

## SPECIAL CONDITIONS OF CONTRACT FOR ELECTRICALWORK

<b>1.0</b>	<b>General</b>
<b>1.1</b>	The contract shall be governed by <b>General Conditions of Contract (GCC) APRIL- 2022 (with latest amendment if any)</b> of Engineering Department and Special Condition of Contract (SCC) given below. The following Special Conditions shall supplement and be read in conjunction together with above General Conditions of Contract (GCC)(with latest amendment if any), General/technical specifications, schedule of quantities, explanatory notes, drawings and any other document forming part of this tender.
<b>1.2</b>	Work under this contract shall be executed as given in this tender document and as required at site whether specifically shown or not. The Contractor shall carry out and complete the work under this contract in every respect in conformity with the contract documents, as per directions of and to the satisfaction of the Purchasers' Representative
<b>1.3</b>	SCC for electrical work is generic in nature and shall apply in general unless modified/ specified other wise in schedule of quantities

<b>2.0</b>	<b>Interpretation</b>
	In all matters of clarifications or dispute of interpretation the decision of the “engineer “in-charge of the work, shall be final and binding

<b>3.0</b>	<b>Scope of Work</b>
	Scope of work under this contract shall include the supply of spares, overhauling of machines/assemblies, testing at Site / manufacturers’ works, storage, erection, site testing and commissioning of the works and other provisions as specified in schedule of work, specification as per GCC, SCCand other documents comprising of tender document but not restricted to
<b>3.1</b>	Tenderer shall go through the specifications, related standards, requirement schedule and other contract conditions and shall include in his quite all the provision whether specified clearly or not for successful testing and commissioning. All such provisions are deemed as included unless pointed out while quoting of the offer.
<b>3.2</b>	The contractor shall include the supply of entire materials in accordance with specification and the whole of the work necessary for the complete installation as set down in this specification and with the accompanying schedules and drawings. Materials and components not specifically stated in the specifications and/or bill of materials or noted on the drawings or anywhere in tender document but which are necessary for satisfactory installation /commissioning and operation of the system shall be deemed to have been included in the scope of work.

<b>4.0</b>	<b>Standards and design</b>
<b>4.1</b>	<b>STANDARDS</b>
	The system offered shall be based on the latest relevant standards and specifications as indicated in Specification Partsof the tender document

<b>4.2</b>	<b>Design</b>
<b>4.2.1</b>	Tenderer shall design the system for Design, Manufacture, Supply, Installation, Testing and Commissioning of the work as specified in the schedule of work but not limited to. It shall include all the designs as may be required for successful contractual obligations
<b>4.2.2</b>	Details of specific system requirements are specified in the specification enclosed
<b>4.2.3</b>	Design of system being offered by tenderer including characteristics shall be fully furnished in the offer giving supporting documents, calculations, drawings and schematic diagrams
<b>4.2.4</b>	The successful tenderer, after the award of contract shall submit the detailed final Design / calculations / other technical particulars/information of the entire system within a period of 4 to 6 weeks or less as desired by the engineer, along with individual design, technical particulars of each equipment for the purchaser's approval. orders for procurement of equipment should only be placed after the receipt of purchaser's approval.

<b>5.0</b>	<b>Specifications and Schedules</b>
<b>5.1</b>	Technical specifications forming a part of this contract are intended to cover work referred herein enclosed. It is not the intent to specify completely herein all aspects of design, constructional features of equipment and details of the work to be carried out, but nevertheless the intent of the specification is to ensure that the equipment and work shall conform in all respects to the relevant RDSO,CORE, Bureau of Indian Standard Specifications, CEE/W.Rly's Specification, Codes of Practice, Indian Electricity Act, Indian Electricity Rules and other Statutory Regulations as may be applicable and to high standards of engineering, design and workmanship. The equipment and work shall perform in continuous operation in a manner acceptable to the Purchaser's Representative who will interpret the meaning of the specifications and drawings and shall have the right to reject or accept any equipment or work, which in their assessment is not complete to meet the requirements of this specification and/or applicable Codes and Standards. Any item specially mentioned or not in the scope of work as per approved design, drawing & specification, but required to complete the work shall be deemed to be in the scope
<b>5.2</b>	The work shall conform to all provisions of the relevant Government Legislation, Regulations and Bye- laws of the Central/Local Authorities and of any State Electricity Boards/Companies to whose system the installation is proposed to be connected. The Contractor shall arrange to give all necessary notices required under the said Acts, Regulations and/or Bye- laws.
<b>5.3</b>	The contractor shall examine the installations' specifications, drawings & schedule of quantities for feasibility & safety and may suggest or ask for change required if any to provide satisfactory & safe services of the equipment designated for the station but the decision of the engineer in-charge of the work shall be final and binding.

