

ರೈಲು ಮೂಲಸೌಲಭ್ಯ ಅಭಿವೃದ್ಧಿ ಕಂಪನಿ (ಕರ್ನಾಟಕ) ನಿಯಮಿತ

ರೇಲ ಇನ್‌ಫ್ರಾಸ್ಟ್ರಕ್ಚರ್ ಡೆವಲಪ್‌ಮೆಂಟ್ ಕಂಪನಿ (ಕರ್ನಾಟಕ) ಲಿಮಿಟೆಡ್

**Rail Infrastructure Development Company (Karnataka) Limited
(K-RIDE)**

(A Joint Venture of Govt. of Karnataka and Ministry of Railways)

TENDER DOCUMENT FOR THE WORK OF

NAME OF WORK: Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings, BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.

TENDER NO. KRIDE/2023-24/EL/WORK_INDENT6, DATED:16/08/2023

RAIL INFRASTRUCTURE DEVELOPMENT COMPANY (KARNATAKA) LIMITED

Samparka Soudha, 1st Floor,
Dr. Rajkumar Road,
Opposite Orion Mall,
Rajajinagar 1st Block, Bengaluru-560010
Tel +91-9881235883
Email: jgmelec@kride.in / electrical.kride@gmail.com



TENDER DOCUMENT

(Through e-Tendering Mode)

Tender for the work of :

Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings, BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.

TENDER NO:	KRIDE/2023-24/EL/WORK_INDENT6, DATE:16/08/2023
TENDER DOCUMENT CAN BE DOWNLOADED FROM	Date: 16/08/2023
PERIOD OF SALE OF TENDER DOCUMENT	NA
LAST DATE FOR SALE OF TENDER DOCUMENT	NA
LAST DATE AND TIME FOR RECEIPT OF BIDS	Date: 15/09/2023, IST 15:00 Hrs (Only electronic tender permitted.)
DATE AND TIME OF OPENING OF COVER ONE OF TENDER (TECHNICAL BID)	Date: 16/09/2023, IST 15:30 Hrs
PLACE OF OPENING OF COVER ONE OF TENDER (TECHNICAL BID)	The opening of the Technical Bid shall take place at e - procurement portal of K-RIDE i.e., www.kppp.karnataka.gov.in .
PLACE OF OPENING OF COVER TWO OF TENDERS (FINANCIAL BID)	The opening of the Financial Bid shall take place at e - procurement portal of K-RIDE i.e., www.kppp.karnataka.gov.in .
DATE AND TIME OF OPENING OF COVER TWO OF TENDERS	Will be intimated to the Qualified Tenderers through Karnataka Public Procurement Portal.
ADDRESS FOR COMMUNICATION	Sr. DGM/Electrical K-RIDE (Rail Infrastructure Development Company (Karnataka) Limited) #8, 1 st Floor, Samparka Soudha, Dr. Rajkumar Road, Opposite Orion Mall Rajajinagar 1 st Block, BENGALURU Tel – 919881235883 E Mail – jgmele@kride.in / electrical.kride@gmail.com

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
AC	Alternating Current
AIS	Air Insulated Switchgear
ASI	Archaeological Survey of India
ASS	Auxiliary Sub-Station
AT	Auto Transformer
ATD	Auto Tensioning Device
BEE	Bureau of Energy Efficiency
BESCOM	Banglore Electricity Supply Company
BIS	Bureau of Indian Standards
BMS	Building Management Systems
BS	British Standards
BSRP	Banglore Suburban Rail Project
BT	Booster Transformer
CB	Circuit Breaker
CEA	Central Electricity Authority
CPCB	Central Pollution Control Board
CPWD	Central Public Works Department
CT	Current Transformer
DB	Distribution Board
DBT	Dry Bulb Temperature
DC	Direct Current
DDC	Detailed Design Consultancy
DG	Diesel Generator
DISCOM	Distribution Company
DWP	Detailed Work Plan
E&M	Electrical and Mechanical

ECBC	Energy Conservation Building Code
EHV	Extra High Voltage
EHT	Extra High Tension
EI	Electronic Interlocking
EIA	Environment Impact Assessment
EIG	Electrical Inspector of Government
E-LAN	Ethernet Local Area Network
EMC	Electro Magnetic Compatibility
EMI	Electro Magnetic Interference
EN	European Standard
FOB	Foot Over Bridge
FP	Feeding Post
FTA	Fixed Terminal Anchor
GAD	General Arrangement Drawing
GC	General Consultancy for Bengaluru Suburban Rail Project i.e., Joint Venture of AECOM, EGIS and Louis Berger
GI	Galvanized Iron
GIS	Gas Insulated Switchgears
Gol	Government of India
GPS	Global Positioning System
GSS	Grid Sub Station
HT	High Tension
HV	High Voltage (as per Indian Electricity Rules)
HVAC	Heating Ventilation Air Conditioning
IEC	International Electro technical Commission
IED	Intelligent Electronic Device
IEEE	Institution of Electrical and Electronic Engineers
IMD	Indian metallogical Department

IISc	Indian Institute of Science
IIT	Indian Institute of Technology
IP	Internet Protocol
IPS	Integrated Power Supply
IR	Indian Railway
IS	Indian Standard
ISO	International Organization for Standardization
IWP	Initial Work Plan
KMPH	Kilometers per hour
LAN	Local Area Network
LC	Level Crossing
LED	Light Emitting Diode
LT	Low Tension
LV	Low Voltage (as per Indian Electricity Rules)
LWR	Long Welded Rail
MCB	Miniature Circuit Breaker
MCCB	Molded Case Circuit Breaker
MD	Maximum Demand
MDB	Main Distribution Board
MMI	Man-Machine Interface
OCC	Operations Control Center
OCS	Overhead Catenary System
OEM	Original Equipment Manufacturer
OFAF	Oil Forced Air Forced
OFC	Optical Fiber Cable
OHE	Over Head Equipment
O&M	Operation & Maintenance
ONAF	Oil Natural Air Forced

ONAN	Oil Natural Air Natural
OPC	Ordinary Portland Cement
PC	Personal Computer
PCC	Power Control Centre
PLC	Programmable Logic Control
PPP	Public Private Partnership
PSI	Power Supply Installation
PT	Potential Transformer
PTFE	Poly Tetra Fluoro Ethylene
PVC	Poly Vinyl Chloride
QoS	Quality of Service
RAMS	Reliability, Availability, Maintainability and Safety
RCC	Reinforced Cement Concrete
RCC	Remote Control Centre
RDSO	Research Designs and Standards Organization
ROB	Road Over Bridge
ROW	Right of Way
RSS	Receiving Sub Station
RTU	Remote Terminal Unit
RUB	Road Under Bridge
S&T	Signaling and Telecommunications
SCADA	Supervisory Control and Data Acquisition
SF 6	Sulphur Hexa Flouride
SIP	Signal and Interlocking Plan
SLD	Single Line Diagram
SMPS	Switch Mode Power Supply
SNS	Short Neutral Section
SOD	Schedule of Dimensions

SP	Sectioning and Paralleling Post
SPV	Solar Photo Voltaic
SS	Sub Station
SSP	Sub Sectioning and Paralleling Post
THD	Total Harmonic Distortion
TMS	Train Management System
TPC	Traction Power Controller
TRANSCO	Transmission Company
TSS	Traction Sub-station
UPS	Uninterrupted Power Supply
VAC	Ventilation and Air Conditioning
VAR	Voltage Ampere Reactive
VHF	Very High Frequency
VPN	Virtual Private Network
WAN	Wide Area Network
XLPE	Cross Linked Poly Ethylene

Definitions

In this Manual of Specifications and Standards (the “Manual”), the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning herein after respectively assigned to them:

Term	Definition
Alignment	shall mean the horizontal and vertical profile of railway track;
As Built Drawing	Shall means those drawings produced by the Concessionaire and endorsed by it as true records of construction;
Auxiliary Equipment	shall mean auxiliary power supply equipment providing power for air conditioning, user facilities & station equipment;
Auxiliary Power Supply	shall mean supply for lighting and power sub-net work, required by all fixed low voltage electrical installations including electro mechanical installations at Stations;
Availability	shall mean the probability that an equipment or system can perform a required function under given conditions over a given time interval or similar measurement;
Bid documents	shall mean the documents in their entirety comprised in the bid submitted by the {selected bidder/Consortium} in response to the Request for Proposal in accordance with the provisions thereof;
Bi-direction	shall mean the operation of Trains in either direction over the same section of track subject to built in safety systems;
Buffer Stop	shall mean the structure at the end of a track to prevent wagons from proceeding beyond the end of the railway line;
Building Management System	shall mean a computer-based control system installed in buildings that controls and monitors the building’s mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems;
“COD” or Commercial Operation Date	shall have the meaning ascribed to the term in the Concession Agreement;
Commissioner of Metro Railway Safety	shall mean the Safety Commissioner appointed by the Government under Applicable Laws to observe all the necessary Tests and to certify that the Metro Rail system is safe for entering into commercial Service;

Concession	shall have the meaning ascribed to the term in the Concession Agreement;
Concession Agreement	shall have the meaning ascribed to the term in the Concession Agreement;
Concession Period	shall have the meaning ascribed to the term in the Concession Agreement;
Console	MMI Device with video display, Keyboard and mouse for Traffic Controller and Assistant Station Master;
Construction Works	shall mean all works and things necessary to complete the Rail System in accordance with the requirements of the Concession Agreement and includes tracks, civil works, electrical, signalling systems and communication systems;
Consultant	Shall mean the detailed design consultancy i.e., the tenderer/firm/company/JV bidding for this tender or awarded the work of detailed design consultancy of Bengaluru Suburban rail project.
Conventional Track Circuit	All Kind of Track Circuits for the train detection consisting of electric/electronic circuit with rails and train wheels;
Cross over	shall refer to the means by which two juxtaposed tracks are connected;
Definitive Design	shall mean prepared and accepted part of drawings, documents, standards, and instructions, which give the abilities for supply, installation and testing. Giving Clearance by the IE/Employer as the case may be, to the definitive design is an obligatory condition for the commencement of construction work;
Degraded	shall refer to all states or conditions, other than "normal";
Depot	shall mean the area designated for maintenance of sub-systems of the Rail System;
Design Headway	shall mean the minimum time interval between successive Trains operated at the permitted line speed, such that the speed of a following Train is not reduced by the Train ahead;
Design Life	The Design Life of the equipment and system is the period of time during which the item is expected to work within its specified parameters; in other words, the design expectancy of system;
Detection	shall refer to the ability to determine that a track section or block is occupied by a Train, or the ability to verify that a point or signal has operated correctly as part of interlocking;

DISCOM	shall mean a distribution company which is licensed to sell electric power;
“Document” or “Documentation”	shall have the meaning ascribed to the term in the Concession Agreement;
Downtime	shall refer to the time from when equipment, sub-system, or system becomes unavailable for use due to maintenance attention until the time it becomes available for use again;
E&M Equipment	shall mean all equipment and systems to be designed, manufactured, supplied, installed, tested and commissioned under the Concession Agreement for the operation of the Rail System and includes maintenance equipment, special tools, building and facilities;
Earthing or Grounding	shall mean the connection of equipment enclosures and non current carrying metal parts to earth to provide safety to personnel, public and to the equipment;
Emergency	shall mean a condition or situation that is likely to endanger the security of the individuals on or about the Rail System, including Users thereof, or which poses an immediate threat of material damage to any of the Project Assets;
Embedded E&M	shall refer to electrical and mechanical facilities, such as Earth mat, bonding, and the like, to be included within the structures;
Employer	shall mean Karnataka rail infrastructure development company(K-RIDE);
Engineer	General Consultancy for Bengaluru Suburban rail Project, i.e., Joint Venture of AECOM, EGIS & Louis Berger
Fail Safe	shall mean a design feature which enables a system (or element of a system) to revert to the safe condition in case of its failure;
Failure	shall mean an event which causes loss of function or performance within any part of the rail system and requires a maintenance intervention to restore full functionality and performance;
General Rules	shall mean the rules for working of stations, Trains and methods of working;

Good for Construction Drawing	shall mean drawings derived directly from the Definitive Design and shall detail and illustrate in full the permanent and temporary works. These drawings are the one which concessionaire considers sufficient in detail for construction and are cleared by the Employer, as the case may be, for construction;
Good Industry Practice	shall have the meaning ascribed to the term in the Concession Agreement;
Horizontal Curve	shall mean a track which is curved in plan;
Illuminance	shall mean the luminous flux incident on a surface divided by the area of the surface and is measured in lux where 1 lux=1 lumen/m ² ;
Maintainability	shall mean the probability that a given maintenance action for a given equipment or system under given conditions of use, can be carried out in a stated time interval when the maintenance is performed under stated conditions using stated procedures and resources;
Maintenance	shall include visual inspection, adjustment, replacement or repair carried out on equipment, sub-systems or systems which results in the item undergoing attention being preserved within maintenance tolerances or returned to its design tolerances;
Maintenance Manual	shall refer to the manual prepared by the Concessionaire and approved by Employer for the regular and preventive maintenance of the Rail system in conformity with the maintenance requirements, safety requirements and Good Industry Practice;
Man Machine Interface (MMI)	shall mean the interface between the Controller and the control system;
Operation Control Centre	shall mean the place for the operation and supervision of rail system;
Operating Headway	shall mean planned service intervals between all Trains. Operating headway should allow a defined margin over design headway;
OHE	The electrical conductors over the track together with their associated fittings, insulators and other attachments by means of which they are suspended and registered in position;
Permanent Way	shall mean railway track;

