the Contractor, but not exceeding the value of Performance Guarantee available in the contract. There shall be no other repercussion of such offloading on execution of the balance contract. The Contractor shall have no claim on account of above mentioned offloading of works.

VARIATIONS IN EXTENT OF CONTRACT

41. Modification to Contract to be in Writing: In the event of any of the provisions of the contract required to be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the RCIL and the Contractor and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning, modifying, extending, reducing or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the RCIL unless and until the same is incorporated in a formal instrument and signed by the RCIL and the Contractor, and till then the RAILTEL shall have the right to repudiate such arrangements.

42.(1) Powers of Modification to Contract: The Engineer on behalf of the RCIL shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character position, site, quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof or to order any additional work to be done or any works not to be done and the Contractor will not be entitled, to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.

42.(2) (i) Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity of each individual item of the contract would be upto 25% of the quantity originally contracted, except in case of foundation work (in which no variation limit shall apply). However, the rates for the increased quantities shall be as per sub- para (iii) below.

(ii) The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever upto the limit of 25% variation in quantity of individual item of works.

(iii) In case an increase in quantity of an individual item by more than 25% of the agreement

quantity is considered unavoidable, then same shall be executed at following rates

- a. Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender;
- b. Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender;
- c. Variation in quantities of individual items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.
- d. Variation to quantities of Minor Value Item:
The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1 % of the total original contract value.
 - d.(i) Quantities operated upto and including 100% of the agreement quantity of the concerned minor value item, shall be paid at the rate awarded for that item in that particular tender;
 - d.(ii) Quantities operated in excess of 100% but upto 200% of the agreement quantity of the concerned minor value item, shall be paid at 98% of the rate awarded for that item in that particular tender;
 - d.(iii) Variation in quantities of individual minor value item beyond 200% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.

(iv) In case of earthwork items, the variation limit of 25% shall apply to the gross quantity of earthwork items and variation in the quantities of individual classifications of soil shall not be subject to this limit.

(v) As far as Standard Schedule of Rates (SSOR) items are concerned, the variation limit of 25% would apply to the value of SSOR schedule(s) as a whole and not on individual SSOR items. However, in case of Non Standard Schedule of Rates (SSOR) items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (single percentage rate or individual item rate).

42.(3) Valuation of Variations: The enlargements, extensions, diminution, reduction, alterations or additions referred to in Sub-Clause (2) of this Clause shall in no degree affect the validity of the contract; but shall be performed by the Contractor as provided therein and be subject to the same conditions, stipulations and obligations as if they had been originally and expressly included and provided for in the Specifications and Drawings and the amounts to be paid therefor shall be calculated in accordance with the accepted Bill(s) of Quantities. Any extra item(s)/quantities of work falling outside the purview of the provisions of Sub-Clause (2) above shall be paid for at the rates determined under Clause-39 of these Conditions.

CLAIMS

43.(1) Quarterly Statement of Claims: The Contractor shall prepare and furnish to the Engineer once in every quarter commencing from the month following the month of issue of Letter of Acceptance, an account giving full and detailed particulars of all claims for any additional expenses to which the Contractor may consider himself entitled to and of all extra or additional works ordered by the Engineer which he has executed during the preceding quarter and no claim for payment for such work will be considered which has not been included in such

particulars.

43.(2) Signing of "No Claim" Certificate : The Contractor shall not be entitled to make any claim whatsoever against the RCIL under or by virtue of or arising out of this contract, nor shall the RCIL entertain or consider any such claim, if made by the Contractor, after he shall have signed a "No Claim" Certificate in favour of the RCIL in such form as shall be required by the RCIL after the works are finally measured up. The Contractor shall be debarred from disputing the correctness of the items covered by "No Claim" Certificate or demanding a clearance to arbitration in respect thereof.

MEASUREMENTS, CERTIFICATES AND PAYMENTS

44. Quantities in Bill(s) of Quantities Annexed to Contract: The quantities set out in the accepted Bill(s) of Quantities with items of works quantified are the estimated quantities of the works and they shall not be taken as the actual and correct quantities of the work to be executed by the Contractor in fulfillment of his obligations under the contract.

45(i). Measurement of Works by RCIL: The Contractor shall be paid for the works at the rates in the accepted Bill(s) of Quantities and for extra works at rates determined under Clause 39 of these Conditions on the measurements taken by the Engineer or the Engineer's representative in accordance with the rules prescribed for the purpose by the RCIL. The quantities for items the unit of which in the accepted Bill(s) of Quantities is 100 or 1000 shall be calculated to the nearest whole number, any fraction below half being dropped and half and above being taken as one; for items the unit of which in the accepted Bill(s) of Quantities is single, the quantities shall be calculated to two places of decimals. Such measurements will be taken of the work in progress from time to time and at such intervals as in the opinion of the Engineer shall be proper having regard to the progress of works. The date and time on which 'on account' or 'final' measurements are to be made shall be communicated to the Contractor who shall be present at the site and shall sign the results of the measurements (which shall also be signed by the Engineer or the Engineer's representative) recorded in the official measurements book as an acknowledgement of his acceptance of the accuracy of the measurements. Failing the Contractor's attendance, the work may be measured up in his absence and such measurements shall, notwithstanding such absence, be binding upon the Contractor whether or not he shall have signed the measurement books provided always that any objection made by him to measurement shall be duly investigated and considered in the manner set out below:

(a) It shall be open to the Contractor to take specific objection to any recorded measurements or Classification on any ground within seven days of the date of such measurements. Any re-measurement taken by the Engineer or the Engineer's representative in the presence of the Contractor or in his absence after due notice has been given to him in consequence of objection made by the Contractor shall be final and binding on the Contractor and no claim whatsoever shall thereafter be entertained regarding the accuracy and Classification of the measurements.

(b) If an objection raised by the Contractor is found by the Engineer to be incorrect the Contractor shall be liable to pay the actual expenses incurred in measurements.

45(ii). Measurement of Works by Contractor's Authorized Representative (in case the contract provides for the same):

(a) The Contractor shall be paid for the works at the rates in the accepted Bill(s) of Quantities and for extra works at rates determined under Clause 39 of these Conditions on the measurements taken by the Contractor's authorized Engineer in accordance with the rules

prescribed for the purpose by the RCIL. The quantities for items the unit of which in the accepted Bill(s) of Quantities is 100 or 1000 shall be calculated to the nearest whole number, any fraction below half being dropped and half and above being taken as one; for items the unit of which in the accepted Bill(s) of Quantities is single, the quantities shall be calculated to two places of decimals. Such measurements will be taken of the work in progress from time to time. The date and time on which 'on account' or 'final' measurements are to be made shall be communicated to the Engineer.

The date and time of test checks shall be communicated to the Contractor who shall be present at the site and shall witness the test checks, failing the Contractor's attendance the test checks may be conducted in his absence and such test checks shall notwithstanding such absence be binding upon Contractor provided always that any objection made by Contractor to test check shall be duly investigated and considered in the manner set out below:

- (i) It shall be open to the Contractor to take specific objection to test checks of any recorded measurement within 7 days of date of such test checks. Any re-test check done by the concerned RCIL's authority in the presence of the Contractor or in his absence after due notice given to him in consequent of objection made by the Contractor shall be final and binding on the Contractor and no claim whatsoever shall thereafter be entertained regarding the accuracy and classification of the measurements.
- (ii) If an objection raised by the Contractor is found by the Engineer to be incorrect the Contractor shall be liable to pay the actual expenses incurred in measurements.

(b) Incorrect measurement, actions to be taken: If in case during test check or otherwise, it is detected by the Engineer that agency has claimed any exaggerated measurement or has claimed any false measurement for the works which have not been executed; amounting to variation of 5% or more of claimed gross bill amount, action shall be taken as following:

- (i) On first occasion of noticing exaggerated/ false measurement, Engineer shall recover liquidated damages equal to 10% of claimed gross bill value.
- (ii) On any next occasion of noticing any exaggerated/false measurement, RCIL shall recover liquidated damages equal to 15% of claimed gross bill value. In addition, the facility of recording of measurements by Contractor as well as Release of provisional payment shall be withdrawn. Once withdrawn, measurements shall be done by RCIL as per clause 45(i) above.

46.(1) "On-Account " Payments: The Contractor shall be entitled to be paid from time to time by way of "On-Account" payment only for such works as in the opinion of the Engineer he has executed in terms of the contract. All payments due on the Engineer's/Engineer's Representative's certificates of measurements or Engineer's certified "Contractor's authorized Engineer's measurements" shall be subject to any deductions which may be made under these presents and shall further be subject to, unless otherwise required by Clause 16 of these Conditions, a retention of six percent by way of Security Deposits, until the amount of Security Deposit by way of such retentions shall amount to 5% of the total value of the contract provided always that the Engineer may by any certificate make any correction or modification in any previous certificate which shall have been issued by him and that the Engineer may withhold any certificate, if the works or any part thereof are not being carried out to his satisfaction.