<b>5.4</b>	The Technical specifications and schedule of quantities & rates shall be considered as part of this contract and any work or materials shown in schedule and not called for in the specifications or vice versa, shall be executed as if specifically called for in both. The drawings if any are for the guidance of the contractor. Exact locations, distances and levels will be governed by the site conditions.
<b>5.5</b>	The quantities indicated in Schedule are approximate. The successful tenderer will place the order for materials only after carrying out survey jointly with railways as per site requirement after obtaining the approval to the design and drawings
<b>5.6</b>	Special Condition of Contract (SCC) shall be read in conjunction with the <b>General Conditions of the Contract ,APRIL- 2022, Technical Specifications, Schedule of quantities</b> , Drawings and any other document forming part of this tender/contract. For any discrepancy between the general conditions and special conditions, provisions of special conditions shall prevail. For any discrepancy between technical specifications and schedule of quantities, the provisions of schedule of quantities shall prevail. The decision of the Engineer in-charge of the work shall be final and binding in the regard.
<b>5.7</b>	Wherever it is mentioned in the specifications that the Contractor shall perform certain work or provide certain facilities, it is understood that the Contractor shall do so at his own cost.
<b>5.8</b>	Contractor shall get the arranged material inspected/tested as required before use and shall not move/ dispose off the material so arranged without the written permission of authorized representative of Purchaser.

<b>6.0</b>	<b>Site Working Conditions</b>
<b>6.1</b>	Tenderers, if they so desire, can, before submitting the tender, inspect the site of the work after obtaining prior approval from Purchasers' Representative in order to familiarize themselves of the conditions of work prevailing at site as also quantum of statutory levies (taxes, duties etc.) applicable. No extra claim on account of lack of such knowledge shall be entertained after award of contract
<b>6.2</b>	All equipment and work covered by this contract shall be capable of operating continuously and delivering the rated output at ambient conditions prevailing at site. The anticipated maximum and minimum extremes of temperatures and Relative humidity at site are as specified in Specifications.
<b>6.3</b>	Where the work is required to be carried out in Power Block, the contractor shall before commencement of work arrange all man and material at site well in advance and ask Power block/ permit to work near charged OHE from authorized representative of purchaser, who will discharge and earth the line for working staff. However purchaser shall take no responsibility for non-availability of power block or day/night working and safety at site to be observed at site and contractor shall keep the purchaser indemnified/insured against the same. The contractor shall be required to avail the power block/ permit to work when available.
<b>6.4</b>	Contractor shall make all arrangements of power distribution and lighting etc at site as required for night working if any.
<b>6.5</b>	The contractor is required to flexibly plan activity and mobilize staff so as to complete the planned activity during available power block. It may be noted that the contractor is liable for penalty on overshooting of such power block affecting train punctuality or any inconvenience to railways as deemed fit in the opinion of the engineer and may be recoverable from dues payable to the contractor.

<b>7.0</b>	<b>Materials and Equipment</b>
<b>7.1</b>	<b>Procurement of Material</b>
	All materials and equipment shall be new and of the approved make and design and as per schedule of quantities. Contractor shall identify the sources and order for the approved make of material only and shall progressively forward the copy of order placed and test certificates of the material to the Engineer/Purchaser's Representative
<b>7.1.1</b>	Also following guidelines for inspection/testing of the electrical equipment/components used in works contract shall be adhered to; (circulated vide RB's letter No. 2005/Elect(G)180/Misc.Instruction/1/08-09 dated 20.6.2008)
<b>7.1.2</b>	Where testing of materials as stores supplied by Contractor is required, it shall be got done in laboratories in workshops of Railways or in Govt. approved test labs with CEE's approval.
<b>7.1.3</b>	For other items sources shall be as approved by CEE of Zonal Railway and the list of approved manufactures/brands be available on web site of Railways. For such items Railway may accept manufacture's test certificate with sample checks to ensure proper quality of goods.
<b>7.1.4</b>	For all items which are granted star rating by BEE (Bureau of Energy Efficiency) sources will be strictly to BEE's guidelines/approvals
<b>7.1.5</b>	<b>The material required at site and ordered by contractor does not reach at site from manufacturer in stipulated time , in that case Railway will provide the material as required absolutely on loan basis looking to the targeted work. No sooner the supply is being received by contractor from manufacturer , the loan quantity given by Railway should be returned by contractor.</b>

<b>8.0</b>	<b>Approved Make</b>
	Successful tenderer has to procure the material from latest list of RDSO/CORE/CEE-WR's approved supplier only where available. The Contractor shall arrange to provide all equipment/ accessories as required for the work as per the approved list of the makes as specified in the specifications unless the change is approved by the Engineer, in case of non-availability or better substitute in writing. Contractor shall arrange/ provide best material best suitable to the application duty and to the specification requirement out of the listed make and contractor shall be deemed to have taken such consideration while quoting the offer. However, the purchaser's engineer reserves the right to choose any of the make out of the listed make. Where such list of approved makes is not available, the makes of items shall be approved by the engineer.

<b>8.1</b>	<b>Samples</b>
	A list of items of materials and equipment together with samples, as required, shall be submitted to 'Engineer' as per agreed schedule, for approval, before being used on work. No change in samples and deviations from drawings of equipments shall be made from without the written instructions of the Purchasers' representative. Approvals given by the Purchasers' representative to any samples or drawings submitted by the Contractor shall not in any way exonerate the Contractor from his liability to carry out the work in accordance with the terms of the contract and serving the purpose as per the standards. No extra payment shall be made for arranging samples

<b>8.2</b>	<b>Inspection of Material</b>
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<b>8.2.1</b>	Inspection of the materials will be carried out by RDSO/RITES or by authorised representative of the Engineer in-charge of the work, at the Manufacturer's premises in presence of Contractor's representative, prior to dispatch. All the materials/equipment to be supplied shall conform to the relevant specification only.
<b>8.2.2</b>	The inspection charges, if any, shall be reimbursed by the railway on production of documentary evidence from RITES/ RDSO/ authorized & approved testing agency as demanded by the engineer.
<b>8.2.3</b>	The items where stage inspection is required during the manufacturing process of component of the supplied item as per specification will be done accordingly. ( Ref- Railway Board letter No. 2000/RS(GS)/379/2 Dated 23/09/2016 )
<b>8.2.4</b>	However in the event of exigencies Railway reserves the right to change the inspecting authority from RITES/RDSO to Consignee.