Points or Switch or Turn out	shall refer to the track mechanism operated to divert the Train where a single track splits to become two tracks and equipped with moving rails to change the route;
Preliminary Design	shall mean the submission of Concessionaire's Documents which comprise the initial stage of design phase;
Preliminary Drawings	shall mean the drawings prepared by the Concessionaire that are built on the reference Drawings and accompany the Concessionaire's Preliminary Design Submissions;
Project	shall mean the construction and maintenance of the Rail System in accordance with the provisions of the Concession Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;
Rail System	shall have the meaning ascribed to the term in the Concession Agreement;
Receiving Sub Station	shall mean the sub-station, which receives electric supply from KPTCL/BESCOM and supplies power network of TSS and ASS;
Rectifier	shall mean a converter to convert AC to DC;
Reference Drawings	Shall mean the drawings prepared by the Employer and included in the bidding document;
Regenerative Brake	shall mean the use of traction motors as generators when in braking mode to brake the Train by returning electrical energy to the conductor rails;
Reliability	shall mean the probability that an equipment or system can perform a required function under given conditions for a given time interval or given number of operations or similar measurement parameter;
Remote Control Centre	shall mean a nerve centre of traction system, from which full control over every switching operation on the entire electrified route is exercised. RCC is setup in OCC, to work in close liaison with the traffic control. The RCC includes the main control room, equipment room, Uninterrupted Power Supply (UPS) room, Remote Control Laboratory and Battery Room;
Right of way	shall mean the constructive possession of the Site, together with all way leaves, easements, unrestricted access and other rights of way, howsoever described, necessary for construction, operation and maintenance of the Rail System in accordance with the Concession Agreement;

Sectional Speed	shall mean the optimum speed at which the Train should be driven;
Service	shall mean the freight service available for the use;
Service Affecting Failure	shall mean a failure which causes a delay to Train Services;
Spares	shall mean components, assemblies or sub assemblies, which are used to replace items in operational use;
Specifications and Standards	shall have the meaning ascribed to the term in the Concession Agreement;
Station	shall mean a place in the Rail System where two or more routes are available or where train stops for operating requirements of crossing / precedence to other trains (Crossing station);
Section Working Rules	shall mean the rules for working of Trains at the station;
Structure Gauge	shall indicate the dimensions of a structural cross section within which no outside object, such as signal masts, sign boards etc. may protrude;
Sub station	shall include the RSS, TSS and ASS where electric equipment are located that receives and converts or transforms the received electrical energy into usable electrical energy;
Substation Automation System	Shall mean a system installed to control and monitor all the sub-station equipment from remote control centre (RCC) as well as from local control centre;
Sub system	Each System of a main system assigned a particular portion of overall function;
Tests	shall mean all the tests necessary to determine the completion of Rail System in accordance with the provisions of the Concession Agreement;
Traction System	shall mean the system which provides electric power for movement of Trains;
Track work	shall mean the Permanent Way system as defined in this Manual;
Train	shall mean a series of railway wagons that is hauled as a single unit by locomotive/s or by integral motors on the Rail System and includes a single wagon;

TRANSCO	shall mean a transmission company which is licensed to transport electric power;
Transition curve	shall mean a curve connecting sections of track laid to different radii;
Traction Sub-station	shall mean a sub-system of traction power supply which provides operational power supply to the Trains and receives return current via running rail;
Very High Voltage	shall be as defined in Indian Electricity Rules;
Working Instructions	shall mean instructions approved and issued by the Employer for safe working of the system;
Works	shall refer to all labour, materials and equipment to be fitted into the stations and structures that are necessary to implement the Operation and Maintenance requirements;
Others	Any capitalized term used herein not specifically defined shall have the meaning ascribed to such term in the Concession Agreement;

SECTION: 1

NOTICE FOR INVITATION FOR TENDERS (IFT)

Rail Infrastructure Development Company (Karnataka) Limited
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INVITATION FOR BIDS**(Through e-tendering mode)**Tender Notice No. **KRIDE/2023-24/EL/WORK_INDENT6****Date: 16.08.2023**

THE RAIL INFRASTRUCTURE DEVELOPMENT COMPANY (KARNATAKA) LIMITED (K-RIDE), having its corporate office, at #8, 1st Floor, Samparka Soudha, Dr. Rajkumar Road, Opposite Orion Mall, Rajajinagar 1st Block, Bengaluru-560010, India, which is a Joint Venture of Government of Karnataka and Ministry of Railways invites Bids from eligible Bids, for the construction of works detailed in the table below under **Single stage: Two tender document system (Technical Bid and Financial Bid)**.

SL. NO.	NAME OF WORK	TENDER SECURITY/EMD	PERIOD OF COMPLETION
1	2	3	4
1	Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings, BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.	Bid Security / EMD as mentioned in Section 2 and as per form BDF-1 shall be submitted. (Bids without Tender Security / EMD will be summarily rejected)	50 MONTHS

NOTE:

- The Tenderers shall submit the tender through e - procurement portal. Tenderers should scan the registration copy; work done certificate and any other document and submit through online. More information can be had from website www.kppp.karnataka.gov.in.

2. The detailed terms and conditions of the Project, including the scope of the works, services and obligations are in Employer's requirement and scope of work and conditions of contract (GCC, PCC and contract data).
3. The Tenderers are advised to examine the Project in greater detail, and to carry out, at their cost, such studies as may be required for submitting their respective Bids for award of the contract.
4. The Tenderers shall submit the tender through e - procurement portal. Tenderers should scan the registration copy; work done certificate and any other document and submit through online. More information can be had from website www.kppp.karnataka.gov.in
5. On the stipulated date of opening of Tenders, initially, only the Technical Bids are opened through Karnataka Public Procurement Portal. The Technical Bids shall be evaluated by the Employer in accordance with the stipulated Qualification and Evaluation criteria. No amendments or changes to the Technical Bids would be permitted after the opening of Technical Bids.
6. Tenderers who are qualified in the Technical Evaluation, their Price Bid shall be opened at a date and time advised by the Employer (K-RIDE) through e-tendering portal. The Price Bids are evaluated and the Contract is awarded to the Tenderer whose Tender has been determined to be the lowest evaluated substantially responsive tender.
7. Tenderers are advised to note the eligibility and minimum qualifying criteria specified in the Section 2: Instruction to Tenderers of the tender document.
8. Tenders must be accompanied by a Bid Security as per ITT 13.7 and Section 3: Qualification Information/Bidding Forms in any one of the forms as specified in the tender documents and shall have to be valid for 45 days beyond the validity of the tender. Any Tenders received without bid security shall be summarily rejected.
9. Incomplete Tender submission will be considered non-responsive and such Tenders shall not be considered for further evaluation.
10. Tender Documents can be downloaded free of cost from Karnataka Public Procurement Portal i.e., www.kppp.karnataka.gov.in from 16/08/2023 and the Tenders must be submitted online via Karnataka Public Procurement Portal only.

Please note that drawings, if any, referred in the tender document, but not uploaded with the tender document, can be viewed in this office on any working day. The Tenderer can also have a copy of the same on payment of non-refundable cost of 5,000/- (Rupees Five Thousand only) by a e-Payment mode (credit card/debit card/net banking/UPI) in favor of **Rail Infrastructure Development Company (Karnataka) Limited**, Bangalore.

It will be the responsibility of the Tenderer who is submitting the Tender on downloaded Tender documents to check and see any Addendum/Corrigendum issued in this regard from the website from time to time and ensure submission of bid along with all Addendum/Corrigendum.

In case of any clarification the Tenderer can visit the Rail Infrastructure Development Company (Karnataka) limited Corporate Office Bengaluru at #8, 1st Floor, Samparka Soudha, Dr. Rajkumar Road, Opposite Orion Mall, Rajajinagar 1st Block, Bengaluru-560010. Tel. No.+91-9881235883.

11. Validity of Tender: Tenders shall remain valid for a period of **180 days** after the Tender submission deadline date prescribed by the employer. A Tender valid for a shorter period shall be rejected by the employer as non-responsive.
12. In exceptional circumstances, the Employer may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender security is requested in accordance with ITT 13, it shall also be extended up to the date mentioned in the letter of request for extension. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting the request shall not be required or permitted to modify its Tender.
13. If, the office happens to be closed on the date of opening of Tender, the Tenders will be opened on next working day at the same time and venue.
14. A Pre- Bid meeting will be held on 31/08/2023 at 11:30 Hrs. IST at the office of K-RIDE, Bangalore to clarify the issues if any and to answer questions on any matter that may be raised at that stage as stated in Clause - 8 of ITT of the Tender document.
15. Other details can be seen in Tender documents.
16. **REGISTRATION:**
 - a. Tenderers are required to enroll on the e-tendering Portal www.kppp.karnataka.gov.in with clicking on the link "Tenderers Registration" on the e-tender Portal by paying requisite registration fee as applicable.
 - b. As part of the enrolment process, the Tenderers will be required to choose a unique user name and assign a password for their accounts.
 - c. Tenderers are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication with the Tenderer.
 - d. Upon enrolment, the Tenderers will be required to register their valid Digital Signature Certificate (Only Class III Certificates with signing + encryption key usage) issued by any Certifying Authority recognized by CCA India with their profile.
 - e. Only one valid DSC should be registered by a Tenderer. Please note that the Tenderers are responsible to ensure that they do not lend their DSC"s to others which may lead to misuse.
 - f. Tenderers then logs in to the site through the secured log-in by entering their user ID/password and the password of the DSC / e-Token.
 - g. The scanned copies of all original documents should be uploaded on portal.
 - h. For any query regarding e-procurement on the Karnataka Public Procurement Portal, contact helpdesk number;
[+91-8046010000](tel:+918046010000), [+91-8068948777](tel:+918068948777),
support@eprochelpdesk.com

17. SEARCHING FOR PROPOSAL DOCUMENTS

Once the Tenderers have selected the proposals they are interested in, the Tenderers can pay nonrefundable processing fee as per the Karnataka Public Procurement Portal.

18. PRECAUTIONS FOR SUBMITTING / PREPARATION OF PROPOSALS THROUGH E TENDERING PORTAL

- a. Tenderer, in advance, should get ready the proposal documents to be submitted as indicated in the proposal document / schedule and generally, they can be in PDF /JPEG formats.
 - b. Tenderer should log into the website well in advance for the submission of the proposal so that it gets uploaded well in time i.e., on or before the proposal submission time. Bidder will be responsible for any delay due to other issues.
 - c. The Tenderer has to digitally sign and upload the required proposal documents one by one as indicated in the tendering document.
 - d. The server time (which is displayed on the consultant's dashboard) will be considered as the standard time for referencing the deadlines for submission of the proposals by the consultants, opening of proposals etc. The consultants should follow this time during proposal submission.
19. The Tenderer should furnish the Name of the individual / firm / Company / Joint venture with address and telephone number with place of registration, year of incorporation etc.,
20. Tender by a joint venture of contractors is permitted subject to conditions indicated in tender document.

Note: Wherever the word JV/Consortium is mentioned there, it should be read as JV.

21. The application made by the firm / company / Joint Venture shall be signed by a person holding the power of attorney, in which case the Tenderer shall furnish a copy of power of attorney.
22. Bid through any other mode shall not be entertained. However, power of attorney and JV agreement etc., shall be submitted by the bidder on or before submission date and time.

23. EMPLOYEES PROVIDENT FUND REGISTRATION CERTIFICATE

The Contractor shall furnish EPF Registration Certificate before entering into agreement in the event of award of work to them after tender, subject to compliance with the following conditions:

- a) If the contractor is registered already with the EPF authorities, they should produce a copy of the EPF Registration Certificate.
- b) If not registered with the EPF authorities, the Tenderer should produce an undertaking at the time of participating in the tender that he shall within 7 days of the close of every month submit a Statement to Engineer showing the recoveries of contribution in respect of

Employees by or through him and shall also furnish such information as the Engineer is required to furnish under the provisions of the Scheme to the Commissioner EPF.

- c) However, having given an undertaking to this effect if the Contractor does not furnish the information, the Employer will deduct the necessary amount from the amount due to the Contractor. Notwithstanding the above, the Contractor will be liable for any consequential penalty /damages levied by the EPF authorities.

24. The necessary certificates / documents in support fulfilling qualifying criteria stipulated separately shall be scanned and attached to e-procurement document. The original documents if required by the Employer shall be produced whenever asked by Employer on Technical Bid/ Financial Bid.