46.(2) Rounding off Amounts: The total amount due on each certificate shall be rounded off to the nearest rupee, i.e. sum less than 50 paise shall be omitted and sums of 50 paise and more upto ₹1 will be reckoned as ₹ 1.

46.(3) On Account Payments not Prejudicial to Final Settlement: "On-Account" payments made to the Contractor shall be without prejudice to the final making up of the accounts (except where measurements are specifically noted in the Measurement Book as "Final Measurements" and as such have been signed by the Contractor and Engineer/Engineer's Representative) and shall in no respect be considered or used as evidence of any facts stated in or to be inferred from such accounts nor of any particular quantity of work having been executed nor of the manner of its execution being satisfactory.

46.(4) Payment(s) of Advances - Not applicable

46.(5) Manner of Payment: Unless otherwise specified payments to the Contractor will be transferred electronically to his bank account.

46A. Price Variation Clause (PVC): Not Applicable

47. Maintenance of Works: The Contractor shall at all times during the progress and continuance of the works and also for the period of maintenance specified in the Tender Form after the date of issue of the certificate of completion by the Engineer or any other earlier date subsequent to the completion of the works that may be fixed by the Engineer, be responsible for and effectively maintain and uphold in good substantial, sound and perfect condition all and every part of the works and shall make good from time to time and at all times as often as the Engineer shall require, any damage or defect that may during the above period arise in or be discovered or be in any way connected with the works, provided that such damage or defect is not directly caused by errors in the contract documents, act of providence or insurrection or civil riot, and the Contractor shall be liable for and shall pay and make good to the RCIL or other persons legally entitled thereto whenever required by the Engineer so to do, all losses, damages, costs and expenses they or any of them may incur or be put or be liable to by reasons or in consequence of the operations of the Contractor or of his failure in any respect.

48.(1) Certificate of Completion of Works: As soon as in the opinion of the Engineer, the work has been completed and has satisfactorily passed any final test or tests that may be prescribed, the Engineer shall issue a certificate of completion duly indicating the date of completion in respect of the work and the period of maintenance of the work shall commence from the date of completion mentioned in such certificate. The certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the Contractor and that there is no due from the Contractor to RCIL against the contract concerned.

The Engineer may also issue such a certificate indicating date of completion with respect to any part of the work (before the completion of the whole of work), which has been both completed to the satisfaction of the Engineer and occupied or used by the Railway. When any such certificate is given in respect of part of a work, such part shall be considered as completed and the period of maintenance of such part shall commence from the date of completion mentioned in the completion certificate issued for that part of the work.

48.(2) Contractor not Absolved by Completion Certificate: The Certificate of Completion in respect of the works referred to in Sub-Clause (1) of this Clause shall not absolve the Contractor from his liability to make good any defects imperfections, shrinkages or faults which may appear during the period of maintenance specified in the tender arising in the opinion of the Engineer from materials or workmanship not in accordance with the drawings or

specifications or instruction of the Engineer, which defects, imperfections, shrinkages or faults shall upon the direction in writing of the Engineer be amended and made good by the Contractor at his own cost; and in case of default on the part of Contractor, the Engineer may employ labour and materials or appoint another Contractor to amend and make good such defects, imperfections, shrinkages and faults and all expenses consequent thereon and incidental thereto shall be borne by the Contractor and shall be recoverable from any moneys due to him under the contract.

48(3) Final Supplementary Agreement: After the work is completed or otherwise concluded by the parties with mutual consent, and taken over by the Railway as per terms and conditions of the contract agreement, and there is unequivocal no claim on either side under the Contract other than as mentioned in item 4 of Annexure XIV, the parties shall execute the Final Supplementary Agreement as per Annexure XIV.

49. Approval only by Maintenance Certificate: No certificate other than Maintenance Certificate, if applicable, referred to in Clause 50 of the Conditions shall be deemed to constitute approval of any work or other matter in respect of which it is issued or shall be taken as an admission of the due performance of the contract or any part thereof.

50.(1) Maintenance Certificate: The Contract shall not be considered as completed until a Maintenance Certificate, if applicable, shall have been signed by the Engineer stating that the works have been completed and maintained to his satisfaction. The Maintenance Certificate shall be given by the Engineer upon the expiration of the period of maintenance or as soon thereafter as any works ordered during such period pursuant to Sub Clause (2) to Clause 48 of these Conditions shall have been completed to the satisfaction of the Engineer, and full effect shall be given to this Clause notwithstanding the taking possession of or using the works or any part thereof by the RCIL.

The Competent Authority to issue above Maintenance Certificate shall be the authority who is competent to sign the contract. The Certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the Contractor and that there is no due from the Contractor to RCIL against the contract concerned

50.(2) Cessation of RAILTEL's Liability: The RCIL shall not be liable to the Contractor for any matter arising out of or in connection with the contract for execution of the works unless the Contractor has made a claim in writing in respect thereof before the issue of the Maintenance Certificate under this clause.

50.(3) Unfulfilled Obligations: Notwithstanding the issue of the Maintenance Certificate the Contractor and (subject to Sub-Clause (2) of this Clause) the RCIL shall remain liable for the fulfillment of any obligation incurred under the provision of the contract prior to the issue of the Maintenance Certificate which remains unperformed at the time such Certificate is issued and for the purposes of determining the nature and extent of any such obligations, the contract shall be deemed to remain in force between the parties thereto.

51.(1) Final Payment: On the Engineer's certificate of completion in respect of the works, adjustment shall be made and the balance of account based on the Engineer or the Engineer's representative's certified measurements or Engineer's certified "contractor's authorized engineer's measurements" of the total quantity of work executed by the Contractor upto the date of completion and on the rates accepted in Bill(s) of Quantities and for extra works on rates determined under Clause 39 of these Conditions shall be paid to the Contractor subject always to any deduction which may be made under these presents and further subject to the Contractor having signed delivered to the Engineer enclosing either a full account in detail of all claims he may have on the RCIL in respect of the works or having delivered No Claim Certificate and the Engineer having after the receipt of such account given a certificate in writing that such claims are not covered under excepted matter i.e. Clauses 7(j), 8, 18, 22(5), 39.1, 39.2, 40A, 43(2),

45(i)(a), 55, 55-A(5), 57, 57A, 61(1), 61(2) and 62(1), 63(iv) and 63.2.11 of the General Conditions of Contract or in any Clause (stated as excepted matter) of the Special Conditions of the Contract, that the whole of the works to be done under the provisions of the Contracts have been completed, that they have been inspected by him since their completion and found to be in good and substantial order, that all properties, works and things, removed, disturbed or injured in consequence of the works have been properly replaced and made good and all expenses and demands incurred by or made upon the RCIL for or in the respect of damage or loss by from or in consequence of the works, have been satisfied agreeably and in conformity with the contract.

51.(2) Post Payment Audit: It is an agreed term of contract that the RCIL reserves to itself the right to carry out a post-payment audit and/ or technical examination of the works and the Final Bill including all supporting vouchers, abstracts etc. and to make a claim on the Contractor for the refund of any excess amount paid to him till the Release of security deposit or settlement of claims, whichever is later, if as a result of such examination any over-payment to him is discovered to have been made in respect of any works done or alleged to have been done by him under the contract.

51-A. Production of Vouchers etc. by the Contractor:

- (i) For a contract of more than one crore of rupees, the Contractor shall, whenever required, produce or cause to be produced for examination by the Engineer any quotation, invoice, cost or other account, book of accounts, voucher, receipt, letter, memorandum, paper of writing or any copy of or extract from any such document and also furnish information and returns verified in such manner as may be required in any way Relating to the execution of this contract or Relevant for verifying or ascertaining cost of execution of this contract (the decision of the Engineer on the question of Relevancy of any documents, information or return being final and binding in the parties). The Contractor shall similarly produce vouchers etc., if required to prove to the Engineer, that materials supplied by him, are in accordance with the specifications laid down in the contract.
- (ii) If any portion of the work in a contract of value more than one crore of rupees be carried out by a sub-contractor or any subsidiary or allied firm or company (as per Clause 7 of the General Conditions of Contract), the Engineer shall have power to secure the books of such sub-contract or any subsidiary or allied firm or company, through the Contractor, and such books shall be open to his inspection.
- (iii) The obligations imposed by Sub Clause (i) & (ii) above is without prejudice to the obligations of the Contractor under any statute rules or orders binding on the Contractor.

52. Withholding and Lien in Respect of Sums Claimed: Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the Contractor, the RAILTEL shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any, deposited by the Contractor and for the purpose aforesaid, the RAILTEL shall be entitled to withhold the said cash Security Deposit or the Security if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the Contractor, the RCIL shall be entitled to withhold and have a lien to the extent of the such claimed amount or amounts referred to supra, from any sum or sums found payable or which at any time thereafter may become payable to the Contractor under the same contract or any other contract with this or any other Region of RCIL or any Department of the Central Government pending finalization or

adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above, by the RCIL will be kept withheld or retained as such by the RCIL till the claim arising out of or under the contract is determined by the arbitrator (if the contract governed by the Arbitration Clause) or by the competent court as the case may be and that the Contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the Contractor. For the purpose of this clause, where the Contractor is a partnership firm or a company, the RCIL shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner / company, as the case may be whether in his individual capacity or otherwise.