<b>8.3</b>	<b>Mobilization of material &amp; resources:</b>
	The contractor is required to mobilize all the material, resources and manpower as per the completion period and the agreed schedule with the engineer,

<b>8.4</b>	<b>Shifting of material:</b>
	Purchaser takes no guarantee to provide Rail transport facility. However the same may be made available for movement of material like mast etc. on nominal payment as applicable to other consignment. But Contractor is required to make proper assessment of the requirement and place the indent, load, unload & transfer the material in time. Charges if any due to delay shall be borne by the contractor. However the Railways takes no guarantee to provide such facility and contractor shall not be entitled to any delay/ extension of work on this account.

<b>8.5</b>	<b>Account of released material</b>
	The released material if any shall be handed over to the engineer's representative at the nominated depot/place as directed by the engineer. The quantity of released material should commensurate with the assessed/execute/erected quantities at site as per approved quantities, drawings and specifications etc. The contractor shall jointly sign the receipt of released material with the engineer's authorized representative for having correctly received in safe condition. The cost of released material in shortage shall be recovered from the contractor's payment due. Quantity executed should commensurate with the material released and handed over with due certification in this effect by site engineer for having made proper account of released material'

<b>9.0</b>	<b>Contractors organization</b>
<b>9.1</b>	The tenderer shall constitute a competent qualified electrical team of the firm/partnership/JV/Co-operative or company of their employees/representative, key personnel to execute the electrical work in strict compliance to statutory rules and specifications, drawings and relevant standards
<b>9.2</b>	Contractor shall employ only qualified technical staff (having Degree or Diploma in Electrical Engineering) to supervise and carry out the work and maintain an all time team at its headquarter office for prompt liaison. Necessary details as asked in formats be furnished regarding electrical team proposed for the work with details of. Name of Supervisors/ Employees shall be furnished and got approved form the

	Engineer; any changes in the staff shall also be similarly advised. Tenderer shall have equipment, machines, materials and labour and infrastructure shall be available to execute the work.
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<b>9.3</b>	The contractor shall not sublet or assign this contract or allow any person to become interested therein in any manner without the written permission of the Engineer in-charge of the work. In the event of the contractor subletting or assigning the contract or any part thereof without such written permission, the Railway Administration shall be entitled to cancel the contract and also recover payment of any loss or damage from such cancellation, the amount of which will be determined by the Electrical engineer in-charge of the work.
<b>9.4</b>	Contractor shall maintain appropriate communication facilities viz. fax machine, mobile/land line telephone at their office and telephone communication at work site during currency of the contract and Guarantee period to monitor the progress of the work
<b>9.5</b>	Successful tender shall inform to purchaser about office address, residential address, communication facilities as mentioned above within 7 days from the issue of LOA and inform progress activity to Railway officer in-charge and his authorized representative i.e. field supervisors etc
<b>9.6</b>	The contractor shall maintain transport facility with proper office premises also during period of execution and guarantee/warranty

<b>10.0</b>	<b>Engagement of engineer/supervisors for execution of works</b>
	The contractor shall employ the engineer Diploma holder as under:
<b>10.1</b>	Qualified Diploma Holder Engineer when cost of work to be executed is more than Rs. 25 lakhs but less than 200 lakhs.
<b>10.2</b>	The contractor would be required to furnish the name, with complete bio-data including the work experience of the Engineers/supervisors to the Divisional Executive engineer, in charge of the work for his approval
<b>10.3</b>	The technical supervisor given above shall be available at site during the execution of the works to ensure quality, quantity of the work & also ensure safety at work site & that of the workers & whenever required by the Engineer in charge to take instruction
<b>10.4</b>	In case the contractor fails to employ the technical supervisor as aforesaid a sum of Rs. 25,000/- per Engineer/supervisor per month will be recovered from the contractor's due. The decision of Engineer in charge as to the period for which the required technical supervisor was not employed by the contractor & as to the reasonableness of amount thereof to be deducted on this account shall be final & binding on contractor.
<b>10.5</b>	The Assistant Engineer shall record in the Measurement book in each running bill, final bill, the certificate to the effect that the contractor has employed the site technical engineer/supervisor as per the norms stipulated in the contract & for his/their absence necessary recovery has been made from the contractor bill

<b>11.0</b>	<b>Notices &amp; Instructions to Contractor</b>
<b>11.1</b>	The successful tenderer shall furnish the engineers, the postal address its site and HQ office and keep updated with name of authorized representatives to receive and accept notices and instruments.