25. The intending Tenderers are advised to visit the site of work before submitting the Tenders and also before attending the Pre- Bid meeting.

26. SITE VISIT AND VERIFICATION OF INFORMATION.

26.1 Tenderer are encouraged to submit their respective Bids after visiting the Project site and ascertaining for themselves the site conditions, traffic, location, surroundings, climate, availability of power, water & other utilities, access to site, handling and storage of materials, weather data, applicable laws and regulations, and any other matter considered relevant by them. Tenderers are advised to visit the site and familiarize themselves with the Project within the stipulated time of submission of the Bid. No extension of time is likely to be considered for submission of Bids.

26.2 It shall be deemed that by submitting a Bid, the Tenderer has:

- (a) made a complete and careful examination of the Bidding Documents, Schedules annexed to the Tender document.
- (b) received all relevant information requested from the Authority;
- (c) accepted the risk of inadequacy, error or mistake in the information provided in the Bidding Documents or furnished by or on behalf of the Authority relating to any of the matters referred to in Clause 27.1 above. No claim shall be admissible at any stage on this account.
- (d) satisfied itself about all matters, things and information including matters referred to in Clause 27.1 here in above necessary and required for submitting an informed Bid, execution of the Project in accordance with the Bidding Documents and performance of all of its obligations there under.
- (e) acknowledged and agreed that inadequacy, lack of completeness or incorrectness of information provided in the Bidding Documents or ignorance of any of the matters referred to in Clause 27.1 here in above shall not be a basis for any claim for compensation, damages, extension of time for performance of its obligations, loss of profits etc. from the Authority, or a ground for termination of the Agreement by the Contractor.
- (f) acknowledged that it does not have a Conflict of Interest;and
- (g) agreed to be bound by the undertakings provided by it under and in terms hereof.

- 26.3 The Authority shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to the Tender document, including any error or mistake therein or in any information or data given by the Authority.
27. The qualification criteria as indicated in bid document should be met by the intending Tenderers.
28. Tenderers shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Govt. of Karnataka, Govt of India and any PSUs thereof.
29. The conditional Tenders will not be accepted.
30. The Employer is not responsible for any delay in accessing Karnataka Public Procurement Portal.
31. The approximate value of the work is inclusive of all taxes, duties, etc., The rates quoted by the Tenderer must be inclusive of all Taxes, Duties etc.,
32. The Employer reserves the right to either postpone or to cancel the entire process of tender.
33. If Employer wishes to engage third party consultants for quality control assessment, apart from the Employer quality control and field tests, the Tenderer should co-operate with both Quality control authorities and the third party.
34. Deleted
35. **Last Date of Receipt and opening of Bids:** The completed Tenders must be submitted through Karnataka Public Procurement Portal or www.kppp.karnataka.gov.in not later than 15.00 Hrs on **15/09/2023** and shall be opened on **16/09/2023** at 15.30 hrs. K-RIDE will not be responsible for any delays in the receipt of Tender by K-RIDE. Late Tenders (received after stipulated date and time of submission of Tenders) shall not be accepted under any circumstances. K-RIDE reserves the right to accept/reject any or all proposals without assigning any reason thereof.
36. Any suit or application, arising out of any dispute or differences on account of this tender shall be filed in a competent court at Bengaluru, Karnataka only and no other court or any other district of the country shall have any jurisdiction in the matter.
37. **Address for Communication:** Interested eligible Tenderers may obtain further information from the following address:

Sr. DGM/Electrical,
Rail Infrastructure Development Company (Karnataka) Limited,
#8, 1st Floor, Samparka Soudha, Dr. Rajkumar Road, Opposite Orion Mall
Rajajinagar 1st Block, Bengaluru-560010
Tel +91-9881235883
E-mail: jgmelec@kride.in / electrical.kride@gmail.com

For any Query regarding e tendering portal/ Tender submission please contact
helpdesk Number +91-8046010000, +91-8068948777
Email: support@epochhelpdesk.com

SECTION – 2

INSTRUCTIONS TO TENDERERS (ITT)

SECTION 2: INSTRUCTIONS TO TENDERERS (ITT)

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TABLE OF CLAUSES

A. GENERAL

1. SCOPE OF THE TENDER:

1.1 THE RAIL INFRASTRUCTURE DEVELOPMENT COMPANY (KARNATAKA) LIMITED (K-RIDE), Having its Corporate office, at #8, 1st Floor, Samparka Soudha, Dr. Rajkumar Road, Opposite Orion Mall, Rajajinagar 1st Block, Bengaluru-560010, India, which is a Joint Venture of Government of Karnataka and Ministry of Railways invites Tenders from Eligible Tenderers, for the construction of works details as given in the invitation for the Tenders (IFT). The tenderers may submit the tenders for the works detailed in the IFT.

2. ELIGIBLE TENDERERS:

2.1 The Tenderers shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by Govt. of Karnataka, Govt of India and PSUs.

2.2 JOINT VENTURES:

Tendering by a joint venture of consultants are permissible subject to following conditions:

- a. If the Applicant comprises a number of firms combining their resources in a joint venture, the legal entity constituting the joint venture and the individual partners in the joint venture shall be registered after award of work and shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by GOK.

Note: The Joint Venture agreement needs to be registered under "The Registration Act 1908" after the issue of LOA. Incorporation of the JV is not expected.

- b. The joint venture must satisfy collectively the Qualification criteria. For this purpose, the following data of each member of the joint venture may be added together to meet the collective qualifying criteria:
 - i. Average annual turnover (sub clause 3.2a).
 - ii. Particular experience including key production rates. (Sub clause 3.2b & c).
 - iii. Financial means (sub clause 3.3b liquid assets, the audited balance sheets or other financial statements acceptable to the employer, for the last five years shall be submitted and must demonstrate current soundness of the applicant's financial position and indicates its prospective long-term profitability.
 - iv. Personnel capabilities (sub clause 3.3c: List of minimum key staff/position required during the contract implementation).
 - v. Deleted.
- c. Each partner must satisfy the following criteria individually:
 - i. General consultancy experience for the period of years stated in Tender document (Instructions to Tenderers: The intending Tenderer / firm / company / joint venture shall provide evidence that it has been actively engaged in work of

“Consultancy for Design and simulation of 25 kV Overhead Equipment Traction system with Traction Power Supply, SCADA, and Auxiliary Power supply comprising of Load flow, harmonics, EMI/EMC, Earthing and bonding, Relay co-ordination and Protection for Elevated and At Grade section of Metro Rail / Rapid Rail Transit / High Speed Rail system”

at least for a period of 5 years prior to the of submission of application. (From FY: 18-19 to FY: 22-23)

- ii. Adequate sources to meet financial commitments on the other contracts (Sub clause 3.5: Accessed availed Tender capacity).
 - iii. **Financial Soundness (Instructions to Tenderers):** The intending Tenderer / firm / company shall provide the audited balance sheets or other financial statements acceptable to the employer for the last five years and must demonstrate the current soundness of the applicant's financial position and indicate its prospective long-term profitability. If deemed necessary, the employer shall have the authority to make enquiries with the applicants' bankers).
 - iv. **Litigation History (Instructions to Tenderers):** The intending Tenderer/firm/company/ joint venture shall provide accurate information on the related application form about any litigation or Arbitration resulting from contracts completed or on going under its execution over the last five years. The consisting history of awards against the tenderer or any partner of a joint venture may result in failure of the application).
 - v. In accordance with the above, the Application shall include all related information required for individual partners in the joint venture
- d. **Joint venture is restricted to 3 (Three) number of partners.** One of the partners, who is responsible for performing a key function in contract management or is executing a major component of the proposed contract, shall be nominated as being in charge during the tendering periods and, in the event of a successful tender, during contract execution. The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture; this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.
- e. All partners of the joint venture shall be legally liable, jointly and severally, during the tendering process and for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under Sub-Clause 2.2(d) above. **To enable the above, each of the partners of the joint venture shall meet not less than 25% of the qualifying criteria specified for Average annual turnover and Line of credit / liquid assets. All members of the joint venture must have experience in execution of similar work.**
- f. A copy of the Joint Venture Agreement (JVA) entered into by the partners shall be submitted with the Application. Pursuant to Sub-Clauses 2.2(c) to 2.2(f) above, the JVA shall include among other things: the JV's objectives; the proposed management structure; the contribution of each partner to the joint venture operations; the commitment of the partners to joint and several liability for due performance; recourse/sanctions within the JV in the event of default or withdrawal of any partner; and arrangements for providing the required indemnities.

SECTION:2: - INSTRUCTIONS TO TENDERERS (ITT)

The lead partner shall enter into a Joint Venture agreement of ` 200.00 stamp paper in the prescribed format which shall be concluded prior to Tender and enclosed to the Tender document J.V. Partner shall not enter in to multiple J.V' s with different Tenderers of the same work.

- g. The qualification of a joint venture does not necessarily qualify any of its partners to tender individually or as a partner in any other joint venture or association. In case of dissolution of a joint venture prior to the submission of tenders, any of the constituent firms may qualify if they meet all of the qualification requirements, subject to the return approval of the employer. Individual members of a dissolved joint venture may participate as sub-consultant to qualified applicants, subject to the provisions mentioned below:

- “No firm can be a sub-consultant while submitting a tender individually or as a partner of a joint venture in the same tendering process. A firm, if acting in the capacity of sub-consultant in any tender, may participate in more than one tender, but only in that capacity. A tenderer who submits, or participates in, more than one tender will cause all the proposals in which the tender has participated to be disqualified.”
- A firm shall submit only one Tender in the same Tendering process, either individually as a Tenderer or as partner of Joint Venture.
- The necessary certificates/documents in support of pre-qualification criteria fulfilled as stipulated shall be scanned and attached to e-tender document. Scanned signature of the Tenderer/authorized representatives of the Tenderer shall be attached while uploading the Tender document.

Any Tenderer who is otherwise technically qualified withdraws from the Tender process at any stage before a final decision is taken on the tender, the EMD of such Tenderer shall be forfeited, the name of such Tenderer shall be removed from the category list of consultants at least for a minimum period of one year in K-RIDE beside making such Tenderer liable for blacklisting.

- Tenders submitted by all Tenderers in the process of Tender evaluation will be opened even if the Tenderer withdraws from the Tender process by not submitting the original documents for verification or for any other reasons and the prices quoted by them will be looked into, to ascertain if there is collision amongst the Tenderers to determine the competitiveness of the L1 price quoted by other Tenderers, as per the decision by the K-RIDE.
- Prior to awarding of the work, the Lowest (L-1) Tenderer should produce the original documents in support of the uploaded documents to enter in to the agreement. If the lowest Tenderer (L-1) does not produce the original documents for entering into the agreement then his Tender can be treated as non-responsive Tender as per clause 26(4) of the KPPP Rules. The name of the Tenderers who do not produce the original documents shall be removed / debarred from the select list of K-RIDE enrollment and barred from participation in any of the tenders to be invited by K-RIDE a part from forfeiting the EMD paid through e-cash.
- The bidder, JV Partner shall not be under Corporate Debt Restructuring (CDE)/ Strategic Debt Restructuring (SDR) or Bureau of Industrial & financial reconstruction (BIFR) in last 5 years to bid submission date. In this regard, the bidder shall submit along with bid, a certificate with a declaration that, the bidder is not under CFR/SDR or BIFR.
- Further information about e-tendering can be had from Karnataka Public Procurement Portal www.kppp.karnataka.gov.in

3. QUALIFICATION OF THE TENDERER.

3.1 All the tenderers shall provide the requested information accurately and sufficient details in section 3: Qualification information. The Joint Venture to be formed prior to the Bidding.

Pre-qualification will be based on Applicants meeting all the following minimum pass-fail criteria regarding their general and particular consultancy experience, financial position, personnel and equipment capabilities, and other relevant information as demonstrated by the Applicant's responses in the Information Forms attached to the Letter of Application. Additional requirements for joint ventures are given in para 2.2

3.2 The following qualification criteria should be met by the intending Tenderers.

- a) Required average annual turnover (in all classes of design/consultancy work): **The intending Tenderer/firm/ company / Joint Venture should have achieved a MINIMUM AVERAGE ANNUAL TURNOVER of 3.00 Cr. in last five Financial Years from 2018-19 to 2022-23.**

NOTE:

The Tenderers shall submit certificates to this effect which may be **attested certificates** from the concern **departments/ Client or Audited balance sheet** duly certified by the statutory Auditor/ certificate from Chartered Accountant duly supported by audited balance sheet. The Turnover certificate duly certified by statutory Auditor should be uploaded. Financial turnover of previous years will be given a weightage of 10% per year or part thereof up to the month previous to the Bid submission month as indicated in qualification information (Tender Forms) Form FIN-2 based on the rupee value to bring them to current FY: 2023-24 price value.