52-A Lien in Respect of Claims in other Contracts:

- (i) Any sum of money due and payable to the Contractor (including the Security Deposit returnable to him) under the contract may be withheld or retained by way of lien by the RAILTEL, against any claim of this or any other Region of RCIL or any other Department of the Central Government in respect of payment of a sum of money arising out of or under any other contract made by the Contractor with this or any other Region of RCIL or any other Department of the Central Government.
- (ii) However, recovery of claims of RCIL in regard to terminated contracts may be made from the Final Bill, Security Deposits and Performance Guarantees of other contract or contracts, executed by the Contractor. The Performance Guarantees submitted by the Contractor against other contracts, if required, may be withheld and encashed. In addition, 10% of each subsequent 'on-account bill' may be withheld, if required, for recovery of RAILTEL's dues against the terminated contract.
- (iii) It is an agreed term of the contract that the sum of money so withheld or retained under this Clause by the RCIL will be kept withheld or retained as such by the RCIL till the claim arising out of or under any other contract is either mutually settled or determined by arbitration, if the other contract is governed by Arbitration Clause or by the competent court as the case may be and Contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this Clause and duly notified as such to the Contractor.

53. Signature on Receipts for Amounts: Every receipt for money which may become payable or for any security which may become transferable to the Contractors under these presents, shall, if signed in the partnership name by anyone of the partners of a Contractor's firm be a good and sufficient discharge to the RCIL in respect of the moneys or security purported to be acknowledged thereby and in the event of death of any of the Contractor, partners during the pendency of the contract, it is hereby expressly agreed that every receipt by anyone of the surviving Contractor partners shall if so signed as aforesaid be good and sufficient discharge as aforesaid provided that nothing in this Clause contained shall be deemed to prejudice or effect any claim which the RCIL may hereafter have against the legal representative of any Contractor partner so dying for or in respect to any breach of any of the conditions of the contract, provided also that nothing in this clause contained shall be deemed to prejudice or effect the respective rights or obligations of the Contractor partners and of the

legal representatives of any deceased Contractor partners interse.

LABOUR

54. Wages to Labour: The Contractor shall be responsible to ensure compliance with the provision of the Minimum Wages Act, 1948 (hereinafter referred to as the “said Act”) and the Rules made thereunder in respect of any employees directly or through petty Contractors or sub-contractors employed by him for the purpose of carrying out this contract.

If, in compliance with the terms of the contract, the Contractor supplied any labour to be used wholly or partly under the direct orders and control of the RCIL whether in connection with any work being executed by the Contractor or otherwise for the purpose of the RCIL such labour shall, for the purpose of this Clause, still be deemed to be persons employed by the Contractor.

If any moneys shall, as a result of any claim or application made under the said Act be directed to be paid by the RCIL, such money shall be deemed to be moneys payable to the RCIL by the Contractor and on failure by the Contractor to repay the RCIL any moneys paid by it as aforesaid within seven days after the same shall have been demanded, the RCIL shall be entitled to recover the same from Contractor’s bills/Security Deposit or any other dues of Contractor with the Government of India.

54-A. Apprentices Act: The Contractor shall be responsible to ensure compliance with the provisions of the Apprentices Act, 1961 and the Rules and Orders issued thereunder from time to time in respect of apprentices directly or through petty Contractors or sub-contractors employed by him for the purpose of carrying out the Contract.

If the Contractor directly or through petty Contractors or sub-contractors fails to do so, his failure will be a breach of the contract and RCIL may, in its discretion, rescind the contract. The Contractor shall also be liable for any pecuniary liability arising on account of any violation of the provisions of the Act.

55. Provisions of Payments of Wages Act: The Contractor shall comply with the provisions of the Payment of Wages Act, 1936 and the rules made thereunder in respect of all employees employed by him either directly or through petty Contractors or sub-contractors in the works. If in compliance with the terms of the contract, the Contractor directly or through petty Contractors or sub-contractors shall supply any labour to be used wholly or partly under the direct orders and control of the Engineer whether in connection with the works to be executed hereunder or otherwise for the purpose of the Engineer, such labour shall nevertheless be deemed to comprise persons employed by the Contractor and any moneys which may be ordered to be paid by the Engineer shall be deemed to be moneys payable by the Engineer on behalf of the Contractor and the Engineer may on failure of the Contractor to repay such money to the RCIL deduct the same from any moneys due to the Contractor in terms of the contract. The RCIL shall be entitled to recover the same from Contractor’s bills/Security Deposit or any other dues of Contractor with the Government of India all moneys paid or payable by the RCIL by way of compensation of aforesaid or for costs of expenses in connection with any claim thereto and the decision of the Engineer upon any question arising out of the effect or force of this Clause shall be final and binding upon the Contractor.

55-A. Provisions of Contract Labour (Regulation and Abolition) Act, 1970:

55-A.(1) The Contractor shall comply with the provision of the contract labour (Regulation and Abolition) Act, 1970 and the Contract labour (Regulation and Abolition) Central Rules 1971 as modified from time to time, wherever applicable and shall also indemnify the RCIL from and against any claims under the aforesaid Act and the Rules.

55-A.(2) The Contractor shall obtain a valid license under the aforesaid Act as modified from

time to time before the commencement of the work and continue to have a valid license until the completion of the work. Any failure to fulfill the requirement shall attract the penal provision of the Act.

55-A.(3) The Contractor shall pay to the labour employed by him directly or through sub-contractors the wages as per provision of the aforesaid Act and the Rules wherever applicable. The Contractor shall notwithstanding the provisions of the contract to the contrary, cause to be paid the wages to labour, indirectly engaged on the works including any engaged by sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

55-A.(4) In respect of all labour directly or indirectly employed in the work for performance of the Contractor's part of the contract, the Contractor shall comply with or cause to be complied with the provisions of the aforesaid Act and Rules wherever applicable.

55-A.(5) In every case in which, by virtue of the provisions of the aforesaid Act or the rules, the RCIL is obliged to pay any amount of wages to a workman employed by the Contractor or his sub-contractor in execution of the work or to incur any expenditure on account of the contingent, liability of the RCIL due to the Contractor's failure to fulfill his statutory obligations under the aforesaid Act or the rules, the RCIL will recover from the Contractor, the amount of wages so paid or the amount of expenditure so incurred and without prejudice to the rights of the RCIL under the Section 20, Sub-Section (2) and Section 2, Sub-Section (4) of the aforesaid Act, the RCIL shall be at liberty to recover such amount or part thereof from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India. The RCIL shall not be bound to contest any claim made against it under Sub-Section (1) of Section 20 and Sub-Section (4) of Section 21 of the aforesaid Act except on the written request of the Contractor and upon his giving to the RCIL full security for all costs for which the RCIL might become liable in contesting such claim. The decision of the RCIL regarding the amount actually recoverable from the Contractor as stated above shall be final and binding on the Contractor.

55-B.Provisions of Employees Provident Fund and Miscellaneous Provisions Act, 1952:The Contractor shall comply with the provisions of Para 30 & 36-B of the Employees Provident Fund Scheme, 1952; Para 3 & 4 of Employees' Pension Scheme, 1995; and Para 7 & 8 of Employees Deposit Linked Insurance Scheme, 1976; as modified from time to time through enactment of "Employees Provident Fund & Miscellaneous Provisions Act, 1952", wherever applicable and shall also indemnify the RAILTEL from and against any claims under the aforesaid Act and the Rules.

55-C (i) Contractor is to abide by the provisions of various labour laws in terms of above clause 54, 55, 55-A and 55-B of the General Conditions of Contract. In order to ensure the same, an application has been developed and hosted on website 'www.shramikkalyan.indianrailways.gov.in'. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in public domain. The registration/ updation in Portal shall be done as under:

- (a) Contractor shall apply for onetime registration of his company/firm etc. in the Shramikkalyan portal with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the contractor's registration in the portal within 7 days of receipt of such request.
- (b) Contractor once approved by any Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all Letter of Acceptances (LoAs) issued in his favour.

- (c) The contractor once registered on the portal, shall provide details of his Letter of Acceptances (LoAs) / Contract Agreements on shramikkalyan portal within 15 days of issue of any LoA for approval of concerned Engineer. Engineer shall update (if required) and approve the details of LoA filled by contractor within 7 days of receipt of such request.
 - (d) After approval of LoA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on shramikkalyan portal on monthly basis.
 - (e) It shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour & payments made thereof after each wage period.
- (ii) While processing payment of any 'On Account Bill' or 'Final Bill' or Release of 'Advances' or 'Performance Guarantee / Security Deposit', contractor shall submit a certificate to the Engineer or Engineer's representatives that "I have uploaded the correct details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway's Shramikkalyan portal at 'www.shramikkalyan.indianrailways.gov.in' till ____Month, ____Year."