<b>11.2</b>	All orders given by the purchasers/engineers' representative to the contractor concerning the work, have the same effect as if given by the Electrical Engineer in-charge of the work. Subject as otherwise herein provided all notices to be given on behalf of the President of India and all other action to be taken on his behalf may be given or taken on his behalf by the Engineer. The successful tenderer shall on award of contract nominate authorized qualified engineer as Project manager and the authorized representative for receiving instructions from the purchaser/engineer. Any instructions to the authorized representative or nominee or other staff available at site given/imparted by the purchaser's representative, the engineer or nominee shall be deemed to have been give to the authorized representative of the contractor or the contractor.
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<b>12.0</b>	<b>Co-ordination of work at site</b>
	The Contractor shall work in co-ordination and co- operation with other agencies at site and shall arrange to execute work as per site conditions. Any hold up shall be the responsibility of the Contractor and shall make him liable for damages as may be considered and levied by the Engineer.

<b>13.0</b>	<b>Workmanship &amp; Quality of work</b>
<b>13.1</b>	The contractor is responsible for execution of contract as a whole in accordance with conditions of contract
<b>13.2</b>	Good workmanship is an essential prerequisite to be complied for this work. Skilled workers under competent supervision shall carry out entire work in the most workmanlike manner by skilled workers under competent supervision
<b>13.3</b>	In the event the Engineer or his representative finding the work being carried out in a defective or in an inefficient manner or at a slow rate, the decision of which shall be in the sole discretion of the Purchaser, he may give 7 days written notice, calling upon the Contractor to remove the defects. If the contractor fails to complete with such directions, the contract shall be terminated followed by 48 hours notice, a final termination notice will be issued and the security deposit will be forfeited in whole as liquidated damages.
<b>13.4</b>	“In connection with the OHE work, whenever any modification to existing main line OHE is involved the height of contact and catenary, stagger and SED parameters of OHE of each structure, overlaps, turnouts &cross-over termination etc. should be jointly measured before & after execution of each work and both should be maintained identical. If any alteration in height/stagger is required, it should be done with the approval of supervisor/site in charge”.

<b>14.0</b>	<b>Monthly Progress Report</b>
<b>14.1</b>	The contractor shall furnish to the Engineer In-charge of the work, or his successors/nominee (whose address will be advised in due course) during the first week of every calendar month, a progress report showing progress of finalization of design and drawings, material at site, the works carried out during the preceding month and Up-to- date progress of these items along with total quantum of design and drawings, materials and equipments and the work required for the contract

<b>14.2</b>	The contractor shall maintain a daily progress register and the same should be signed by both the contractor's and the Engineer's representative. The copy of the such progress report /register shall be submitted while submitting claims for payments
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<b>15.0</b>	<b>Security of men, material &amp; work</b>
	The contractor will be responsible for any damage/theft for part of the work completed till entire works be taken over by the Railway

<b>16.0</b>	<b>Drafting of vehicles</b>
	The vehicles and equipment of the contractor can be drafted by Railway administration in case of Accidents/Natural calamities involving human lives

<b>17.0</b>	<b>Indemnity</b>
	The contractor shall furnish the prescribed indemnity bond as per General Condition of Contract, for all Railway material issued to him for execution of work.

<b>17.1</b>	<b>Indemnity by Contractors:</b>
	The Contractor shall indemnify and save harmless the Railway from and against all actions, suit, proceedings, losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against the Railways 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.

<b>18.0</b>	<b>Guarantee/ Defect Liability</b>
<b>18.1</b>	The Contractor shall Guarantee satisfactory working of all the equipment & the installations erected by him, irrespective of origin (imported or indigenous) shall be guaranteed for trouble free and satisfactory performance for a period of 12 months from date of commissioning or 18 months from date of supply which ever is earlier or at least for a period of months as specified separately which ever is later. The guarantee for spares should be coincident with the guarantee for erected equipment's.
<b>18.2</b>	During the period of guarantee the Contractor shall keep available an experienced engineer and necessary equipment to attend to any defective installations resulting from defective erection and / or defects in the equipment supplied by the contractor. This engineer shall not attend to rectification of defects, which arise out of normal wear and tear and come within the purview of routine maintenance work. The Contractor shall bear the cost of all modifications, additions or substitutions that may be considered necessary due to faulty material, design or workmanship for the satisfactory working of the equipment. The final decision shall rest with the Electrical Engineer in-charge of work or his (their) successor(s)/nominee.
<b>18.3</b>	During the period of guarantee the Contractor shall be liable for the replacement at site of any parts which may be found defective in the equipment whether such