- b) **The Tenderer/Firm/Company/JV should have satisfactorily completed at least one / two / three similar work(s) of the value not less than that mentioned in clause 3.3 a) at current FY: 2023-24 price level in the preceding five financial years (FY 2018-19 to FY 2022-23) and till the last day of the month previous to the month of bid submission.**

NOTE:

The criteria above apply to the Individual Tenderer/Firm/company/Joint venture also. Certificate regarding the same duly signed by an officer not below the rank of the Executive Engineer to be submitted along with the technical Tender. The certificate from Project Manager of Client / Concessionaire OR Independent Engineer (Project Management Consultant of Client / Concessionaire) duly validated by the Employer /SPV/Corporation can also be considered.

3.3 Technical Eligibility Criteria:

- a) Work Experience: The bidders will be qualified only if they have successfully completed similar work/works as defined in clause 3.3.b) at current FY: 2023-24 price level in the preceding five financial years (FY 2018-19 to FY 2022-23) and till the last day of the month previous to the month of bid as given below.
- i. At least three "Similar Work" each of value Rs. **2.00 Cr.** or more.
Or
 - ii. At least two "Similar Works" each of value Rs.**3.00 Cr.** or more
Or
 - iii. At least one "Similar Work" of value Rs. **4.00 Cr.** or more

NOTE: Value of successfully completed phases of any ongoing traction and power supply design work within the period mentioned above, will also be considered towards qualification of

work experience criteria, provided these phases have been tested, commissioned and put into operation.

b) **Similar work** is defined as below:

“Consultancy for Design and simulation of 25 kV Overhead Equipment Traction system with Traction Power Supply, SCADA, and Auxiliary Power supply comprising of Load flow, harmonics, EMI/EMC, Earthing and bonding, Relay co-ordination and Protection for Elevated and At-Grade section of Metro Rail / Rapid Rail Transit / High Speed Rail system”

NOTES

1. The contract is considered as satisfactorily completed if 80% or more of the work is physically completed which is to be substantiated by a certificate from the Employer, who has awarded the contract to the Bidder and the contract amount so received should be equal to or more than the minimum value as per eligibility criteria 3.3 (a). The certificate from Project Manager of Client/Concessionaire OR Independent Engineer (Project Management Consultant of Client/Concessionaire) duly validated by the Employer / SPV / Corporation shall also be considered.
2. For completed consultancy services, the value of work done shall be updated to current FY 2023-24 price level assuming 10% inflation for Indian rupees every year or part thereof up to the month previous to the Bid submission month. Credentials if submitted in foreign currency shall be converted into Indian currency i.e., Indian Rupee as under: Bids will be compared in Indian Rupees only. The exchange rate of foreign currency shall be applicable 28 days before the tender submission date. For conversion of foreign currency to Indian Rupee exchange rates published by Financial Benchmarks Private limited (www.fbil.org.in) 28 days before the date of bid submittal will be considered. In case the particular day happens to be a holiday the exchange rate published on the next working day will be considered. In case of consultancy services in foreign currency the effect of inflation is considered as included, as the exchange rate prevailing 28 days before tender submission is being considered for conversion to Indian Rupees.
3. In case of JV, full value of the work, if done by the same JV shall be considered. However, if qualifying work (s) done by them in JV having different constituents, then the value of work as per their percentage participation in such JV shall be considered.

3.4 The intending Tenderer / firm / company / Joint Venture should have executed the components within last five financial years and Each component should have been executed in any one year (Any continuous 12 months).

Component No.	Nature of Work	Minimum component of work
1	“Consultancy for Design and simulation of 25 kV Overhead Equipment Traction system with Traction Power Supply, SCADA, and Auxiliary Power supply comprising of Load flow, harmonics, EMI/EMC, Earthing and bonding, Relay co-ordination and Protection for Elevated and At - Grade section of Metro Rail / Rapid Rail Transit / High Speed Rail system”	10 Route KM (Consisting of UP & DN lines)

OR

3.4 The intending Tenderer/Firm/Company/JV should have satisfactorily completed the similar work(s) for a Metro Rail / Rapid Rail Transit / High Speed Rail System at least one Corridor of any length consisting of UP & DN lines at current FY: 2023-24 price level in the preceding five financial years (FY 2018-19 to FY 2022-23) and till the last day of the month previous to the month of bid submission.

The client certificates along with work orders are mandatory for establishing the detailed design consultancy experience of the consultant. In case any of the required documents are not submitted in the required form, the work experience will not be considered as a qualifying work experience.

NOTE:-

1. The criteria above apply to the Individual Tenderer / Firm / Company / Joint Venture also. Certificate regarding the same duly signed by an officer not below the rank of the Executive Engineer should be submitted along with the technical Tender.
2. The qualifications, capacity, and resources of proposed subcontractors will not be taken into account in assessing those of individual or joint venture Applicants, unless they are named specialist subcontractors.
3. For para 3.4: The prior consent of the Employer shall be obtained for replacement of proposed identified Subcontractors if any and for which the same qualification criteria as indicated in paras above are required.
4. For para 3.4: Similar work done for single line will not be considered for evaluation.
 - Replace CA audit with Statutory Auditor wherever applicable, except in qualification of experts.

3.5 Each Tenderer should further demonstrate:

3.5a) Key Plant and Equipment: DELETED

3.5b) LIQUIDITY

It is necessary that the firm can withstand cash flow that the contract will require until payments are received from the Client. Liquidity therefore becomes an important consideration.

This shall be seen from the balance sheets and/or from the banking reference. Net current assets and/or documents including banking reference, should show that the applicant has access to or has available liquid assets, lines of credit and other financial means to meet cash flow of ₹0.50 Crore for this contract, net of applicant's commitments for other Contracts. Banking reference should contain in clear terms the amount that bank will be in a position to lend for this work to the applicant/member of the Joint Venture. In case the Net Current Assets (as seen from the Balance Sheets) are negative, only the Banking references will be considered. Otherwise, the aggregate of the Net Current Assets and submitted Banking references will be considered for working out the Liquidity.

The banking reference should be from a Scheduled Bank in India or in case of foreign parties from an international bank having operations in India as acceptable to K-RIDE and it should not be more than 3 months old as on date of submission of bids.

The bidder shall fulfil this criterion by Lead Member/JV.

3.5c) LIST OF MINIMUM KEY TECHNICAL PERSONNEL:

List of Minimum Key Technical personnel required for the work is Appendix A of Section-8 (Terms of Reference). The Consultant shall have competent team personnel so as to complete the work satisfactorily as per various requirements of the contract.

Note: The CV's to be given for Serial No.1 to 9 of Appendix A of Section-8 as per Form-5 & Form - 6 of Section-3 (Qualification Information/Bidding Forms).

3.6 To qualify for a package of contracts made up of this and other contracts for which tenders are invited in this IFT, the Tenderer must demonstrate having experience and resources to meet the aggregate of the qualifying criteria for the individual contracts.

3.7 Sub-Contractors' experience and resources shall not be taken into account in determining the Tender's compliance with the Qualifying Criteria.

3.8 BID CAPACITY: DELETED

3.9 NETWORTH: The Bidder's net worth for the last Financial Year should be Positive.

3.10 Even though the Tenderers meet the above criteria, they are subject to be disqualified if they have:

- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
- participated in the previous Tender for the same work and had quoted unreasonably high tender prices and could not furnish rational justification.

3.11 ELIGIBILITY CRITERIA TABLE/MATRIX:

Requirement	Single Entity	Joint Venture			Submission Requirements
		Lead Partner	Other Partners	All partners combined	
Clause: 3.2.(a) (Minimum Average Annual turnover)	Must meet the requirement	Must meet 50% of the requirement	Must meet 25% of the requirement	Must meet the requirement	Form FIN-2
Clause: 3.2 (b) Similar work	Must meet the requirement	Must meet 50% of the requirement	Must meet 25% of the requirement	Must meet the requirement	Form at para 1.3/section:3
Clause: 3.4 One component	Must meet the requirement	All Partners Combined Must Meet requirement			Form at para 1.4/section:3
Clause: 3.5(b) Liquidity	Must meet the requirement	Must meet 50% of the requirement	Must meet 25% of the requirement	Must meet the requirement	Form at para 1.10/section:3

SECTION:2: - INSTRUCTIONS TO TENDERERS (ITT)

Requirement	Single Entity	Joint Venture			Submission Requirements
		Lead Partner	Other Partners	All partners combined	
Clause: 3.5(C) Minimum Key Technical Staff	Must meet the requirement	All Partners Combined Must Meet requirement			Form 5 & 6 of section:3
Clause: 3.7 Net worth	Must meet the requirement	Must meet the requirement	Must meet the requirement	Must meet the requirement	Form FIN-1/section-3

3.12 Deleted.

4. ONE TENDER PER TENDERER:

4.1 Each tenderer shall submit only one tender for one package. A tenderer who submits or participates in more than one Tender (other than as a sub-contractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Tenderer's participation to be disqualified.

5. COST OF TENDERING:

5.1 The tenderer shall bear all costs associated with the preparation and submission of his tender, and the Employer will in no case be responsible and liable for those costs.

6. SITE VISIT:

6.1 The Tenderer at his own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Tender and entering into a contract for DDC. The cost of visiting the Site shall be at the Tenderer's own expense.

B -TENDER DOCUMENTS

7. CONTENT OF TENDER DOCUMENTS

7.1 The set of tender documents shall have all the Sections given in content page.

8. CLARIFICATION OF TENDER DOCUMENTS

8.1 A prospective tenderer requiring any clarification of the tender documents may notify the Employer in writing or by cable (hereinafter "cable" includes telex, E-Mail and facsimile) at the Employer's address indicated in the invitation to tender. The Employer will respond to any request for clarification which he receives earlier than the date mentioned in the e-procurement portal of Karnataka for queries. Copies of the Employer's response will be forwarded to all purchasers of the tender documents, including a description of the enquiry but without identifying its source.

8.1 Pre-tender meeting:

8.2.1 The tenderer or his authorized representative is invited to attend a pre-tender meeting which will take place at office of **K-RIDE Bangalore.**

Venue: #8, 1st Floor, Samparka Soudha, Dr. Rajkumar Road,
Opposite Orion Mall, Rajajinagar 1st Block,
Bengaluru-560010
Tel +91-9881235883

Date: 31/08/2023, **Time:** IST 11.30 Hrs.

8.2.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

8.2.3 The tenderer is requested to submit any pre bid queries in writing or by cable to reach the Employer not later than one day before the meeting.

8.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be published without delay to all purchasers of the tender documents. Any modification of the tender documents listed in Sub-Clause 7.1 which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 9 and not through the minutes of the pre-tender meeting.

8.2.5 Non-attendance at the Pre-Tender meeting will not be a cause for disqualification of a Tenderer.

9. AMENDMENT OF TENDER DOCUMENTS

9.1 Before the deadline for submission of Tenders, the Employer may modify the tender documents by issuing addendum

9.2 Any corrigendum / addendum issued shall be part of the tender documents and shall be made available on the website or www.kppp.karnataka.gov.in. The Provisions in corrigendum /addendum shall take priority over the Tender Documents issued previously.

SECTION:2: - INSTRUCTIONS TO TENDERERS (ITT)

- 9.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Employer shall extend as necessary the deadline for submission of Tenders, in accordance with Sub-Clause 16.2 below.

K-RIDE

C. PREPARATION OF TENDERS

10. DOCUMENTS COMPRISING THE TENDER

10.1 The Tender submitted by the Tenderer shall be in two covers (documents) and shall contain the documents as follows:

10.1.1 First Cover (Document):

- Earnest Money Deposit/Scanned copy of Bank Guarantee (B.G) for balance Earnest Money Deposit;
- Qualification Information as per formats given in Section 3;

10.1.2 Second Cover (Document):

- The Tender (in the format indicated in Section 4) (as per Karnataka Public Procurement Portal)
- Priced Schedule (Section 9); online through Karnataka Public Procurement Portal, no hardcopy of commercials should be attached or disclosed. (as per Karnataka Public Procurement Portal)

And any other materials required to be completing and submitting by Tenderers in accordance with these instructions. The documents listed under Sections 3, 4, 6 and 9 shall be filled in without exception.

10.2 DELETED

11. TENDER PRICES

- 11.1 The contract shall be for the whole consultancy services as described in Sub-Clause 1.1, based on the priced Price Schedule submitted by the Tenderer.
- 11.2 The Tenderer shall quote the single rate (both in figures and words). for each schedule of the Works described in the Price Schedule along with total tender price (both in figures and words). Schedules for which no amount or lumpsum price is entered by the Tenderer will not be paid by the Employer when executed and shall be deemed to be covered in the Priced schedule. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.
- 11.3 All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause, shall be included in the Price schedule, prices and total Tender Price submitted by the Tenderer.
- 11.4 The rate quoted by the Tenderer shall be subject to adjustment during the performance of the Contract in accordance with the provisions of Clause of the Conditions of Contract.

12. TENDER VALIDITY

- 12.1 Tenders shall remain valid for a period not less than **one hundred and eighty days** after the deadline date for tender submission specified in Clause 16. A tender valid for a shorter period shall be rejected by the Employer as non-responsive.