55-D. Provisions of "The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996" and "The Building and Other Construction Workers' Welfare Cess Act, 1996":

The tenderers, for carrying out any construction work, shall get themselves registered with the Registering Officer under Section-7 of the Building and Other Construction Workers Act, 1996 and Rules made thereto by the concerned State Govt., and submit Certificate of Registration issued by Registering Officer of the concerned State Govt. (Labour Dept.). The Cess shall be deducted from contractor's bills as per provisions of the Act.

56. Reporting of Accidents: The Contractor shall be responsible for the safety of all employees directly or through petty Contractors or sub-contractor employed by him on the works and shall report serious accidents to any of them however and wherever occurring on the works to the Engineer or the Engineers Representative and shall make every arrangement to render all possible assistance.

57. Provision of Workmen's Compensation Act: In every case in which by virtue of the provisions of Section 12 Sub-Section (1) of the Workmen's Compensation Act 1923, RCIL is obliged to pay compensation to a workman directly or through petty Contractor or sub-contractor employed by the Contractor in executing the work, RCIL will recover from the Contractor the amount of the compensation so paid, and, without prejudice to the rights of RCIL under Section 12 Sub-section (2) of the said Act, RCIL shall be at liberty to recover such amount or any part thereof from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India. RCIL shall not be bound to contest any claim made against it under Section 12 Sub-Section (1) of the said Act except on the written request of the Contractor and upon his giving to RCIL full security for all costs for which RCIL might become liable in consequence of contesting such claim.

57-A. Provision of Mines Act: The Contractor shall observe and perform all the provisions of the Mines Act, 1952 or any statutory modifications or re-enactment thereof for the time being in force and any rules and regulations made thereunder in respect of all the persons directly or through the petty Contractors or sub-contractors employed by him under this contract and shall

indemnify the RCIL from and against any claims under the Mines Act, or the rules and regulations framed thereunder, by or on behalf of any persons employed by him or otherwise.

58. RCIL not to Provide Quarters for Contractors: No quarters shall normally be provided by the RCIL for the accommodation of the Contractor or any of his staff employed on the work. In exceptional cases where accommodation is provided to the Contractor at the RCIL's discretion, recoveries shall be made at such rates as may be fixed by the RCIL for the full rent of the buildings and equipments therein as well as charges for electric current, water supply and conservancy.

59.(1) Labour Camps: The Contractor shall at his own expense make adequate arrangements for the housing, supply of drinking water and provision of latrines and urinals for his staff and workmen, directly or through the petty Contractors or sub-contractors and for temporary creche (Bal-Mandir) where 50 or more women are employed at a time. Suitable sites on Railway land, if available, may be allotted to the Contractor for the erection of labour camps, either free of charge or on such terms and conditions that may be prescribed by the Railway. All camp sites shall be maintained in clean and sanitary conditions by the Contractor at his own cost.

59.(2) Compliance to Rules for Employment of Labour: The Contractor(s) shall conform to all laws, bye-laws rules and regulations for the time being in force pertaining to the employment of local or imported labour and shall take all necessary precautions to ensure and preserve the health and safety of all staff employed directly or through petty contractors or sub-contractors on the works.

59.(3) Preservation of Peace: The Contractor shall take requisite precautions and use his best endeavours to

(i) Prevent any riotous or unlawful behaviour by or amongst his workmen and other employed directly or through the petty Contractors or sub-contractors on the works and for the preservation of peace and protection of the inhabitants and

(ii) Security of property in the neighbourhood of the works. In the event of the Railway requiring the maintenance of a Special Police Force at or in the vicinity of the site during the tenure of works, the expenses thereof shall be borne by the Contractor and if paid by the Railway/RAILTEL shall be recoverable from the Contractor.

59.(4) Sanitary Arrangements: The Contractor shall obey all sanitary rules and carry out all sanitary measures that may from time to time be prescribed by the Railway Medical Authority and permit inspection of all sanitary arrangements at all times by the Engineer, the Engineer's Representative or the Medical Staff of the Railway. Should the Contractor fail to make the adequate sanitary arrangements, these will be provided by the Railway and the cost thereof recovered from the Contractor.

59.(5) Outbreak of Infectious Disease: The Contractor shall remove from his camp such labour and their families as refuse protective inoculation and vaccination when called upon to do so by the Engineer or the Engineer's Representative on the advice of the Railway Medical Authority. Should cholera, plague, or other infectious disease break out, the Contractor shall burn the huts, beddings, clothes and other belongings of or used by the infected parties and promptly erect new huts on healthy sites as required by the Engineer, failing which within the time specified in the Engineer's requisition, the work may be done by the Railway and the cost thereof recovered from the Contractor.

59.(6) Treatment of Contractor's Staff in Railway Hospitals: The Contractor and his staff, other than labourers and their families requiring medical aid from the railway hospital and dispensaries will be treated as private patients and charged accordingly. The Contractors' labourers and their Families will be granted free treatment in railway hospitals and dispensaries where no other hospitals or dispensaries are available provided the Contractor pays the cost of medicines, dressing and diet money according to the normal scale and additional charges for

special examinations such as pathological and bacteriological examination, X-Ray, etc. and for surgical operation.

59. (7) Medical Facilities at Site: The Contractor shall provide medical facilities at the site as may be prescribed by the Engineer on the advice of the Railway Medical Authority in Relation to the strength of the Contractor's resident staff and workmen.

59. (8) Use of Intoxicants: The sale of ardent spirits or other intoxicating beverages upon the work or in any of the buildings, encampments or tenements owned, occupied by or within the control of the Contractor or any of his employees shall be forbidden and the Contractor shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.

59.(9) Restrictions on the Employment of Retired Engineers of Railway Services Within One Year of their Retirement: The Contractor shall not, if he is a retired Government Engineer of Gazetted rank, himself engage in or employ or associate a retired Government Engineer of Gazetted rank, who has not completed one year from the date of retirement, in connection with this contract in any manner whatsoever without obtaining prior permission of the President and if the Contractor is found to have contravened this provision it will constitute a breach of contract and administration will be entitled to terminate the contract and forfeit his Performance Guarantee as well as Security Deposit.

60.(1) Non-Employment of Labourers below the age of 15: The Contractor shall not employ children below the age of 15 as labourers directly or through petty Contractors or sub-contractors for the execution of work.

60.(2) Medical Certificate of Fitness for Labour: It is agreed that the Contractor shall not employ a person above 15 and below 19 years of age for the purpose of execution of work under the contract unless a medical certificate of fitness in the prescribed form (Proforma at Annexure-VIII) granted to him by a certifying surgeon certifying that he is fit to work as an adult, is obtained and kept in the custody of the Contractor or a person nominated by him in this behalf and the person carries with him, while at work; a token giving a reference to such certificate. It is further agreed that the responsibility for having the adolescent examined medically at the time of appointment or periodically till he attains the age of 19 years shall devolve entirely on the Contractor and all the expenses to be incurred on this account shall be borne by him and no fee shall be charged from the adolescent or his parent for such medical examination.

60.(3) Period of Validity of Medical Fitness Certificate: A certificate of fitness granted or renewed for the above said purposes shall be valid only for a period of one year at a time. The certifying surgeon shall revoke a certificate granted or renewed if in his opinion the holder of it, is no longer fit for work in the capacity stated therein. Where a certifying surgeon refuses to grant or renew a certificate or revoke a certificate, he shall, if so required by the person concerned, state his reasons in writing for doing so.

60.(4) Medical Re-Examination of Labourer: Where any official appointed in this behalf by the Ministry of Labour is of the opinion that any person employed in connection with the execution of any work under this contract in the age group 15 to 19 years is without a certificate of fitness or is having a certificate of fitness but no longer fit to work in the capacity stated in the certificate, he may serve on the Contractor, or on the person nominated by him in this regard, a notice requiring that such persons shall be examined by a certifying surgeon and such person shall not if the concerned official so directs, be employed or permitted to do any work under this contract unless he has been medically examined and certified that he is fit to work in the capacity stated in the certificate.

EXPLANATIONS:

- (1) Only Qualified Medical Practitioners can be appointed as "Certifying Surgeons" and the term "Qualified Medical Practitioners" means a person holding a qualification granted by

an authority specified in the Schedule to the Indian Medical Degrees Act, 1916 (VII to 1916) or in the Schedule to the Indian Medical Council Act, 1933 (XXVII) of 1933.

- (2) The Certifying surgeon may be a medical officer in the service of State or Municipal Corporation.

DETERMINATION OF CONTRACT

61.(1) Right of RAILTEL to Determine the Contract: The RCIL shall be entitled to determine and terminate the contract at any time should, in the RCIL's opinion, the cessation of work becomes necessary owing to paucity of funds or from any other cause whatever, in which case the value of approved materials at site and of work done to date by the Contractor will be paid for in full at the rate specified in the contract. Notice in writing from the RCIL of such determination and the reasons therefor shall be conclusive evidence thereof.