	equipment be of his own manufacture or those of his sub-contractors, whether arising from faulty design, material, workmanship or negligence in any manner on the part of the Contractor provided always that such defective parts or not repairable at site are promptly return to the contractor if so required by him at his (Contractor's) own expenses. In case of type defects in Contractor's equipment & components detected during the guarantee period, the Contractor should replace all such items irrespective of the fact that whether all such items have failed or not. The Contractor shall bear the cost of repairs carried out on his behalf by the Purchaser at site. In such a case, the Contractor shall be informed in advance of the works proposed to be carried out by the Purchaser.
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<b>18.4</b>	If it becomes necessary for the Contractor to replace or renew any defective portions of the equipment under the para aforesaid then the provision of the said para shall also apply to the portions of the equipment so replaced or renewed until the expiration of six months from the date of such replacement or renewal or until the end of above mentioned period which ever is later. Such extension shall not apply in case of defects of a miner nature, the decision of the Engineer or his successor / nominee being final in the matter. If any defect be not remedied within a reasonable time during the aforesaid period, the Purchaser may proceed to do the work at the Contractor's risk and expense, but without prejudice to any other rights and remedies which the Purchaser may have against the Contractor in respect of such defects or faults.
<b>18.5</b>	The repaired or renewed parts shall be delivered and erected on site free of charge to the Purchaser.
<b>18.6</b>	Any material, fittings, components or equipment supplied shall also be covered by the provision of this paragraph. The liability of the contractor under the guarantee will be limited to re-supply of equipment, components and fittings. Such re-supply shall be effected at the contractor's depot or, in the event of closure of the depot, at the store depot or the Engineer in charge of maintenance of overhead equipment of the section covered by the contract.
<b>18.7</b>	In the case of materials, components, fittings and equipment supplied by the purchaser, no liability will rest on the contractor for failure on account of defective materials or workmanship and for any consequential damages. Such defective materials, if not yet erected on line, will be returned to by the contractor to the purchaser and such quantities will be considered for the purpose of final reconciliation over and above
<b>18.8</b>	No tools & plants shall be supplied by railways
<b>18.9</b>	The Contractor shall receive calls for any and all problems experienced in the operation of the systems, attend to these within 12 hours of receiving the complaints and shall take steps to immediately correct any deficiencies that may exist.
<b>18.10</b>	The Equipment supplied shall provide satisfactory services as per scope of work during and up to completion of guarantee period. In case, the system malfunctions or does not perform to the required standards as specified in scope, the penalty/recovery for exceeding the prescribed/offered limit as deem fit in the opinion of the engineer in-charge of work, the same shall be recovered from the contractor from the payment due or through encashment of Bank Guarantee available in hand.

<b>19.0</b>	<b>Training and Demonstration</b>
<b>19.1</b>	Prior to commissioning and final inspection or acceptance, Contractor will train and instruct the designated operating and maintenance personnel in the operation, adjustment, and maintenance of all the system plant and equipment .The training plan shall be submitted to Railways for approval
<b>19.2</b>	<b>This training will cover:</b>
<b>19.2.1</b>	A demonstration to the designated personnel, all procedures necessary to operate and maintain all equipment and systems on a continuing basis
<b>19.2.2</b>	The contractor shall arrange for theoretical as well as practical training to both supervisors and staff in the various trades for minimum period of 6 days and 8 hours each day which will enable the Railway to efficiently operate and maintain the installation.
<b>19.2.3</b>	Training manual shall be submitted for Railways approval. At the end of training competency certificate should be issued to trained personnel

<b>20.0</b>	<b>Drawings &amp; Other Documents</b>
<b>20.1</b>	<b>Working drawings and Particulars to be furnished by the Contractor for execution</b>
<b>20.1.1</b>	The Contractors shall submit 6 sets of following drawings and technical particulars after the award of contract for approval of purchasers' representative before commencement of work at site/fabrication at manufacturer's work. The mode of submission and procedure for incorporations of comments by purchasers on such drawings, resubmission and final approval shall be as finalized at site by the purchaser. The Contractor shall promptly inform the Engineer of any error, omission, fault and other defects in the Specifications, Drawings for the Works, which are discovered when reviewing the Contract Documents or in the process of execution of the Works
<b>20.1.2</b>	The Contractor shall ensure that all drawings meant for further engineering, fabrication, erection and field work are issued to his personnel in a controlled manner - a proper record shall be maintained to show to whom the drawing is issued and to ensure that the latest revisions of the drawing is being followed for further work. All superseded drawings shall be promptly withdrawn from the personnel to whom they are issued and stamped "SUPERSEDED" in RED. The Contractor shall maintain a register of drawings, with their revision/issue number, as received from the Engineer and a record of their distribution to the designated personnel within their organization.
<b>20.1.3</b>	The Contractor shall maintain at Site a set of the drawings issued by the Engineer on which changes shall be progressively marked and initialed by the Engineers othat "As-Built" drawings can be made correctly and expeditiously at the end of their Work at Site.
<b>21.0</b>	<b>Completion Drawings (wherever applicable)</b>
<b>21.1</b>	On completion of the work in all respects the contractor shall submit the following.
<b>21.1.1</b>	6 number portfolios (210 mm x 297 mm) each containing complete set of drawings on approved scale indicating the work "As erected". Each portfolio shall also contain technical literature.
<b>21.1.2</b>	These drawings shall be prepared on CAD using Auto-Cad and shall be recorded on floppies/ CDs and one set of CDs shall also be submitted.
<b>21.1.3</b>	6 sets of catalogues of all manufactured materials with the name and addresses of the manufacturers for all equipment provided by him. Where possible soft copies shall be provided.