12.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the Tenderers may extend the period of validity for a specified additional period. The request and the Tenderers' responses shall be made in writing or by cable. A Tenderer may refuse the request without forfeiting his earnest money deposit. A Tenderer agreeing to the request will not be required or permitted to modify his tender, but will be required to extend the validity of his earnest money deposit for a period of the extension, and in compliance with Clause 13 in all respects.

13. EARNEST MONEY DEPOSIT (TENDER/BID SECURITY)

13.1 Earnest Money Deposit/ Tender security (as per Karnataka Public Procurement Portal). The Tenderer shall furnish, as part of his tender, earnest money deposit in the amount as shown in column 4 of the Table of IFT for this particular work. This earnest money deposit shall be in favour of Rail Infrastructure Development Company (Karnataka) Limited Payable at Bengaluru and in the form as mentioned in clause 13.7.

13.2 Instruments having fixed validity issued as earnest money deposit for the tender shall be valid for 45 days beyond the validity of the tender.

13.3 Any tender not accompanied by an acceptable earnest money deposit and not secured as indicated in Sub-Clauses 13.1 and 13.2 above shall be rejected by the Employer as non-responsive.

13.4 The earnest money deposit of unsuccessful Tenderers will be returned within 30 days of the end of the tender validity period specified in Sub-Clause 12.1 & 12.2.

13.5 The earnest money deposit of the successful Tenderer will be discharged when the Tenderer has signed the Agreement and furnished the required Performance Security.

13.6 The earnest money deposit may be forfeited:

- (A) If the Tenderer withdraws the Tender after tender opening during the period of tender validity;
- (B) If the Tenderer does not accept the correction of the Tender Price, pursuant to Clause 24; or
- (C) In the case of a successful Tenderer, if the Tenderer fails within the specified time limit to
 - (i) sign the Agreement; or
 - (ii) furnish the required Performance Security

14. FORMAT AND SIGNING OF TENDER

Tenderer shall submit the Tender electronically before the submission date and time published in Karnataka Public Procurement Portal. The Tenderer must submit Technical and Financial Tender as described in ITT.

All pages of the tender where entries or amendments have been made shall be initialed by the person signing the tender. The Tender shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the Tenderer, in which case such corrections shall be initialed by the person signing the Tender.

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Language of Tender	The language of the Tender: English
Technical Tender	Alternative technical solutions are not permitted.
Technical Tender Documents	All the Forms of Section 3: Qualification Information/Bidding Forms.
Alternative Bids/Tenders	Alternative Bids are not permitted.
Currencies of Tender and Payment	The amount (Lumpsum Price) of each schedule shall be quoted by the Tenderer entirely in Indian Rupees (INR). For Evaluation and comparison purposes, the currencies of the Tender shall be converted in to Indian Rupees.
Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the Person signing the Tender	<p>The written confirmation of authorization to sign on behalf of the Tenderer shall consist of:</p> <ol style="list-style-type: none"> In case of Private/Public Companies, a POA from the Director of the Company who has been authorized by the Board of Directors through resolution to sign on behalf of the Company. Copy of Board Resolution shall also be submitted. In case of proprietorship Tenderers, Power of Attorney by the Proprietors. In case of partnership Tenderers, Power of Attorney duly signed by all the partners. In case of Limited Liability Partnership (LLP), a POA from the Director of the Company who has been authorized by the Board of Directors through resolution to sign on behalf of the Company. Copy of Board Resolution shall also be submitted. In case of Joint Venture, Power of Attorney duly signed by individual partners to the Lead partner as per the form given in Section-3 with stipulated documents.

The Bid shall be digitally signed by using class-III digital signature of a person who is dully authorized to sign on behalf of the bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. If either the Letter of Technical Bid or Letter of Price Bid or Bid-Security Declaration (if applicable) is not signed, the Bid shall be rejected. All pages of the bid, except for un-amended printed literature, shall be signed or initialed by the person signing the bid.

- If the Tender is submitted by proprietary firm, it shall be signed by the proprietor above his full name, full name of his firm with his current address.
- If the Tender is submitted by a firm in partnership, it shall be signed by a partner holding the power of Attorney for the firm. A certified copy of the Partnership deed and power of attorney shall accompany the Tender; Alternatively, it shall be signed by all the partners.
- If the Tender is submitted by a limited company or a limited corporation, it shall be signed by a duly authorized person holding the power of attorney for the firm. A certified copy of the power of attorney shall accompany the Tender.

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- IV. If a Tender is submitted by a Joint venture, each firm in the Joint venture shall furnish the evidence admissible in law /Power of Attorney to sign the Form of Tender and Lead member as stated in JV Agreement shall sign the Tender documents for submission of Tender.
- V. Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender

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D. SUBMISSION OF TENDERS

15. SEALING AND MARKING OF TENDERS

Tenderer shall submit the Tender electronically before the submission date and time published.

16. DEADLINE FOR SUBMISSION OF THE TENDERS

16.1 Tenders must be submitted online through Karnataka Public Procurement Portal to the Employer on or before the date as specified in the Karnataka Public Procurement Portal and the submission of tender is the responsibility of the Tenderer.

16.2 The Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with Clause 9, in which case all rights and obligations of the Employer and the Tenderers previously subject to the original deadline will then be subject to the new deadline.

17. LATE TENDERS

17.1 In online KPPP portal system, the Tenderer shall not be able to submit the Tender after the Tender submission time and date as the icon for the task in the Karnataka Public Procurement Portal will not be available. Any Tender received by the Employer after the deadline prescribed in Clause 16 will be rejected.

17.2 It shall be the responsibility of the tenderers to ensure that their tender is submitted in the Karnataka public procurement portal within the last date and time specified for the receipt of the tenders

18. MODIFICATION AND WITHDRAWAL OF TENDERS

18.1 Tenderer may modify and correct or upload any relevant document in the portal till Tender submission date and time, as published in the Karnataka Public Procurement Portal.

18.2 No Tender may be modified after the deadline for submission of Tenders.

18.3 Withdrawal or modification of a Tender between the deadline for submission of Tenders and the expiration of the original period of Tender validity specified in Clause 12.1 above or as extended pursuant to Clause 12.2 may result in the forfeiture of the earnest money deposit pursuant to Clause 13.

18.4 DELETED.

E. TENDER OPENING AND EVALUATION

19. OPENING OF FIRST COVER (Document): Opening of First Cover (Document) of all Tenders and evaluation to determine qualified Tenderers:

19.1 The Employer will open the First Covers (Document) of all the Tenders received (except those received late or withdrawn), including modifications for First Cover (Document) made pursuant to Clause 18, in the presence of the Tenderers or their representatives who choose to attend as per Karnataka Public Procurement Portal on the date and the place specified in Clause 16. In the event of the specified date of Tender opening being declared a holiday for the Employer, the Tenders will be opened at the appointed time and location on the next working day.

19.2 DELETED

19.3 The Tenderer name, the presence or absence of earnest money deposit (amount, format and validity), the submission of qualification information and such other information as the Employer may consider appropriate will be announced by the Employer at the opening.

19.4 The Employer shall prepare minutes of the Tender opening, including the information disclosed to those present in accordance with Sub-Clause 19.3.

19.5 DELETED

19.6 The Employer will evaluate through a committee and determine whether each tender (a) meets the eligibility criteria defined in ITT Clause 2 is accompanied by the required earnest money deposit as per stipulations in ITT Clause 13 and meets the minimum qualification criteria stipulated in ITT Clause 3. The Employer will draw out a list of qualified Tenderers.

20. OPENING OF SECOND COVER (DOCUMENT) OF QUALIFIED TENDERERS AND EVALUATION:

20.1 The Employer will inform all the Qualified Tenderers the time, date and venue fixed for the opening of the Second Cover (Document) containing the priced Tenders published in Karnataka Public Procurement Portal. The Employer will open the Second Covers (Document) of Qualified Tenderers at the appointed time and date in the presence of the Tenderers or their representatives who choose to attend. In the event of the specified date of financial Tender opening being declared a holiday for the Employer, the Second Covers (Document) will be opened at the appointed time and location on the next working day.

20.1 DELETED

20.2 The Tenderers' names, the Tender prices, the total amount of each Tender, Tender modifications and withdrawals, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening. No Tender shall be rejected at Tender opening.

20.3 The employer will evaluate the Financial Bids through a committee.

21. PROCESS TO BE CONFIDENTIAL

21.1 Information relating to the examination, clarification, evaluation, and comparison of Tenders and recommendations for the award of a contract shall not be disclosed to Tenderers or any

other persons not officially concerned with such process until the award to the successful Tenderer has been announced. Any effort by a Tenderer to influence the Employer's processing of Tenders or award decisions may result in the rejection of his Tender.

22. CLARIFICATION OF TENDERS

- 22.1 To assist in the examination, evaluation, and comparison of Tenders, the Employer may, at his discretion, ask any Tenderer for clarification of his Tender, including breakdowns of Lumpsum Price. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Tenders in accordance with Clause 24.
- 22.2 No Tenderer shall contact the Employer on any matter relating to its Tender from the time of the Tender opening to the time the contract is awarded.

If they have any query/clarification related to e-Procurement on the Karnataka Public Procurement Portal, contact e-Procurement Help desk from 10:00 AM to 5:00 PM. Ph. No.: +91-8046010000/ 8068948777 or support@eprochelpdesk.com Karnataka Public Procurement Portal through query option on or before specified time.

- 22.3 Any effort by the Tenderer to influence the Employer in the Employer's Tender evaluation, Tender comparison or contract award decisions may result in the rejection of the Tenderers' Tender.

23. EXAMINATION OF TENDERS AND DETERMINATION OF RESPONSIVENESS

- 23.1 Prior to the detailed evaluation of Tenders, the Employer will determine whether each Tender; (a) has been properly signed; and; (b) is substantially responsive to the requirements of the Tender documents.
- 23.2 A Substantially responsive Tender is one which conforms to all the terms, conditions, and specifications of the Tender documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Tender documents, the Employer's rights or the Tenderer's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Tenderers presenting substantially responsive Tenders.
- 23.3 If a Tender is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

24. CORRECTION OF ERRORS

- 24.1 Tenders determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:
- where there is a discrepancy between the amount in figures and in words, the lower of the two will govern and
 - Deleted.
- 24.2 The amount stated in the Tender will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Tenderer, shall be

considered as binding upon the Tenderer. If the Tenderer does not accept the corrected amount the Tender will be rejected, and the earnest money deposit may be forfeited in accordance with Sub-Clause 13.6 (b).

25. EVALUATION AND COMPARISON OF TENDERS

- 25.1 The Employer will evaluate and compare only the Tenders determined to be substantially responsive in accordance with Clause 23.
- 25.2 In evaluating the Tenders, the Employer will determine for each Tender the evaluated Tender Price by adjusting the Tender Price as follows:
- (a) Making any correction for errors pursuant to Clause 24; and
 - (b) **DELETED**
- 25.3 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the Tender documents or otherwise result in unsolicited benefits for the Employer shall not be taken into account in Tender evaluation.
- 25.4 The estimated effect of the price adjustment conditions under Clause 40 of the Conditions of Contract, during the implementation of the Contract, will not be taken into account in tender Evaluation
- 25.5 If the tender of the successful tenderer is seriously unbalanced in relation to the Employer's estimate of the cost of the work to be performed under the contract, the Employer may require the Tenderer to produce detailed price analyses for any or all items of Priced Schedule, to demonstrate the internal consistency of those prices with the Design methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 29 be increased at the expense of the successful Tenderer to a level sufficient to protect the Employer against financial loss in the event of default of the successful Tenderer under the contract.

F. AWARD OF CONTRACT

26. AWARD CRITERIA

- 26.1 Subject to Clause 27, the Employer will award the Contract to the Tenderer whose Tender has been determined to be substantially responsive to the Tender documents and who has offered the lowest evaluated Tender Price, provided that such Tenderer has been determined to be (a) eligible in accordance with the provisions of Clause 2, and qualified in accordance with the provisions of Clause 3.

27. EMPLOYER'S RIGHT TO ACCEPT ANY TENDER AND TO REJECT ANY OR ALL TENDERS

- 27.1 Notwithstanding Clause 26, the Employer reserves the right to accept or reject any Tender, and to cancel the Tender process and reject all Tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers of the grounds for the Employer's action.

28. NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT

- 28.1 The Tenderer whose Tender has been accepted will be notified of the award by the Employer prior to expiration of the Tender validity period by cable, telex, e-mail or facsimile confirmed by registered letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the services by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").
- 28.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of Performance Security in accordance with the provisions of Clause 29. Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 28.3 The Agreement will incorporate all agreements between the Employer and the successful Tenderer. It will be kept ready for signature of the successful Tenderer in the office of Employer within 30 days following the notification of award along with the Letter of Acceptance. Within 20 days of receipt, the successful Tenderer will sign the Agreement and deliver it to the Employer.
- 28.4 Upon the furnishing by the successful Tenderer of the Performance Security, the Employer will promptly notify the other Tenderers that their Tenders have been unsuccessful.