61.(2) Payment on Determination of Contract: Should the contract be determined under sub clause (1) of this clause and the Contractor claims payment for expenditure incurred by him in the expectation of completing the whole of the work, the RCIL shall admit and consider such claims as are deemed reasonable and are supported by vouchers to the satisfaction of the Engineer. The RCIL's decision on the necessity and propriety of such expenditure shall be final and conclusive.

61.(3) The Contractor shall have no claim to any payment of compensation or otherwise, howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of determination of contract.

62.(1) Determination of Contract owing to Default of Contractor:

If the Contractor should:

- (i) Becomes bankrupt or insolvent, or
- (ii) Make an arrangement for assignment in favour of his creditors, or agree to carry out the contract under a Committee of Inspection of his creditors, or
- (iii) Being a Company or Corporation, go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or
- (iv) Have an execution levied on his goods or property on the works, or
- (v) Assign the contract or any part thereof otherwise than as provided in Clause 7 of these Conditions, or
- (vi) Abandon the contract, or
- (vii) Persistently disregard the instructions of the Engineer, or contravene any provision of the contract, or
- (viii) Fail to adhere to the agreed programme of work by a margin of 10% of the stipulated period, or
- (ix) Fail to Execute the contract documents in terms of Para 8 of the Instructions to Tenderers.
- (x) Deleted
- (xi) Fail to remove materials from the site or to pull down and replace work after receiving from the Engineer notice to the effect that the said materials or works have been condemned or rejected under Clause 25 and 27 of these Conditions, or
- (xii) Fail to take steps to employ competent or additional staff and labour as required under Clause 26 of these Conditions, or
- (xiii) Fail to afford the Engineer or Engineer's representative proper facilities for inspecting the

- works or any part thereof as required under Clause 28 of these Conditions, or
- (xiv) Promise, offer or give any bribe, commission, gift or advantage either himself or through his partner, agent or servant to any officer or employee of the RCIL or to any person on his or on their behalf in Relation to the execution of this or any other contract with this RCIL.
 - (xv) Fail to adhere to the provisions of Para 16 of Tender Form (Second Sheet) of Annexure I of the Instructions to Tenderers, or provision Clause 59(9) of these Conditions.
 - (xvi) Submits copy of fake documents / certificates in support of credentials, submitted by the tenderer

Then and in any of the **said Clause**, the Engineer on behalf of the RCIL may serve the Contractor with a notice (Proforma at Annexure-IX) in writing to that effect and if the Contractor does not within seven days after the delivery to him of such notice proceed to make good his default in so far as the same is capable of being made good and carry on the work or comply with such directions as aforesaid of the entire satisfaction of the Engineer, the RCIL shall be entitled after giving 48 hours' notice (Proforma at Annexure-X or XII, as the case may be) in writing under the hand of the Engineer to rescind the contract as a whole or in part or parts (as may be specified in such notice) and after expiry of 48 hours' notice, a final termination notice (Proforma at Annexure-XI or XIII, as the case may be) should be issued.

Note: Engineer at his discretion may resort to the part termination of contract with notices (Proforma at Annexure- IX, XII and XIII), only in cases where progress of work is more than or equal to 80% of the original scope of work.

62.(2) Right of RAILTEL after Rescission of Contract owing to Default of Contractor: In the event of any or several of the courses, referred to in Sub-Clause (1) of this Clause, being adopted:

(a) The Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any commitments or made any advances on account of or with a view to the execution of the works or the performance of the contract and Contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under the contract unless and until the Engineer shall have certified the performance of such work and the value payable in respect thereof and the Contractor shall only be entitled to be paid the value so certified.

(b) In the contract which has been rescinded as a whole, the Security Deposit already with RCIL under the contract shall be encashed/ forfeited and the Performance Guarantee already submitted for the contract shall be encashed. The balance work shall be got done independently without risk & cost of the failed Contractor. The failed Contractor shall be debarred from participating in the tender for executing the balance work. If the failed Contractor is a Partnership firm, then every partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV /partnership firm.

Further the authorized representative of failed Contractor cannot be accepted as authorized representative in new contract.

(c) In the contract rescinded in part or parts,

(i) The full Performance Guarantee available for the contract shall be recovered. No additional Performance Guarantee shall be required for balance of work being executed through the part terminated contract. The contract value of part terminated contract stands reduced to the balance value of work under the contract.

(ii) The Security Deposit of part terminated contract shall be dealt as per clause 16(2) of these Conditions.

(iii) The defaulting Contractor shall not be issued any completion certificate for the contract.

- (iv) The balance work shall be got done independently without risk & cost of the failed Contractor. The failed Contractor shall be debarred from participating in the tender for executing the balance work. If the failed Contractor is a Partnership firm, then every
- (v) partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV /partnership firm.
- (v) Further the authorized representative of failed Contractor will not be accepted as authorized representative in new contract.
- (d) The Engineer or the Engineer's Representative shall be entitled to take possession of any materials, tools, implements, machinery and buildings on the works or on the property on which these are being or ought to have been executed, and to retain and employ the same in the further execution of the works or any part thereof until the completion of the works without the Contractor being entitled to any compensation for the use and employment thereof or for wear and tear or destruction thereof.
- (e) The Engineer shall as soon as may be practicable after removal of the Contractor fix and determine ex-parte or by or after reference to the parties or after such investigation or enquiries as he may consider fit to make or institute and shall certify what amount (if any) had at the time of rescission of the contract been reasonably earned by or would reasonably accrue to the Contractor in respect of the work then actually done by him under the contract and what was the value of any unused, or partially used materials, any constructional plant and any temporary works upon the site. The legitimate amount due to the Contractor after making necessary deductions and certified by the Engineer should be Released expeditiously.

SETTLEMENT OF DISPUTES

63. Conciliation of Disputes:

- (i) This clause is applicable in the tender having advertised value less than or equal to Rs 50 Crore.
- (ii) All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the Contractor to the "RCIL" through "Notice of Dispute" provided that no such notice shall be served later than 30 days after the date of issue of Completion Certificate by the Engineer. RCIL shall, within 30 days after receipt of the Contractor's "Notice of Dispute", notify the name of conciliator(s) to the Contractor.
- (iii) The Conciliator(s) shall assist the parties to reach an amicable settlement in an independent and impartial manner within the terms of contract.
- (iv) If the parties reach agreement on a settlement of the dispute, they shall draw up and sign a written settlement agreement duly signed by Engineer In-charge, Contractor and conciliator(s). When the parties sign the settlement agreement, it shall be final and binding on the parties.
- (v) The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.

(vi) The conciliation proceedings shall be terminated as per Section 76 of 'The Arbitration and Conciliation Act, 1996.

63.1 Matters Finally Determined by the RAILTEL: All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the Contractor to the RCIL and RCIL shall, within 120 days after receipt of the Contractor's representation, make and notify decisions on all matters referred to by the Contractor in writing provided that matters for which provision has been made in Clauses 7(j), 8, 18, 22(5), 39.1, 39.2, 40A, 43(2), 45(i)(a), 55, 55-A(5), 57, 57A, 61(1), 61(2), 62(1) and 63(iv) of the General Conditions of Contract or in any Clause (stated as excepted matter) of the Special Conditions of the Contract, shall be deemed as 'excepted matters' (matters not arbitrable) and decisions of the RCIL's authority, thereon shall be final and binding on the Contractor; provided further that 'excepted matters' shall stand specifically excluded from the purview of the Arbitration.

63.2 Dispute Adjudication Board (DAB): Not Applicable

64.(1) : Demand for Arbitration:

64.(1)(i): In the event of any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, dispute or difference on any account or as to the withholding by the RAILTEL of any certificate to which the Contractor may claim to be entitled to, or if the RCIL fails to make a decision within 120 days, then and in any such case, but except in any of the "excepted matters" referred to in Clause 63.1 of these Conditions, the Contractor, after 120 days but within 180 days of his presenting his final claim on disputed matters shall demand in writing that the dispute or difference be referred to arbitration.

64.(1)(ii)(a): The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim item-wise. Only such dispute or difference, in respect of which the demand has been made, together with counter claims or set off, given by the RCIL, shall be referred to arbitration and other matters shall not be included in the reference.

64.(1)(ii)(b): The parties may waive off the applicability of Sub-Section 12(5) of Arbitration and Conciliation (Amendment) Act 2015, if they agree for such waiver in writing, after dispute having arisen between them, in the format given under Annexure XV of these conditions.

64.(1)(iii)(a): The Arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the RCIL.

64.(1)(iii)(b): The claimant shall submit his claims stating the facts supporting the claims alongwith all the Relevant documents and the Relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.

64.(1)(iii)(c): The RCIL shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from Tribunal, unless otherwise extension has been granted by Tribunal.

64.(1)(iii)(d): Place of Arbitration: The place of arbitration would be **Delhi**.