<b>21.1.4</b>	The Contractor shall also submit one original "As erected" drawings on tracing and on CD
<b>21.1.5</b>	The 'Certificate of Completion of Works' as per the provisions of General Conditions of Contract shall not be issued by the Engineer in the event of Contractor's failure to furnish aforesaid "as-erected" drawings for the entire works

<b>22.0</b>	<b>Manuals :</b>
<b>22.1</b>	The contractor shall provide/produce 6 copies of manuals in bound term as approved by the Purchaser for all Contractor-supplied equipment and systems. These would typically include the following
<b>22.1.1</b>	<b>User Manuals</b> A comprehensive description of all system principles at block diagram level broken down into as many sub-sections as may be necessary and providing sufficient information to enable non-technical staff to fully exploit the facilities of each system.
<b>22.1.2</b>	<b>Maintenance and Servicing Manuals</b> To specify procedures and servicing intervals for planned preventive/condition maintenance and in addition to convey sufficient information on equipment principles and practice to enable first line fault diagnosis and rectification by technician staff. The contractor shall provide necessary maintenance / inspection schedule, General arrangement Drawings, assembly drawings, wiring diagrams/schematics with list of recommended spares.
<b>22.1.3</b>	<b>Commissioning Test procedures and Test Values</b> Shall cover commissioning test procedures for all the equipment and the final test values of the equipment on load, without load, protective earthing and measures taken to avoid surprise failures
<b>22.2</b>	The User Manuals and the Maintenance and Servicing Manuals shall be prepared in both English and Hindi Languages. Other technical manuals shall be supplied in the English language only. All manuals made by the contractor shall be supplied in Compact Disc also.
<b>22.3</b>	Contractor shall submit all Manuals for review by the Purchaser's representative prior to factory acceptance tests and the Contractor provide 6 copies of all Manuals well in advance and explain so as to understand the manuals by the user prior to commissioning.

<b>23.0</b>	<b>Other documents</b>
	The Contractors shall supply three sets of hard copies of the test certificates after completion of work. Work shall not be deemed complete till this requirement is satisfactorily complied with

<b>24.0</b>	<b>Test Certificates</b>
	Contractor shall furnish 6 copies (bound, as approved by the Engineer) of certificates for the type-tests, routine-tests as per the relevant Standard Specification for every equipment/ component/ fitting either at the manufacturer's works or in a laboratory approved by the Engineer, and the cost thereof shall be borne by the Contractor. Test certificates of successful prototype tests shall be furnished within a month of completion of the prototype test and routine test certificates after passing of the equipment/ component/ fitting by the Engineer's Representative on inspection

<b>25.0</b>	<b>Tools and Spare Parts</b>
<b>25.1</b>	All tools, tackle and M&P required for erection and assembly of the equipment and installation covered by the contract shall be arranged by the contractor himself including consumable material required for successful commissioning
<b>25.2</b>	The contractor shall maintain a daily progress register and the same should be signed by both the contractors and Railways representative

<b>26.0</b>	<b>Testing &amp; Handing Over</b>
<b>26.1</b>	The contractor shall carry out tests on different equipment as specified in various section in the presence of the Engineer in order to enable them to ensure the plant, equipment and installation in general compliance with the specifications and producing test data in approved format.
<b>26.2</b>	Instruments required for testing shall be arranged by the contractor for testing with initial requirements of all consumables at their own cost
<b>26.3</b>	The plants shall be handed over after satisfactory testing along with six sets of documentation each consisting of :
<b>26.3.1</b>	Detailed equipment data in the proforma approved by the Engineer
<b>26.3.2</b>	Manufacturer's maintenance and operating instructions
<b>26.3.3</b>	Set of as-built drawings, showing plant layouts, piping, ducting etc
<b>26.3.4</b>	Approved Test readings for all equipment & installation
<b>26.3.5</b>	Certificates of approval from Statutory or Local Authorities for the operation and maintenance of the installation and equipment, wherever such approval or certification is required if any
<b>26.3.6</b>	List of Recommended spares
<b>26.3.7</b>	Certificate from the contractors that they cleared the site of all debris and litter caused by them during the construction
<b>26.4</b>	Submission of the above documentation shall from a precondition for the final acceptance of the plant and installation and final plant
<b>26.5</b>	All the equipments as installed and maintained during guarantee period shall be handed over perfectly in working condition on completion of guarantee/defect liability period

<b>27.0</b>	<b>Maintenance Plan</b>
<b>27.1</b>	A maintenance plan shall be provided which will include the following:
<b>27.1.1</b>	Operating and Maintenance Instructions which describe the procedures for operating and maintaining each item, unit / equipment and which will include all technical data for its operation, routine inspection/survey, routine maintenance, procedures for removal and replacement of components and test running.
<b>27.1.2</b>	Parts catalogue along with pricelist and recommended list of spares for one years operation and for 5 years operation.
<b>27.1.3</b>	Special tools, jigs or fixings required for dismantling and test/diagnostic equipment for performance monitoring.
<b>27.1.4</b>	Training requirements.
<b>27.1.5</b>	Manpower plan required for maintenance
<b>27.2</b>	On completion of Testing & commissioning Contractor will provide to Railways 6 copies of all manufacturing drawings, maintenance schedules and software for all components, as well as all As Built Drawings as amended or updated

<b>28.0</b>	<b>Site Clearance</b>
	At the end of each spell of work and on completion of the work, the contractor shall, as a part of his contractual obligation, leave the tracks, and their approaches, stores, yard etc. cleared of rubbish and obstructions of all kinds according to the instructions of the purchaser's representatives

<b>29.0</b>	<b>Safety Measures</b>
	The contractor shall take all precautionary measures and conform to rules and regulations of "occupational safety and health hazards" and that of Railway's safety in force from time to time in order to ensure the protection of his own personnel moving about or working on the Railway premises.
<b>29.1</b>	The Purchaser shall remain indemnified by the contractor in the event of any accident occurring in the normal course of work arising out of the failure of Contractor or his men to exercise reasonable precaution at all places of work whether or not, the purchaser decides to safety measures at any particular site of work.
<b>29.2</b>	The contractor shall remain fully responsible for ensuring safety and in case of any accident, shall bear cost of all damages to this equipment and men and also damages to Railway and its passengers. Engineer in- charge may impose any other condition necessary for a particular work on site.