Note: The Cost of Stamp duty of the contract agreement shall be borne by the contractor as per the Karnataka stamp duty Act.

29. PERFORMANCE SECURITY

- 29.1 Within 20 days of receipt of the Letter of Acceptance, the successful Tenderer shall deliver to the Employer a Performance Security in any of the forms given below for an amount equivalent to **3% of the Contract price plus additional security for unbalanced tenders (additional security at 50% of the estimated cost of the unbalanced component)** in accordance with Clause 25.5 of ITT and Clause 43 of the Conditions of Contract.
- Banker's cheque/Demand draft, /Pay Order/ BG in favour of K-RIDE, Bangalore or

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- A bank guarantee in the form given in Section 10; or
- Specified Small Savings Instruments pledged to K-RIDE, Bangalore.

29.2 If the Performance Security deposit is provided by the successful tenderer in the form of Bank Guarantee, it shall be issued either by a Nationalized / Scheduled bank.

29.3 The Performance Security deposit if furnished in cash or demand draft can, if requested, be converted to interest bearing securities at the cost of the contractor.

29.4 Failure of the successful tenderer to comply with the requirements of sub-clause 29.1 and clause 29 of additional ITT, shall constitute sufficient grounds for cancellation of the Tender award and forfeiture of the Earnest money deposit.

30. ADVANCE PAYMENT AND SECURITY:

30.1 The Employer will provide an advance payment on the contract price as stipulated in the condition of contract subject to the maximum as stated in the contract data.

31. CORRUPT OR FRAUDULENT PRACTICES

31.1 “corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of the public official in the procurement process or in contract execution;

“fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procurement Entity, and includes collusive practice among the tenderers either prior to or after tender submission, designed to establish tender prices at artificial non-competitive levels and to deprive the Procurement Entity of the benefits of free and open competition” The debarment action shall be taken as per KTPP Act.

31.2 K-RIDE requires that the Tenderers/Suppliers/Contractors, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, K-RIDE:

- a) will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- b) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a K-RIDE contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a K-RIDE contract.

31.3 Furthermore, Tenderers shall be aware of the provision stated in sub-clause 50.2 of the Conditions of Contract.

32. PURCHASE PREFERENCE TO MAKE IN INDIA:

The provisions of revised ‘Public Procurement (Preference to Make in India) Order 2017’ issued by Department of Industrial Policy and Promotion under Ministry of Commerce and Industry vide letter no. P-45021/2/2017-PP (BE-II) dated 28.05.2018 shall be applicable to the tendering process and award of the contract shall be done accordingly. In this connection, the minimum local content shall be 50% and the margin of purchase preference shall be 20%. For award of

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contract, para 3.c. of the revised 'Public Procurement (Preference to Make in India) Order 2017' shall be applicable in addition to the other provisions in the tendering documents in this regard.

- 33. APPEAL:** The Tenderer shall submit online appeal within 30 days period from the date of receipt of order to the Employer through the Karnataka Public Procurement Portal. The Employer may after giving opportunity to the parties pass such order as it deems fit and such order shall be final.

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ADDITIONAL INSTRUCTIONS TO TENDERERS
(THIS SHOULD BE READ IN CONTINUATION OF ITT)

ITT Clause Ref.	Description
2.3	<p>The following paras are added:</p> <p>Wherever the word JV/Consortium is mentioned there, it should be read as JV.</p> <p>For any purpose herein, 'Joint Venture' means an ad hoc association of firms that pool their resources and skills to undertake a large or complex contract in the role of "Contractor," with all firms (partners in the JV) being legally liable, jointly and severally, for the execution of the Contract in the event of a partner's withdrawal.</p> <p>A Tenderer may be a natural person, private entity, government-owned entity, or any combination of them with a format intent to enter into an agreement or under an existing agreement in the form of a Joint Venture. The Tenderer must ensure the following</p> <p>(a) In case of Single Entity:</p> <p style="padding-left: 20px;">(i) Submit Power of Attorney authorizing the signatory of the Tender to commit the Tenderer.</p> <p>(b) In case of Joint Venture:</p> <p style="padding-left: 20px;">(i) The number of partners in the JV shall not be more than three.</p> <p style="padding-left: 20px;">(ii) At the time of bidding, the tenderer (JV) to submit the JV Agreement, as per the form given in Section 3: Qualification and Information/Bidding Forms. On issue of LOA, the JV Agreement should be registered and shall be submitted along with the performance security.</p> <p style="padding-left: 20px;">(iii) The JV shall nominate a Representative through Power of Attorney (Form given in Section 3) who shall have the authority to conduct all business for and on behalf of any and all the parties of the JV during the Tendering process and, in the event the JV is awarded the Contract, during contract execution.</p> <p style="padding-left: 20px;">(iv) Submit Power of Attorney by individual partners to lead partners as per the form given in Section 3.</p> <p style="padding-left: 20px;">(v) In case a Joint Venture is the successful Tenderer, the appropriate Joint Venture Agreement for execution of work should be entered by the Joint Venture partners. The duly signed Joint Venture Agreement should be submitted along with the tender submission.</p> <p style="padding-left: 20px;">(vi) The lead member as aforesaid shall be authorized to incur liabilities and receive instructions for and on behalf of any and all the partners of the Joint venture and the entire execution of the contract.</p> <p style="padding-left: 20px;">(vii) All members of the Joint venture shall be Jointly and severally responsible for the execution of the Contract.</p> <p style="padding-left: 20px;">(viii) Change in constitution or percentage participation of JV shall not be permitted at any stage after submission of Tenders</p> <p>(c) Only firms that are registered or incorporated in India are eligible to compete. Any Tenderer from a country which shares a land with India will be eligible to Tender in this tender only if the Tenderer is registered with the Competent Authority.</p> <p>(d) "Tenderer from a country which share a land border with India" for the purpose of this Order means: -</p>

1. An entity incorporated, established or registered in such a country; or
2. A subsidiary of an entity incorporated, established or registered in such a country; or
3. An entity substantially controlled through entities incorporated, established or registered in such a country; or
4. An entity whose beneficial owner is situated in such a country; or
5. An Indian (or other) agent of such an entity; or
6. A natural person who is a citizen of such a country; or,
7. A Joint Venture where any member of the Joint Venture falls under any of the above

(e) The beneficial owner for the purpose of above clause will be as under:

- (i) In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.

Explanation-

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five percent of share or capital or profits of the company;
- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue their shareholding or management rights or shareholders agreements or voting agreements;
- (ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
- (iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profit of such association or body of individuals;
- (iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
- (v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

The Tenderer shall submit a Certificate stating that they have read the above clause using the appropriate Performa given in Section 3 - Form 3C1 & 3C2.

2.4 Tenderer having a conflict of interest shall be disqualified. The conflict of interest is detailed below.

A Tenderer or any of its constituents shall not have conflict of interest. All Tenderers found to have a conflict of interest shall be disqualified. A Tenderer may be considered to be in a conflict of interest with one or more parties in this Tendering process, if, including but not limited to:

- (a) they have controlling shareholders in common; or

2.5	<p>(b) they receive or have received any direct or indirect subsidy from any of them; or</p> <p>(c) they have the same legal representative for purposes of this Tender; or</p> <p>(d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Tender of another Tenderer, or</p> <p>(e) any firm, either individually or in Joint Venture (JV), submits more than one offer irrespective of whether the firm is quoting against this Tender. The Tenders submitted by two different Tenderers, having any common participant in JV formation or any common partner in partnership firms, or an individual will be treated as having conflict of interest or</p> <p>(f) a Tenderer who is Sub-contractor to another Tenderer will be treated as having conflict of interest. However, this does not limit the inclusion of the same sub-contractor in more than one Tender.</p> <p>(g) a Tenderer participated as a consultant in the preparation of the design or specifications of the contract that is the subject of the Tender; or</p> <p>(h) A Tenderer was affiliated for any period(s) during last two years before the date of issue of Invitation for Tenders with a firm or entity that has been hired (or is proposed to be hired) by the Employer as Engineer for the contract.</p> <p>The Tenderer shall be disqualified if:</p> <p>(a) The Tenderer or any of its constituents has been blacklisted/ banned from business dealings with all Government Departments by the Government of Karnataka or by Ministry of Railways or by K-RIDE at any time till finalization of Tenders, except in cases where such blacklisting/ banning has been withdrawn by Competent Authority or has ceased or expired on the deadline for submission of the Tenders, for which satisfactory evidence is to be produced.</p> <p>(b) Any previous contract of the Tenderer or any of its constituents had been fully terminated or part terminated for its failure as a JV partner with forfeiture of its full Performance Security, by Rail Infrastructure Development Company (Karnataka) Ltd.(K-RIDE) at any time starting from 3 years before the deadline for submission of Tenders and up to one day before the date of opening of price Tenders;</p> <p>Provided, however, there is no stay order or declaration by any Court against such termination of the contract by Rail Infrastructure Development Company (Karnataka) Ltd. or such termination of the contract has not been revoked by Rail Infrastructure Development Company (Karnataka) Ltd or competent authority of K-RIDE has not passed an order of non-applicability of disqualification of the Tenderer or any of its constituents despite such termination.</p> <p>(c) The Tenderer or any of its constituents has been imposed delay damages of 5% or more of contract value by K-RIDE due to delay in the implementation of any previous contract within the period of last 2 years before the deadline for submission of Tenders (Period of 2 years shall be reckoned from the date on which the total accrued amount of Delay Damages has reached 5% or more of the contract price) or such accrued delay damages has not been fully recovered before the deadline for submission of Tenders on account of contractor's request for deferring recovery to maintain cash flow and K-RIDE has acceded to the same in the interest of the project or the work under the previous contract in question has not been completed before the deadline for submission of Tenders, unless imposition of such delay damages has been set aside by the Competent Authority.</p> <p>(d) The Tenderer or any of its constituents:</p> <p>(i) has suffered bankruptcy/insolvency or</p>
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	<p>(ii) has any ongoing case of insolvency before the NCLT/any applicable Court where Interim Resolution Professional (IRP) has been appointed or is at any later stage of the insolvency process, as on the deadline of submission of Tenders or thereafter till finalization of Tenders.</p> <p>(e) The Tenderer is found ineligible by the Employer, in accordance with ITB-3.</p> <p>(f) The Tenderer or its constituent(s) has been declared by K-RIDE to be a poor performer and the period of poor performance is still in force on the deadline for submission of Tenders.</p> <p style="text-align: center;">OR</p> <p>The Tenderer or its constituent(s) has been declared by K-RIDE to be a poor performer at any time after the deadline for submission of Tenders and up to one day before the date of opening of price Tenders.</p> <p>(g) The Tenderer or any of its constituents has changed its name or created a new business entity as covered by the definition of "Allied Firm" under para 1102 (iii) of Chapter XI of Vigilance Manual of Indian Railways (available on website of Indian Railways), consequent to having been banned from business dealings or suspended from business dealings or having been declared poor performer.</p> <p>The Tenderer shall submit an affidavit stating that they are not liable to be disqualified as per this sub clause using the Form PS3 given in Section-3: Qualification and Information/Bidding Forms. Non-submission of an affidavit by the Tenderer shall result in summary rejection of his Tender.</p> <p>Tenderers shall immediately inform the Employer in case they cease to fulfil eligibility in terms of ITT clause 2 above. In case the Tenderer fails to inform the Employer or submits a false affidavit, his Tender shall be summarily rejected and Tender security shall be forfeited. The Tenderer shall also be liable for Banning of Business dealings for a period up to five years</p>
<p>2.6</p>	<p>PARTNERS IN CASE OF JV</p> <p>(i) Lead partner must have a minimum of 50% participation in the JV.</p> <p>(ii) Partners having 25% or more percentage participation shall be termed as substantial partner/other Partners.</p> <p>(iii) In case of JV, change in constitution or percentage participation shall not be permitted at any stage after the bid submission.</p> <p>The bidder, in case of JV, shall clearly and unambiguously define the role and responsibilities for each partner in the JV agreement submitted as per Form JV/4 of Section-3, providing clearly that any abrogation/subsequent re-assignment of any responsibility by any partner of JV in favour of other JV partner or any change in constitution of partners of JV (without written approval of Client) from the one given in JV agreement at tender stage, will be treated, as 'breach of contract condition' and/or 'concealment of facts' as the case may be and acted accordingly. All Members of the JV must have experience in execution of similar work.</p>
<p>2.7</p>	<p>In addition to the documents asked Following needs to be submitted by the bidders;</p> <p>(a) Affidavit in case of Proprietary firm.</p> <p>(b) Partnership Deed in case of partnership firm.</p> <p>(c) Memorandum & Article of Association in case of Public/Private limited company.</p> <p>(d) Authorization/POA in favour of authorised signatory of bidder to sign the bid.</p> <p>(e) Board of Resolution nominating particular director to authorize a signatory to sign the bid.</p> <p>(f) In case of JV partners the above relevant documents as applicable needs to be submitted.</p>