64.(1)(iv): No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defense thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.

64.(1)(v): If the Contractor(s) does/do not prefer his/their specific and final claims in writing, within a period of 90 days of receiving the intimation from the RCIL that the final bill is ready

for payment, he/they will be deemed to have waived his/their claim(s) and the RCIL shall be discharged and Released of all liabilities under the contract in respect of these claims.

64.(2): Obligation During Pendency of Arbitration: Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the RCIL shall be withheld on account of such proceedings, provided, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should continue during arbitration proceedings.

64.(3) : Appointment of Arbitrator:

64.(3)(a) : Appointment of Arbitrator where applicability of section 12 (5) of Arbitration and Conciliation Act has been waived off:

64.(3)(a)(i): In cases where the total value of all claims in question added together does not exceed ₹ 1,00,00,000/- (Rupees One Crore), the Arbitral Tribunal shall consist of a Sole Arbitrator who shall not be an Officer below Joint General Manager, nominated by the Executive Director of RCIL. The sole arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitration is received by Executive Director of RCIL.

64.(3)(a)(ii): In cases not covered by the Clause 64(3)(a)(i), the Arbitral Tribunal shall consist of a panel of three Officers not below Joint General Manager or 2 Officers not below Joint General Manager and a retired Railway Officer, retired not below the rank of Senior Administrative Grade Officer, as the arbitrators. For this purpose, the RCIL will send a panel of at least four (4) names of Officers of one or more region of RCIL which may also include the name(s) of retired Railway Officer(s) empanelled to work as Railway Arbitrator to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the Executive Director of RCIL.

Contractor will be asked to suggest to Executive Director of RCIL at least 2 names out of the panel for appointment as Contractor's nominee within 30 days from the date of dispatch of the request by RCIL. The Executive Director of RCIL shall appoint at least one out of them as the Contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the 'presiding arbitrator' from amongst the 3 arbitrators so appointed. Executive Director of RCIL shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of Contractor's nominees. While nominating the arbitrators, it will be necessary to ensure that one of them is from the Finance Department. An officer of Deputy General Manager of the Finance Department shall be considered of equal status to the officers in Joint General Manager of other departments of the RCIL for the purpose of appointment of arbitrator.

64.3.(a).iii: The serving RCIL officer working in arbitral tribunal in the ongoing arbitration cases as per clause 64.(3)(a)(i) and clause 64.(3)(a)(ii) above, can continue as arbitrator in the tribunal even after his retirement.

64.(3)(b): Appointment of Arbitrator where applicability of Section 12 (5) of Arbitration and Conciliation Act has not been waived off:

(i) In cases where the total value of all claims in question added together does not exceed ₹ 50,00,000/- (Rupees Fifty Lakh), the Arbitral Tribunal shall consist of a Retired Railway Officer, retired not below the rank of Senior Administrative Grade Officer, as the arbitrator. For this purpose, the RCIL will send a panel of at least four (4) names of retired Railway Officer(s) empanelled to work as RCIL Arbitrator duly indicating their retirement dates to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the Executive Director of RCIL.

Contractor will be asked to suggest to Executive Director of RCIL at least 2 names out of the panel for appointment as arbitrator within 30 days from the date of dispatch of the request by

RCIL. The Executive Director of RCIL shall appoint at least one out of them as the arbitrator within 30 days from the receipt of the names of Contractor's nominees.

(ii) In cases where the total value of all claims in question added together exceed ₹ 50,00,000/- (Rupees Fifty Lakh), the Arbitral Tribunal shall consist of a Panel of three (3) retired Railway Officer, retired not below the rank of Senior Administrative Grade Officer, as the arbitrators. For this purpose, the Railway will send a panel of at least four (4) names of retired Railway Officer(s) empanelled to work as Railway Arbitrator duly indicating their retirement date to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the Executive Director of RCIL.

Contractor will be asked to suggest to Executive Director of RCIL at least 2 names out of the panel for appointment as Contractor's nominee within 30 days from the date of dispatch of the request by RCIL. The Executive Director of RCIL shall appoint at least one out of them as the Contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the 'Presiding Arbitrator' from amongst the 3 arbitrators so appointed. Executive Director of RCIL shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of Contractor's nominees. While nominating the arbitrators, it will be necessary to ensure that one of them has served in the Finance Department.

64.(3)(c)(i): If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the Executive Director of RCIL fails to act without undue delay, the Executive Director of RCIL shall appoint new arbitrator/arbitrators to act in his/their place in the same manner in which the earlier arbitrator/arbitrators had been appointed. Such re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator (s).

64.(3) (c) (ii): (a) The Arbitral Tribunal shall have power to call for such evidence by way of affidavits or otherwise as the Arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the Arbitral Tribunal to make the award without any delay. The proceedings shall normally be conducted on the basis of documents and written statements.

(b) Before proceeding into the merits of any dispute, the Arbitral Tribunal shall first decide and pass its orders over any plea submitted/objections raised by any party, if any, regarding appointment of Arbitral Tribunal, validity of arbitration agreement, jurisdiction and scope of the Tribunal to deal with the dispute (s) submitted to arbitration, applicability of time 'limitation' to any dispute, any violation of agreed procedure regarding conduct of the arbitral proceedings or plea for interim measures of protection and record its orders in day to day proceedings. A copy of the proceedings duly signed by all the members of tribunal should be provided to both the parties.

64.3(c)(iii): (i) Qualification of Arbitrator (s):

(a) Serving RAILTEL Officers of not below Joint General Manager level.

(b) Retired Railway Officers not below SA Grade level, one year after his date of retirement.

(c) Age of arbitrator at the time of appointment shall be below 70 years.

(ii) An arbitrator may be appointed notwithstanding the total number of arbitration cases in which he has been appointed in the past.

(iii) While appointing arbitrator(s) under Sub-Clause 64.(3)(a)(i), 64.(3)(a)(ii), 64.(3)(b)(i) & 64.(3)(b)(ii) above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract Relates or who in the course of

his/their duties as RCIL Officer expressed views on all or any of the matters under dispute or differences. A certification to this effect as per annexure- XVI shall be taken from Arbitrators also. The proceedings of the Arbitral tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract Relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.

64.(3)(d)(i): The arbitral award shall state item wise, the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award could be inferred therefrom.

64.(3)(d)(ii): A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award of a Tribunal and interpretation of a specific point of award to Tribunal within 60 days of receipt of the award.

64.(3)(d)(iii): A party may apply to Tribunal within 60 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

64.(4): In case of the Tribunal, comprising of three members, any ruling on award shall be made by a majority of members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

64.(5): Where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.

64. (6): The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia include fee of the arbitrator(s), as per the rates fixed by Railway Board from time to time and the fee shall be borne equally by both the parties, provided parties sign an agreement in the format given at Annexure XV to these conditions after/ while referring these disputes to Arbitration. Further, the fee payable to the arbitrator(s) would be governed by the instructions issued on the subject by Railway Board from time to time irrespective of the fact whether the arbitrator(s) is/are appointed by the RCIL Administration or by the court of law unless specifically directed by Hon'ble court otherwise on the matter.

64.(7) Subject to the provisions of the aforesaid Arbitration and Conciliation Act 1996 and the rules thereunder and Relevant para of the General Conditions of Contract and any statutory modifications thereof shall apply to the appointment of arbitrators and arbitration proceedings under this Clause.

64.(8) In case arbitration award is challenged by a party in the Court of Law, 75% of award amount, pending adjudication by Court of Law, shall be made by party to other party. In case payment is to be made by RAILTEL to Contractor, the terms & conditions as incorporated in the Ministry of Railways letter No. 2016/CE(I)/CT/ARB/3(NITI Aayog)/Pt. dated 08th Mar,2017 as amended from time to time, shall be followed. In case Contractor has to pay to the RCIL, then 75% of the award amount shall be deducted by the RCIL from the Contractor's bills, Performance Guarantee/ Security Deposit or any other dues of Contractor with the Government of India.

PART-II ANNEXURES**ANNEXURE – VII**

Reference Para 17B

Registered Acknowledgement Due

PROFORMA FOR TIME EXTENSION

No. _____

Dated: _____

Sub: (i) _____ *(name of work)*.

(ii) Acceptance letter no. _____

(iii) Understanding/Agreement no. _____

Ref: _____ *(Quote specific application of Contractor for extension to the date received)*

Dear Sir,

1. The stipulated date for completion of the work mentioned above is _____. From the progress made so far and the present rate of progress, it is unlikely that the work will be completed by the above date (or 'However, the work was not completed on this date').

2. Expecting that you may be able to complete the work if some more time is given, the competent authority, although not bound to do so, hereby extends the time for completion from _____ to _____.

3. Please note that an amount equal to the liquidated damages for delay in the completion of the work after the expiry of _____ *(give here the stipulated date for completion with/without any liquidated damage fixed earlier)* will be recovered from you as mentioned in Clause 17B of the General Conditions of Contract for the extended period, notwithstanding the grant of this extension. You may proceed with the work accordingly.