<b>30.0</b>	<b>Safety Aspect during power Block</b>
<b>30.1</b>	It shall be the responsibility of the contractor to ensure the safety of his remaining materials, tools and tackles during working. He should also remove all men, material, tools, tackles and ladders from OHE /Track/PSI installations and return the "Permit to Work" to the authorized Railway representative within the permitted period. He shall not be allowed any extra time than permitted power block.
<b>30.2</b>	The contractor should engage as far as possible with supervisors and artisans, persons who had acquainted with the OHE and/or PSI construction & maintenance of work in the interest of quality of works, safety and progress.
<b>30.3</b>	Before commencing the work, the contractor should submit the list of man power, machine & Tools which will be employed for the work. Contractor is required to submit certificate for tools & equipment before commencement of work.
<b>30.4</b>	<b>Where ever erection of Upright and Boom of Portal/TTC or Mast on Bridge Piers is required in OHE work, Crane will be arranged by Railway at site.</b>
<b>30.5</b>	<b>For final OHE profile checking and adjustment Railway will provide tower wagon.</b>

## GENERAL SPECIFICATIONS :

<b>1.0</b>	<b>SCOPE</b>
	The scope of work shall be “ <i>Work as mentioned in the NIT</i> ” As specified in schedule of quantity & rates, explanatory note, specifications ,latest drawings and other condition of contract specification in tender document

<b>2.1</b>	It is the sole responsibility of the tenderer to study and familiarize the actual site and visualize the problem and understand the system condition before evolving a suitable design
<b>2.2</b>	The Technical specifications, explanatory notes, drawings, annexure as enclosed and schedule of quantities & rates shall be considered as part of this contract and any work or materials shown in schedule and not called for in the specifications or vice versa, shall be executed as if specifically called for in both. The drawings if any are for the guidance of the contractor. Exact locations, distances and levels will be governed by the site conditions
<b>2.3</b>	The contractor shall examine the installations' specifications, drawings & schedule of quantities, explanatory notes, drawings, annexure etc. for feasibility & safety and may suggest or ask for change required if any to provide satisfactory & safe services of the equipment designated for the station but the decision of the engineer in-charge of the work shall be final and binding
<b>2.3</b>	The system being offered by tenderer shall be complete in all respects. In case, any item is identified after award of contract, required for completing the work and satisfactory operation. The cost of such material will be borne by tenderer. Railways will pay no extra charges.
<b>2.4</b>	The specifications as referred as standard specifications and technical specifications are expected to be known to the working contractors of the concerned field, however the standard specifications are widely available and specific to the work are enclosed as far as possible. Tenderer should make all the efforts to make fully aware of the scope of work, standard & technical specifications as may be required for satisfactory commissioning of the work.

<b>3.0</b>	<b>Working conditions</b>
	All equipment and work covered by this contract shall be capable of operating continuously and delivering the rated output at ambient conditions prevailing at site. The anticipated maximum and minimum temperatures at the work sites may be considered as extreme

<b>4.0</b>	<b>Design</b>
	The System shall be designed based on schedule of quantity & rates, explanatory note & technical specifications as clarified

<b>5.0</b>	<b>Specifications</b>
	Technical specifications forming a part of this contract are intended to cover work referred herein enclosed. It is not the intent to specify completely herein all aspects of design, constructional features of equipment and details of the work to be carried out, but nevertheless the intent of the specification is to ensure that the equipment and work shall conform in all respects to the relevant RDSO, CORE, Bureau of Indian Standard Specifications, CEE W.Rly's specification, Codes of Practice, Indian Electricity Act, Indian Electricity Rules and other Statutory Regulations as may be applicable and to high standards of engineering, design and workmanship.
<b>5.1</b>	The equipment and work shall perform in continuous operation in a manner acceptable to the Purchaser's Representative who will interpret the meaning of the specifications and drawings and shall have the right to reject or accept any equipment or work, which in their assessment is not complete to meet the requirements of this specification and/or applicable Codes and Standards.
<b>5.2</b>	Any item specially mentioned or not in the scope of work as per approved design, drawing & specification, but required to complete the work shall be deemed to be in the scope.
<b>5.3</b>	RDSO's/CORE's/CEE W.Rly's specification is enclosed as Technical Specification .All the technical parameters, service conditions, protection, diagnostic features and testing requirements should be strictly adhered to in terms of RDSO's/CORE's/CEE W.Rly's specifications and the enhanced features as asked if any in the specifications
<b>5.4</b>	Full details of the system being offered by including technical particulars, system characteristics may be fully furnished in the offer giving supporting calculation and diagram
<b>5.5</b>	The work shall conform to all provisions of the relevant Government Legislation, Regulations and Bye- laws of the Central/Local Authorities and of any State Electricity Boards/Companies to whose system the installation is proposed to be connected. The Contractor shall arrange to give all necessary notices required under the said Acts, Regulations and/or Bye- laws.