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<p>3.3(a)</p>	<p>The following para is added:</p> <p>Design Services</p> <p>Design services to be rendered under the contract shall be specified in Section 8: Terms of Reference and Price Schedule Section-9.</p>
<p>7.3</p>	<p>The following para is added:</p> <p>The Employer is not responsible for the completeness of the Bidding Document and their Addenda, if they were not obtained directly from the source stated by the Employer in the Invitation for Bids.</p> <p>The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the bid.</p>
<p>8.1.1</p>	<p>Additional Para</p> <p>The Employer shall endeavour to respond to the questions raised or clarifications sought by the Bidders. However, the Employer reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring the Employer to respond to any question or to provide any clarification.</p> <p>The Employer may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidders. All clarifications and interpretations issued by the Employer shall be deemed to be a part of the Bidding Documents. Verbal clarifications and information given by the Employer, or its employees or representatives shall not in any way or manner be binding on the Employer.</p>
<p>8.3</p>	<p>The following para is added:</p> <p>The Pre-Bid meeting may also be attended through video conferencing (VC). Those tenderers who wish to join the meeting through Video Conferencing shall send a request email on the email id (i.e. igmelec@kride.in / electrical.kride@gmail.com) till 3 working days before the scheduled date of pre-bid meeting up to 15:00 hours IST. A link for Video Conferencing will be sent by K-RIDE to such tenderers only. Any request for VC received after the given date and time for sending the link for VC will not be entertained.</p> <p>Please note that the request received from the tenderers (With details of the Company, its address, and the name and designation of the person attending the VC) will only be entertained. They shall also mention the email id through which VC is desired to be joined. K-RIDE may allow a maximum of two email IDs for one company to participate in the VC. Only one person will be allowed through one Email ID. The tenderers can join the VC through the link provided to them on Email ID.</p> <p>During the pre-bid meeting, the prospective tenderers may clarify/explain their queries submitted by them earlier (before the time limit as mentioned in Section-1), if the Employer desires. The clarifications / answers may not be given in the pre-bid meeting itself. The responses of K-RIDE will be intimated to the concerned tenderers (who sought the clarification) in due course, depending upon the merits of the query. K-RIDE reserves the right not to respond to any question/query or to provide any clarification, in its sole discretion, without assigning any reason thereof.</p>
<p>10.3</p>	<p>The following para is added:</p> <p>Documents Comprising the Tender</p> <ul style="list-style-type: none"> The Tender shall comprise of Tender Security/Tender Security Declaration, Technical Tender and Price Tender. The Tenderer shall submit the Tender through Karnataka Public Procurement Portal.

- On the stipulated date of opening of Tenders, initially, only the Technical Tenders are opened through Karnataka Public Procurement Portal. The Technical Tenders shall be evaluated by the Employer in accordance with the stipulated Qualification and Evaluation criteria. No amendments or changes to the Technical Tenders would be permitted after the opening of technical Tenders.
- Tenderers who are qualified in the technical evaluation their price Tender shall be opened at a date and time advised by the Employer (K-RIDE) through e-tendering portal. The Price Tenders are evaluated and the Contract is awarded to the Tenderer whose Tender has been determined to be the lowest evaluated substantially responsive Tender.

The Technical Tender shall contain the following:

- All the Forms of Section-3: Qualification Information/Bidding Forms including letter of technical Bid (LTB) shall be scanned and uploaded.
- The Tenderer shall furnish a commitment in Letter of Technical Bid (LTB) for deployment of equipment and personnel as stipulated in Section 8A: Employers Work's Requirement.
- The Tenderer shall furnish commitment in LTB for submitting method statement for all major activities of work and get this approved from the engineer prior to the commencement of work on that activity in case of award of contract.
- The Tenderer shall furnish a commitment in Letter of Technical Bid (LTB) for adhering to mobilisation and service schedule as stipulated in Section 8A: Employers Work's Requirement.
- **Tenderer should note that non-submission of the Letter of Technical Bid (LTB) by the Tenderer shall result in summary rejection of his Tender.**
- Tenderer shall submit the Approach and Methodology for performing the assignment by using appropriate Performa given in Section 3: Qualification Information/Bidding Forms.
- Scanned copy of Tender Security/Tender Security Declaration form (Section 3), in accordance with ITT Clause 13;
- Scanned copy of written confirmation authorizing the signatory of the Tender to commit the Tenderer, any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.
- Scanned copy of documentary evidence with establishing the Tenderer's qualifications to perform the contract; To establish its qualifications to perform the Contract in accordance with Section 2: ITT the Tenderer shall submit as part of its technical Tender the information requested in the corresponding information sheets included in Section 3: Qualification Information/Bidding Forms.

Domestic Tenderers, individually or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility

- Scanned copy of Approach and Methodology - Performa given in Section-3: Qualification Information/Bidding Forms
- Scanned copy of Joint Venture Agreement entered into by all partners
- Scanned copy of Letter of Price Tender.

	<ul style="list-style-type: none"> All Section-3 Documents shall be scanned and submitted. <p>The Price Tender shall contain the following:</p> <ul style="list-style-type: none"> Filled/completed schedules as required including Price Schedule in accordance with ITT Clauses should be submitted through Karnataka Public Procurement Portal only; The Tenderer shall submit through Karnataka Public Procurement Portal, separate Technical Proposal and Price Proposal for each individual contract package, using the appropriate Submission Sheets furnished in Section-3: Qualification Information/Bidding Forms. These Forms must be completed without any alterations to their format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. The Tenderer shall submit, as part of the Price Tender, the Schedules, including the Price Schedule through Karnataka Public Procurement Portal only.
11.5	<p>The following para is added:</p> <p>Tender Prices</p> <ul style="list-style-type: none"> The prices quoted by the Tenderer in the Price Schedule shall conform to the requirements specified below. In the price Schedule, The Tenderer shall quote price as per the format for each schedule. The price quoted by the bidder in schedule will only be considered for evaluation of bids. Rates offered through any other medium or at any other location will not be considered. If any Tenderer quotes more than one price for such schedules, its Tender shall be summarily rejected. The Tenderer shall fill in the price against each schedule of the price schedule. Items against which no amount or price is entered by the Tenderer will not be paid for by the Employer when executed and shall be deemed to be covered by the lumpsum amount quoted in the Price Schedule. The price to be quoted in the Price Schedule, in accordance with ITT, shall be the total price of the Tender. DELETED. DELETED Unless otherwise provided in the ITT and the Contract, the lumpsum amount quoted by the Tenderer are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract. In such a case, the indices and weightages for the price adjustment formulae shall be as specified in the Tables of Adjustment Data included in Contract Data. DELETED All duties, taxes including GST, royalties, cess and other levies payable by the Contractor under the Contract, or for any other cause (including standard specifications), as of the date 28 days prior to the deadline for submission of Tenders, shall be included in the percentage quoted in the Price Schedule and the total Tender Price submitted by the Tenderer. GST shall be paid by the Tenderer as applicable in accordance with the prevailing rules of Government of India.

	<ul style="list-style-type: none"> • Tenderers should note that during the progress of the works, the foreign currency requirements of the outstanding balance of the Contract Price may be adjusted by agreement between the Employer and the Contractor in order to reflect any changes in foreign currency requirements for the Contract, in accordance with Sub-Clause 14/ITT (Currencies of Bid and Payment) of the Conditions of Contract. Any such adjustment shall be affected by comparing the percentages quoted in the Tender with the amounts already used in the Works and the Contractor's future needs for imported items. • Tenderer should note that non-submission of the Letter of Price Tender (LPB) by the Tenderer shall result in summary rejection of his Tender. • Online alternative Price Tender corresponding to the alternative Technical Tender, if permissible, in accordance with ITT Clause 14;
13.7	<p>The following para is added:</p> <p>In this tender, the tender security/ EMD has to be paid.</p> <p>The firm can choose either of the way for EMD payment.</p> <p>Full EMD as e-payment</p> <p>The Technical bids along with the Earnest Money Deposit (EMD) i.e., Rs. 10,00,000/- can be paid through e-payment as specified in sub clause 10.1.1 and 13.7 of Section. 2 of ITT in the e-procurement portal only using any of the following Five modes:</p> <p>Online Modes</p> <ul style="list-style-type: none"> • Credit Card. • Direct Debit. • Net Banking <p>Offline Modes</p> <ul style="list-style-type: none"> • National Electronic Fund Transfer (NEFT). • Over the Counter (OTC) <p>The EMD amount of Rs. 10,00,000/- accepted in the form of online and offline modes as mentioned above. For online mode bidder has to pay the EMD through one of the three modes (credit card, debit card & Net banking) mentioned above. For offline payment modes bidder has to pay the EMD through National Electronic Fund Transfer (NEFT) or Over the Counter (OTC).</p> <p>For offline NEFT and OTC mode bidder has to complete the payment as per the user manual given in E-proc portal and enter the bank transaction reference number on the E-Proc portal to complete the procedure.</p> <p>For further details, kindly Click on the link www.kppp.karnataka.gov.in then click on User Manuals & Refer e-payments.</p> <p style="text-align: center;"><u>OR</u></p>

Part EMD as e-payment ` 1,00,000 and balance Rs.9,00,000/- to be furnished in the form of Bank Guarantee

The Technical bids along with the Earnest Money Deposit (EMD) i.e., Rs. 10,00,000/- should be paid through e-payment as specified in sub clause 10.1.1 and 13.7 of Section. 2 of ITT in the e-procurement portal only using any of the following four modes:

- Credit Card.
- Direct Debit.
- National Electronic Fund Transfer (NEFT).
- Over the Counter (OTC).

The part of the EMD amount of ` **1.00 lakh** accepted in the form of electronic cash (not through DD/BG) and will be maintained in the Government of Karnataka central pooling account held at ICICI Bank until the contract is closed.

The balance required EMD of Rs. 9,00,000/- to be furnished in the form of Bank Guarantee (BG) of any Nationalized Bank/Scheduled Bank (as per RBI guidelines) payable to – **Managing Director/K-RIDE**, Bengaluru. The EMD shall have to be valid for 45 days beyond the validity of the tender. The scanned copy of the BG should be uploaded to the tender in the e-procurement platform. The Original Bank Guarantee shall compulsorily be produced & submitted for verification before the opening of the technical bid date and time as specified in e-portal to the concerned **Sr. DGM/Elec** in **K-RIDE** office. The bidder shall note that the Original Bank Guarantee submitted through post/in person, if it does not reach before the opening of the technical bid date and time as specified in e-portal to the concerned **Sr. DGM/Elec** in **K-RIDE** office the bid will not be considered for technical evaluation. The bids of the contractors who have failed to produce and submit the original bank guarantee of earnest money deposit of tender before the opening of the technical bid date and time as specified in e-portal to the concerned **Sr. DGM/Elec**, the bids will not be opened/If it is opened by default/manual/electronic error the bid will not be considered for technical evaluation and bid shall be rejected. Non reconciliation of tender earnest money deposit receipt of payment in Government of Karnataka central pooling account held at the ICICI Bank, the tender gets rejected.

Bank Guarantee Format

- (a) An unconditional bank guarantee using the Form given in Section 3: Qualification Information and Bidding Forms. The bank guarantee shall be from a bank having minimum net worth of over INR 500 million from the specified banks as under:
- (i) a Scheduled Bank in India, or
 - (ii) a Foreign Bank having their operations in India, or
 - (iii) a Foreign Bank which do not have operations in India is required to provide a counter-guarantee by State Bank of India,
- (b) The Scheduled Bank issuing the Bank Guarantee must be on “Structure Financial Messaging System (SFMS)” platform. A separate advice of the BG shall be invariable be sent by the issuing bank to the Employer’s Bank through SFMS and only after this the BG shall become operative and acceptable to the Employer.

Further, the Tender Security in Original form along with a copy of “MT760COV (in case of Bank Guarantee message) / MT767COV (in case of Bank Guarantee amendment message) Report” sent by the BG issuing Bank Sealed in an envelope shall be submitted, as stated in ITT 15.