4. The above extension of the completion date will also be subject to the further condition that no increase in rates on any account will be payable to you.

5. Please intimate within a week of the receipt of this letter your acceptance of the extension of the conditions stated above.

6. Please note that in the event of your declining to accept the extension on the above said conditions or in the event of your failure after accepting or acting upto this extension to complete the work by _____ *(here mention the extended date)*, further action will be taken in terms of Clause 62 of the General Conditions of Contract.

Yours faithfully

For and on behalf of the RCIL

ANNEXURE – VIIA

(Reference Clause 40(A))

Registered Acknowledgement Due

PROFORMA OF 14 DAYS NOTICE FOR OFFLOADING OF PART OF CONTRACT WORK

(Without Prejudice)

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

In spite of repeated instructions to you by the subordinate offices as well as by this office through various letters of even no. _____, dated _____; you have failed to show adequate progress of work so as to complete the contract within the original / extended date of completion of contract and part(s) of contract work are yet to be started/ still lagging behind the agreed program of work, listed as under:

(Details of part(s) of work which is delayed and can be executed independently, to be mentioned).

2. Your attention is invited to this office letter no. _____, dated _____ in reference to your representation, dated _____.

3. As you have failed to abide by the instructions issued to commence the work /to show adequate progress of work, you are hereby given 14 days' notice in accordance with Clause 40A of the General Conditions of Contract to deploy adequate resources i.e. *(the details of resource requirement, to be mentioned)* and commence / to make good the progress for part(s) of works detailed above, failing which action as provided in Clause 40A of the General Conditions of Contract shall be commenced after expiry of 14 days' notice period viz. to offload few/ all part(s) of work mentioned above to any of the existing or new contractor without your participation and at your Risk & Cost, not exceeding the value of Performance Guarantee of this contract, which may please be noted.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the RCIL

ANNEXURE – VIIB

(Reference Clause 40(A))

Registered Acknowledgement Due

NOTICE FOR PART OF CONTRACT WORK OFFLOADED

(Without Prejudice)

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

1. Fourteen days' notice under Clause 40A of the General Conditions of Contract was given to you under this office letter of even no., dated _____; but you have taken no/inadequate action to deploy adequate resources to commence the part(s) of work/show adequate progress of the part(s) of work, mentioned therein.

As you have failed to abide by the instructions issued to commence the part(s) of work/show adequate progress of the part(s) of work even at the lapse of 14 days' notice period under Clause 40A of the General Conditions of Contract, few part(s) of the work under the contract have been offloaded and being executed by other mode(s) at the cost detailed below:

Or,

1. Please refer your request letter no..... dated, wherein it was requested under clause 40 A of the General Conditions of Contract to offload part(s) of works at your risk & cost. The details of part(s) of the work under the contract which have been offloaded and being executed by other mode(s) at the cost detailed below:

(List of Part(s) of work offloaded, Details of mode of execution of such offloaded work alongwith approximate cost thereof to be mentioned)

2. The final measurement of work(s) already executed for above part(s) of work recorded as per clause 45 (A) or/and 45 (B) of the General Conditions of Contract is enclosed herewith.

3. The Bill(s) of Quantities for Part(s) of work offloaded is enclosed herewith.

4. The additional cost in execution of offloaded work through mode(s) mentioned in para (1) above is determined as Rs. _____, over& above the cost of execution under this contract (including the PVC amount payable as per contract, as on the date of issue of this notice). This additional cost shall be recovered from your next on account bill(s) or any other dues payable to you under contract.

5. The Contract value gets reduced to Rs.....:

6. You are requested to continue with the balance work in the contract subsequent to offloading of above part(s) of work.

Kindly acknowledge receipt.

Yours faithfully
For and on behalf of the RCIL

ANNEXURE – VIII

Reference Para 60.(2)

CERTIFICATE OF FITNESS

1. (a) Serial Number _____
(b) Date _____
2. Name of person examined _____
3. Father's Name: son/daughter of _____
Residing at _____
4. Sex _____
5. Residence: _____
6. Physical fitness _____
7. Identification marks _____
8. Date of birth, if available, and/or certified age _____
I certify that I have personally examined (name) _____ who is
desirous of being employed in a factory or on a work requiring manual labour
and that his/her age as nearly as can be ascertained from my examination, is
_____ years.

I certify that he/she is fit for employment in a factory or on a work requiring
manual labour as an adult/child.
9. Reasons for :
(a) Refusal to grant certificate, or _____
(b) Revoking the certificate _____

Signature or left hand

Thumb impression of the person examined.

Signature of Certifying Surgeon

Note: In case of physical disability, the exact details and cause of the physical disability should be clearly stated.

ANNEXURE – IX

(Reference Clause 62. (1)

Registered Acknowledgement Due

**PROFORMA OF 7 DAYS NOTICE FOR WORKS AS A WHOLE/ IN PARTS
(DETAILS OF PART OF WORK TO BE MENTIONED)**

(Without Prejudice)

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

In spite of repeated instructions to you by the subordinate offices as well as by this office through various letters of even no. _____, dated _____; you have failed to start work/show adequate progress and/or submit detailed programme for completing the work/part of work (details of part of work to be mentioned).

2. Your attention is invited to this office letter no. _____, dated _____ in reference to your representation, dated _____.

3. As you have failed to abide by the instructions issued to commence the work /to show adequate progress of work you are hereby given 7 days' notice in accordance with Clause 62 of the General Conditions of Contract to commence works / to make good the progress, failing which further action as provided in Clause 62 of the General Conditions of Contract viz. to terminate your Contract and complete the balance work without your participation will be taken.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the RCIL

ANNEXURE – X

Reference Para 62(1)

Registered Acknowledgement Due

PROFORMA OF 48 HRS. NOTICE FOR WHOLE WORK

(Without Prejudice)

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

Seven days' notice under Clause 62 of the General Conditions of Contract was given to you under this office letter of even no., dated _____; but you have taken no action to commence the work/show adequate progress of the work.

2. You are hereby given 48 hours' notice in terms of Clause 62 of the General Conditions of Contract to commence works / to make good the progress of works, failing which and on expiry of this period your above contract will be rescinded and the work under this contract will be carried out independently without your participation and your Security Deposit shall be forfeited and Performance Guarantee shall also be encashed and any other consequences which may please be noted.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the RCIL

ANNEXURE – XI

Reference Para 62.(1)

Registered Acknowledgement Due

PROFORMA OF TERMINATION NOTICE

(Without Prejudice)

No. _____

Dated _____

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

Forty eight hours (48 hrs.) notice was given to you under this office letter of even no., dated _____; but you have taken no action to commence the work/show adequate progress of the work.

Since the period of 48 hours' notice has already expired, the above contract stands rescinded in terms of Clause 62 of the General Conditions of Contract and the balance work under this contract will be carried out independently without your participation. Your participation as well as participation of every member/partner in any manner as an individual or a partnership firm/JV is hereby debarred from participation in the tender for executing the balance work and your Security Deposit shall be forfeited and Performance Guarantee shall also be encashed.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the RCIL

ANNEXURE – XII

Reference Para 62.(1)

Registered Acknowledgement Due

PROFORMA OF 48 HRS. NOTICE FOR PART OF THE WORK.....

(DETAILS OF PART OF WORK TO BE MENTIONED)

(Without Prejudice)

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

1. Seven days' notice under Clause 62 of the General Conditions of Contract was given to you under this office letter of even no., dated _____; but you have taken no action to commence the work/show adequate progress of the part of work.....(details of part to be mentioned).
2. You are hereby given 48 hours' notice in terms of Clause 62 of the General Conditions of Contract to commence works / to make good the progress of works, failing which and on expiry of this period your above part of work.....(Details of part to be mentioned) in contract will be rescinded and the work will be carried out independently without your participation.
3. Your full Performance Guarantee for the contract shall be forfeited and you shall not be issued any completion certificate for the contract. However, no additional Performance Guarantee shall be required for balance of work being executed through the part terminated contract.
4. The contract value of part terminated contract shall stands reduced to

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the RCIL

ANNEXURE – XIII

Reference Para 62.(1)

Registered Acknowledgement Due

PROFORMA OF TERMINATION NOTICE FOR PART OF THE WORK

(DETAILS OF PART OF WORK TO BE MENTIONED)

(Without Prejudice)

No. _____

Dated _____

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

1. Forty eight hours (48 hrs.) notice was given to you under this office letter of even no., dated _____; but you have taken no action to commence the work/show adequate progress of the part of work.....(details of part to be mentioned).
2. Your above part of work in contract(details of part to be mentioned) stands rescinded in terms of Clause 62 of the General Conditions of Contract and the same will be carried out independently without your participation. Your participation as well as participation of every member/partner in any manner as an individual or a partnership firm/JV is hereby debarred from participation in the tender for executing the balance work
3. Your full Performance Guarantee for the contract shall be forfeited and you shall not be issued any completion certificate for the contract. However, no additional Performance Guarantee shall be required for balance of work being executed through the part terminated contract.
4. The contract value of part terminated contract stands reduced to

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the RCIL

ANNEXURE – XIV

Reference Para 48.(3)

FINAL SUPPLEMENTARY AGREEMENT

1. Articles of agreement made this day _____ in the year _____ between RCIL Administration having his office at _____ herein after called the RCIL of the one part and _____ of the second part.
2. Whereas the party hereto of the second part executed an agreement with the party hereto of the first part being agreement Number _____ dated _____ for the performance _____ herein after called the 'Principal Agreement'.
3. And whereas it was agreed by and between the parties hereto that the works would be completed by the party hereto of the second part on _____ date last extended and whereas the party hereto of the second part has executed the work to the entire satisfaction of the party hereto of the first part.
4. And whereas the party hereto of the first part already made payment to the party hereto of the second part diverse sums from time to time aggregating to ₹ _____ including the Final Bill bearing voucher No. _____ dated _____ of value _____ duly adjusted as per price variation clause, if applicable (the receipt of which is hereby acknowledged by the party hereto of the second part in full and final settlement of all his /its claims under the principal agreement.