<b>6.0</b>	<b>Standard specifications</b>
	List of standard Specifications as issued by RDSO/CORE and other code of practices are available in Railway Board website

<b>7.0</b>	<b>Technical Specification (specific to tender)</b>
	The work specific specifications required for the execution of the work are enclosed as “technical specifications” to the tender. The technical specifications are to be read in conjunction with the standard specifications as mentioned above, schedule of the quantities, explanatory notes, drawings, annexure etc.

<b>8.0</b>	<b>Standard Drawings</b>
	The standard drawings as issued by RDSO/CORE are enclosed as annexure or specified with the Technical specification

<b>8.1</b>	<b>Drawings specific to Tender</b>
	The work specific drawings required for the execution of the work are enclosed as annexure or specified with the Technical specification
<b>9.0</b>	<b>Quantities</b>
	The quantities shall be as per technical specifications, explanatory notes, drawings, annexure as enclosed and any work or materials shown in schedule and not called for in the specifications or vice versa, shall be executed as if specifically called for in both for satisfactory commissioning.
<b>10.0</b>	<b>Civil Engineering works</b>
	All civil Engineering works connected with equipment installations like foundations grouting etc. shall be done by the contractor
<b>11.0</b>	<b>Storage of material</b>
	Tenderer will arrange proper storage of the material.
<b>12.0</b>	<b>Anticorrosive measures (As applicable)</b>
	Where ever anticorrosive measure require, contractor will arrange.
<b>13.0</b>	<b>Painting</b>
	Where ever Painting require, contractor will arrange.
<b>14.0</b>	<b>Galvanization:</b>
	Inspection for galvanized structures shall be as under:
<b>15.0</b>	<b>Inspection after Fabrication</b>
<b>15.1</b>	Inspection at the premises of CORE approved agency by the RITES Representative or in the event of exigencies by the representative of CEE /CEE(C)/ CPM (Conv). Two-stage inspection shall be made for “Supply of fabricated/Rolled steel structures & SPS”.
<b>15.2</b>	The manufacturer’s certificate about the quality of the steel being used for fabrication of the structures and SPS shall be obtained and placed on record, along with inspection certificate
<b>15.3</b>	The fabricators steel & zinc, should conform to IS-2062 Gr. 'A' SK(1984/Latest) and IS 808 of 1989) or its latest version, for steel, IS-209 of 1989/Latest, for zinc, ETI/OHE/13(4/84) with A&C slip No.3 for galvanization..
<b>15.4</b>	The steel required (i.e. MS Angles, Channels, Rods & Joist/Beams etc.) for manufacturing must be procured from main producers (i.e. M/s SAIL, IISCO & TISCO etc.) or from the CORE approved re-rollers supported by test certificates conforming to relevant IS codes as mentioned above. The physical & chemical testing must be carried out as per relevant IS code
<b>15.5</b>	If rust is found on the fabricated steel structures, then this has to be cleaned before galvanization as per clause no.3.2 & 3.3 of RDSO’s Specn. No.ETI/OHE/13 (4/84) with A&C slip No.3or latest. The same shall be recorded in the inspection note. The structures shall be offered again for inspection after thorough cleaning, before being sent for galvanization.
<b>15.6</b>	No joints shall be permitted in the fabrication of angles/channels/Lacing rods/Beams/Flats/Plates etc. unless it is specified in the RDSO’s approved drawing



<b>16.0</b>	<b>Inspection after Galvanization</b>
<b>16.1</b>	Inspection of Hot Dip Galvanization at the premises of CORE approved galvanizer by the RITES Representative or in the event of exigencies by the representative of CEE /CEE(C)/ CPM (Conv). It should conform to RDSO's Specn. No.ETI/OHE/13 (4/84) with A&C slip No.3 or latest.and thickness of coating of zinc should be 1000 gms/sq.m. for polluted zone & 600 gms/sqm. for non polluted zone as per the tender conditions.
<b>16.2</b>	Specimen test-piece of steel measuring 100 sq.cm. area (90 cm. long test- piece in case of mast) to be tied with proposed structure being galvanized. This test-sample shall be removed in the presence of Inspecting Official in order to find out the mass of zinc coating for stripping test in terms of Clause 7.4of RDSO's Specn. No.ETI/OHE/13(4/84).with A & C slip No.3.
<b>16.3</b>	Galvanisation defects noticed after erection to be attended as per Clause No.8.2 or 8.3 of RDSO's Specn. No.ETI/OHE/13 (4/84) with A&C slipNo.3.

<b>17.0</b>	<b>Testing &amp; commissioning</b>
	As specified in technical specification of the item/equipment

<b>18.0</b>	<b>Technical Specifications- Specific to the work</b>
	The Specification for the work “ <i>Work as mentioned in the NIT.</i> ” as per schedule of quantity & rates, explanatory note, specifications, latest drawings and other condition of contract specification in tender document

<b>19.0</b>	<b>GCC hand book</b>
	Soft copy of GCC hand book APRIL- 2022/latest may be available on Railway Board website.

<b>Note</b>	<i>Efforts have been made to reproduce the makes, specification; however decision of the Engineer in-charge and condition mentioned in GCC APRIL 2022 shall be final and binding in case of any discrepancies or change of makes/specification/drawings, if any. Confirmation for the same may be taken in writing from Engineer in-charge before procurement. However, latest version of list of approved supplier issued by RDSO &amp; CORE available on website may be referred for procurement.</i>
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