And whereas the party hereto of the second part have received sum of ₹ _____ through the Final Bill bearing voucher No. _____ dated _____ duly adjusted as per price variation clause (PVC), if applicable (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto of the first part in full and final settlement of all his/its disputed claims under principal agreement.

Now, it is hereby agreed by and between the parties in the consideration of sums already paid by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement excluding the Security Deposit, the party hereto of the second part have no further dues of claims against the party hereto of the first part under the said Principal Agreement. It is further agreed by and between the parties that the party hereto of the second part has accepted the said sums mentioned above in full and final satisfaction of all its dues and claims under the said Principal Agreement.

(Applicable in case Final Supplementary Agreement is signed after Release of Final Payment)

Or

And whereas the party hereto of the first part already made payment to the party hereto of the second part diverse sums from time to time aggregating to ₹ _____ through various On Account Bills (the receipt of which is hereby acknowledged by the party hereto of the second part).

And whereas the party hereto of the second part have received sum of ₹ _____ through various On Account Bills (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto of the first part and party hereto of the second part have accepted final measurements recorded on Page No..... to Page No.... of Measurement Book No..... and corresponding Final Bill duly adjusted as per price variation clause (PVC), if applicable, for full and final settlement of all his/its

disputed claims under principal agreement.

Now, it is hereby agreed by and between the parties in the consideration of sums already paid through various On Account Bills and sums to be paid through Final Bill duly adjusted as per price variation clause (PVC), if applicable, based on accepted final measurements including the Security Deposit by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement, the party hereto of the second part have no further dues of claims against the party hereto of the first part under the said Principal Agreement.

(Applicable in case Final Supplementary Agreement is signed before Release of Final Payment)

5. It is further agreed and understood by and between the parties that the arbitration clause contained in the said principal agreement shall cease to have any effect and/or shall be deemed to be non-existent for all purposes.

Signature of the Contractor/s

for and on behalf of the RCIL

Witnesses

ADDRESS:_____

ANNEXURE-XV

Reference Para 64.3 & 64.6

Agreement towards Waiver under Section 12(5) and Section 31A (5) of Arbitration and Conciliation (Amendment) Act

I/we..... (Name of agency/Contractor) with reference to agreement no..... raise disputes as to the construction and operation of this contract, or the respective rights and liabilities, withholding of certificate and demand arbitration in respect of following claims :

Brief of claim:

- (i) Claim 1- Detailed at Annexure-
- (ii) Claim 2 –
- (iii) Claim 3 –

I/we..... (post of Engineer) with reference to agreement no..... hereby raise disputes as to the construction and operation of this contract, or the respective rights and liabilities, withholding of certificate and demand arbitration in respect of following claims:

I/we.....do/do not agree to waive off applicability of section 12(5) of Arbitration and Conciliation (Amendment) Act.

Signature of Claimant_____ Signature of Respondent

Agreement under Section 31(5)

I/we..... (Name of claimant) with reference to agreement no..... hereby waive off the applicability of sub section 31-A (2) to 31-A (4) of the Arbitration and Conciliation (Amendment) Act. We further agree that the cost of arbitration will be shared by the parties as per Clause 64(6) of the General Conditions of Contract.

.

Signature of Claimant_____ Signature of Respondent_____

*Strike out whichever not applicable.

ANNEXURE-XVI

Reference Para 64.(3)

Certification by Arbitrators appointed under Clause 63 & 64 of General Conditions of Contract

1. Name:
2. Contact Details:
3. Prior experience (Including Experience with Arbitrations):
4. **I do not have more than ten on-going Arbitration cases with me.**
5. I hereby certify that I have retired from Railways w.e.f. _____ and empaneled as Railway Arbitrator as per 'The Arbitration and Conciliation Act- 1996'.
6. I have no any past or present Relationship in Relation to the subject matter in dispute, whether financial, business, professional or other kind.
Or
I have past or present Relationship in Relation to the subject matter in dispute, whether financial, business, professional or other kind. The list of such interests is as under:
7. I have no any past or present Relationship with or interest in any of the parties whether financial, business, professional or other kind, which is likely to give rise to justifiable doubts as to my independence or impartiality in terms of The Arbitration and Conciliation Act-1996.
Or
I have past or present Relationship with or interest in any of the parties whether financial, business, professional or other kind, which is likely to give rise to justifiable doubts as to my independence or impartiality in terms of The Arbitration and Conciliation Act-1996. The details of such Relationship or interests are as under:
8. There are no concurrent Circumstances which are likely to affect my ability to devote sufficient time to the arbitration and in particular to finish the entire arbitration within twelve months.

Or

There are Circumstances which are likely to affect my ability to devote sufficient time to the arbitration and in particular to finish the entire arbitration within twelve months. The list of such circumstances is as under:

ANNEXURE-XVII

Reference Para 16.(4)(b)(ii) of GCC

Proforma for Performance Bank Guarantee

PERFORMANCE BANK GUARANTEE BOND

(On Stamp Paper of Rs. One Hundred)

(To be used by approved Scheduled Banks)

In consideration of the **RailTel Corporation Of India Limited**: 6th Floor, IIIrd Block Delhi Technology Park, Shastri Park, Delhi-110053

1. (Herein after called RCIL) having agreed to exempt (Hereinafter called “the said Contractor(s)”) from the demand, under the terms and conditions of an Agreement No. dated made between and for (hereinafter called “ the said Agreement”) of security deposit for the due fulfillment by the said Contractor (s) of the terms and conditions contained in the said Agreement, or production of a Bank Guarantee for Rs. (Rs. only). We, ...(indicate the name of the Bank) hereinafter referred to as “ the Bank”) at the request of Contractor(s) do hereby undertake to pay the RCIL an amount not exceeding Rs. Against any loss or damage caused to or suffered or would be caused to or suffered by the RCIL by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
2. We, ... Bank **and our local branch at New Delhi (indicate detail address of local New Delhi Branch with code no.)**do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on demand from the RCIL stating that the amount is claimed is due by way of loss or damage caused to or would be caused to or suffered by the RCIL by reason of breach by the said Contractor(s) of any of terms or conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.
3. We, ... bank undertake to pay to the RCIL any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) / Supplier(s) in any suit or proceedings pending before any court or Tribunal Relating thereto our liability under this present being, absolute and unequivocal.

The payment so made by us under this Bond shall be a valid discharge of our liability for payment there under and the Contractor(s) / Supplier(s) shall have no claim against us for making such payment.

We, ... Bank further agree that the Guarantee

herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the RCIL under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till RCIL certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this Guarantee. Unless a demand or claim under the Guarantee is made on us in writing on or before the (1) We shall be discharged from all liability under this Guarantee thereafter.

We,.....We,.....
(indicate the name of Bank) Further agree with the RCIL that the RCIL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the Agreement or to extend time of to postpone for any time or from time to time any of the powers exercisable by the RCIL against the said contractor(s) and to forbear or enforce any of the terms and conditions Relating to the said Agreement and we shall not be Relieved from our liability by reason of any such variation, or extension to the said Contractor(s) or for any forbearance, act or omission on the part of RCIL or any indulgence by the RCIL to the said Contractor(s) or by any such matter or thing whatsoever which under the law Relating to sureties would, but for this provision, have affect of so Relieving us.

This Guarantee will not be discharged due to the change in the Constitution of the Bank or the Contractor(s) Supplier(s).

We, the Bank further agree that this guarantee shall be invokable at our place of business at/New Delhi (indicate detailed address of local New Delhi Branch with code no.).The branch at New Delhi is being advised accordingly.

(indicate the name of Bank) lastly undertaken not to revoke this Guarantee during its currency except with the previous consent of the RCIL in writing.

Dated the day of 2022

for
(Indicate the name of the Bank)

Witness

1. Signature
 Name
2. Signature
 Name

END OF TENDER DOCUMENT