The Issuing Bank shall send the SFMS to:

Beneficiary: Rail Infrastructure Development Company (Karnataka) Limited (K-RIDE)

Bank Name: Canara Bank

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	<p>Branch: Prime Corporate Branch Account No. 0430201012110 IFSC Code: CNRB0002636</p> <p>The Tender security shall be valid up to 45 days beyond tender validity, or up to the date mentioned in the letter of request for extension, if any under ITT 12.</p> <p>In case the Tenderer has opted for Tender security in the form of an unconditional Bank Guarantee, the Tenderer should upload the scanned copy of Bank Guarantee with the Tender. Non submission of scanned copy of Bank Guarantee with the Tender on e-tendering portal and non-submission of original Bank Guarantee within the specified period shall lead to summary rejection of Tender. The details of the BG, physically submitted should match with the details available in the uploaded scanned copy and the data entered during Tender submission time, failing which the Tender will be rejected.</p> <p>Unless otherwise specified in the BDS, any Tender not accompanied by an enforceable and compliant Tender security as required in accordance with ITT, shall be summarily rejected by the Employer as non-responsive.</p> <p>The Tender security of the Tenderer who have been determined to be unqualified for opening of their financial Tender shall be returned within 3 working days after the opening of financial Tender. The Tender security of unsuccessful Tenderers shall be returned within 7 working days after issue of LOA to the successful Tenderer.</p> <p>The Tender security of the unsuccessful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required performance security.</p> <p>The Tender security may be forfeited:</p> <ol style="list-style-type: none"> a. if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Letter of Tenders, except as provided in ITT Clause 12 or b. if a Tenderer misrepresents or omits the facts in order to influence the procurement process; c. if the successful Tenderer fails to: <ol style="list-style-type: none"> i. sign the Contract in accordance with ITT Clause 28; ii. furnish a performance security in accordance with ITT 29; iii. accept the correction of its Tender Price pursuant to ITT 24; or iv. furnish a domestic preference security if so required. d. if the undertaking of the affidavit submitted by the Tenderer or its constituents in pursuance to ITT clause 2 or any of the declarations of Letter of Technical Tender or Letter of Price Tender submitted by the Tenderer has been found to be false at any stage during the process of Tender evaluation. <p>The Tender Security of a JV shall be in the name of the JV that submits the Tender or the lead member of the JV. If the JV has not been legally constituted at the time of Tendering, the Tender Security shall be in the names of all future partners as named in the letter of intent/ of JV mentioned in ITT Clause 2)</p>
<p>14</p>	<p>The following para is added:</p> <p>The Tender, as well as all correspondence and documents relating to the Tender exchanged by the Tenderer and the Employer, shall be written in English. Supporting documents and printed literature that are part of the Tender may be in another language provided they are accompanied by an accurate translation of the relevant passages in English in which case, for purposes of interpretation of the Tender, such translation shall govern.</p>

15	<p>The following para is added:</p> <p>Sealing and Marking of Tenders</p> <p>The Tenderer shall submit the technical Tender, Price Tender and the Tender Security/Tender Security Declaration through Karnataka Public Procurement Portal i.e., www.kppp.karnataka.gov.in. The original of the Technical Proposal, which will contain all Forms of Section 3 except Price Schedule Section 9 and all other relevant data specified in the Tender document.</p> <p>The Price Bid, shall be submitted through Karnataka Public Procurement Portal only. This “PRICE BID” will contain only Price Schedule and all other relevant data specified in this Tender document. All forms should be typed on the Tenderer’s letter head as per the exact format of the Forms.</p> <p>The above forms should be scanned and submitted through Karnataka Public Procurement Portal.</p> <p>No details about price proposal shall be disclosed directly or indirectly in the technical proposal failing which the Tender shall be rejected. Only Electronic Tender submission and opening procedure permitted.</p>
19.7	<p>The following para is added:</p> <p>Tender Opening</p> <ul style="list-style-type: none"> • The Employer shall conduct the opening of Technical Tenders through Karnataka Public Procurement Portal i.e., www.kppp.karnataka.gov.in on the date and at the time mentioned. • The date and time of the opening of Price Tenders will be announced through Karnataka Public Procurement Portal • At the end of the evaluation of the Technical Tenders, the Employer will intimate Tenderers who have submitted substantially responsive technical proposals and who have been determined as being qualified for award to attend the opening of the price Proposals. The date and time, of the opening of Price Tenders will be advised through email/e-procurement. Tenderers shall be given reasonable notice for the opening of Price Tenders. • The Employer will notify Tenderers in writing who have been rejected on the grounds of being substantially non-responsive to the requirements of the Tendering Document and who have been determined as being not qualified as a result of evaluation of technical proposal and their Price Tender shall not be opened. The Tender security of the Tenderers shall be returned as per due process. • The Employer shall conduct the opening of Price Tenders through Karnataka Public procurement portal i.e., www.kppp.karnataka.gov.in of all Tenderers who have submitted substantially responsive Technical Tenders and who have been determined qualified as a result of technical evaluation.
23.4	<p>The following para is added:</p> <p>Deviations, Reservations, and Omissions</p> <p>During the evaluation of Tenders, the following definitions apply:</p> <ol style="list-style-type: none"> (a) “Deviation” is a departure from the requirements specified in the Tendering Document; (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tendering Document; and

	(c) "Omission" is the failure to submit part or all of the information or documentation required in the Tendering Document.
24.3	<p>The following para is added:</p> <p>Nonconformities, Errors, and Omissions</p> <ul style="list-style-type: none"> • Provided that a Tender is substantially responsive, the Employer may waive any nonconformities in the Tender that do not constitute a material deviation, reservation or omission. • Provided that a Tender is substantially responsive, the Employer may request the Tenderer to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Tender related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Tender. Failure of the Tenderer to comply with the request may result in the rejection of its Tender.
24.4	<p>The following para is added:</p> <p>Correction of Arithmetical Errors and Omissions in Tender and Evaluation of Tender Price</p> <ol style="list-style-type: none"> 1. Provided that the Tender is substantially responsive, the Employer shall correct arithmetical errors and omissions in the Tender and then arrive at the Evaluated Tender Price on the following basis: <ol style="list-style-type: none"> (a) DELETED (b) if the amount/percentage has been quoted both in words and in figures and there is a discrepancy in such amount, then the lower of the two shall prevail and shall be considered for evaluation of the price of the schedule. (c) If the amount/percentage has been quoted either in words or in figures only, then the same shall be considered for evaluation of the price of the schedule. (d) If no amount/percentage has been indicated for any particular schedule in words, as well as in figures, irrespective of the fact whether the Tenderer has written or not written, in such cases, the lumpsum amount/percentage of the schedule shall be considered as zero and shall be calculated accordingly; (e) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected. (f) DELETED 2. If the Tenderer has submitted the lowest evaluated Tender does not accept the correction of errors and omissions as per above provisions, its Tender shall be disqualified and its Tender security shall be forfeited or its Tender-Securing Declaration executed.
25.6	<p>The following para is added:</p> <p>Conversion to Single Currency</p> <p>For evaluation and comparison purposes the currencies of the Tender shall be converted into Indian Rupees as stated in BDS.</p> <p>An Abnormally Low Tender is one in which the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer to perform the contract at the offered price. The Employer may in such cases seek written clarifications from the Tenderer, including detailed price analysis of its Tender price in relation to scope, schedule, allocation of risks and responsibilities, and any other requirements of the Tender document. If, after evaluating the</p>

price analyses, the Employer determines that the Tenderer has substantially failed to demonstrate its capability to deliver the contract at the offered price, the Employer may reject the Tender/ proposal.

Additional Performance Security in case of abnormally low Tenders will have to be submitted.

The calculation sheet is as below:

If the bid, which results in the lowest Evaluated Bid Price is substantially on lower side and/or seriously unbalanced in the opinion of the Employer as per criteria defined below, the Employer may require the bidder to submit additional performance security as under:-

- a) If overall price quoted by the L1 bidder is below the engineer's estimated price by more than 10% and the difference between overall price quoted by the L1 and L2 is more than 5% of the estimated price, then the bid price of L1 bidder shall be treated as substantially on lower side and such bidder shall be bound to furnish additional performance security equal to the $(0.9 \times \text{engineer's estimated price} - \text{L1 price})$ or $(0.95 \times \text{L2 price} - \text{L1 price})$

whichever is lower, on this account. Example below demonstrates the method of calculation to arrive at additional performance security:

Suppose overall price quoted by the L1 bidder is 17% below the estimated price and the overall price quoted by L2 bidder is 8% below the estimated price. In this case the overall price quoted by the L1 bidder is lower by more than 10% of the estimated price and also the difference between overall price quoted by the L2 and L1 bidder is more than 5% of the estimated price, hence the L1 bidder shall be required to furnish additional performance security for an amount equal to $\{0.9 \times \text{engineer's estimated price} - (1 - 17/100) \times \text{engineer's estimated price}\} = \{0.07 \times \text{engineer's estimated price}\} = 7\%$ of engineer's estimated price or $\{0.95 \times (1 - 8/100) \times \text{engineer's estimated price} - (1 - 17/100) \times \text{engineer's estimated price}\} = \{0.044 \times \text{engineer's estimated price}\} = 4.4\%$ of engineer's estimated price; whichever is lower.

As per the above L1 bidder shall be required to submit additional performance security of 4.4% of engineer's estimated price.

- b) If for any bill/ schedule of quantities % age above or below quoted by the bidder on the estimated price is beyond 15% below the overall % age difference between the quoted contract price and the engineers estimated price, then the price for that particular schedule shall be treated as seriously unbalanced and bidder shall be bound to furnish additional performance security for such unbalanced price. Example below demonstrates the method of calculation to arrive at unbalanced price and additional performance security:

Suppose for the L1 bidder overall % age difference between quoted contract price and the engineers estimated price;

$(\text{Overall contract price} - \text{Overall estimated price}) \times 100 \div \text{overall estimated price} = + 4 \%$

Maximum % age below permitted over estimated price of any bill / schedule in this case = $+4 - 15 = -11\%$

Suppose for the L1 bidder has quoted 20% below estimated price then the pricing shall be treated as unbalanced and the bidder shall be required to furnish additional performance security for an amount equal to $(20 - 11) \%$ of the estimated price.

26.2	<p>The following para is added:</p> <p>Award Criteria</p> <ul style="list-style-type: none"> • The Employer shall award the Contract to the Tenderer whose Tender is substantially responsive to the Tendering Document, provided further that the Tenderer is determined to be qualified to perform the Contract satisfactorily and whose offer has been determined to be the lowest evaluated subject to ITT below. In case of more than one Tenders are evaluated to be lowest, Contract shall be awarded to the Tenderer having higher average annual design/consultancy turnover (calculated as total certified payments received for contracts in progress or completed) in equivalent INR within the last Two financial years. • The Employer has the right to review at any time prior to award of contract that the qualification criteria as specified in Section-3: Qualification Information and Bidding Forms are still being met by the Tenderer whose offer has been determined to be the lowest evaluated Tender. A Tender shall be rejected if the qualification criteria as specified in Section-3: Qualification Information and Bidding Forms are no longer met by the Tenderer whose offer has been determined to be the lowest evaluated Tender. In this event the Employer shall proceed to the next lowest evaluated Tender to make a similar reassessment of that Tenderer's capabilities to perform satisfactorily.
29.5	<p>The following para is added:</p> <p>Performance Security</p> <p>The successful Tenderers shall have to submit a Performance Guarantee (PG) Within twenty (20) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 20 days up to 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% of per annum shall be charged for the delay beyond 20 days, i.e. From 21st day after the date of issue of LOA. Further if the 60th day happens to be declared holiday in the office of K-RIDE, submission of PG can be accepted on the next working day.</p> <p>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 terminate. In case contract is terminated K-RIDE shall be entitled to forfeit the Tender security and other dues payable against to the contract. In case the tenderer has not submitted by security on the strength of their registration as a start-up recognized by the 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.</p> <p>Failure of the successful Tenderer to submit the above-mentioned Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender security or execution of the Tender-Securing Declaration.</p> <p>The above provision shall also not apply to the furnishing of a Domestic Preference Security, if so required.</p>
New Clause-1	<p>LITIGATION HISTORY: (Please see Annexure Tendering Forms).</p> <p>The Tenderer/Tenderers should provide accurate information on any litigation or arbitration resulting from contracts completed or under its execution over the last five years as on date of submission of this tender.</p> <p>If the litigation started by the Tenderer without recourse to measures of Dispute Resolution and Arbitration as provided in the Contract or the litigation in respect of challenge of award of Arbitration by the Tenderer, will be treated as Litigation case indulged by the Tenderer for this Para of Litigation History.</p>

SECTION:2: - INSTRUCTIONS TO TENDERERS (ITT)

	<p>A consistent history of awards against the Applicant or any partner of a joint venture may result in failure of the application.</p> <p>Note: Tenderers including each of the partners of a Joint Venture, should provide information on any history of litigation or Arbitration resulting from contracts executed in the last 5 years as on date of submission of this tender. A separate sheet should be used for each partner of a Joint Venture</p>
<p>New Clause-2</p>	<p>Jurisdiction of Courts</p> <p>The Tendering process shall be governed by and construed in accordance with the laws of India and the Courts as indicated in Tender Data Sheet shall have exclusive jurisdiction over all the disputes/issues arising under, pursuant to and/ or in connection with the Tendering process. The Jurisdiction of Courts is Bengaluru, Karnataka</p>

K-RIDE

SECTION-3

QUALIFICATION INFORMATION/BIDDING FORMS

INDEX**SECTION-3: QUALIFICATION INFORMATION/BIDDING FORMS**

This Section contains the forms which are to be completed by the Bidder and to be submitted as part of this Bid.

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A) QUALIFICATION INFORMATION/BIDDING FORMS

1. QUALIFICATION INFORMATION

The information to be filled in by the Tenderer hereunder will be used for purposes of computing Tender capacity as provided for in Clause 2 of the Instructions to Tenderers. This information will not be incorporated in the Contract.

1.1. Constitution or legal status of Tenderer

Place of Registration: _____ [Attach copy]

Principal place of business: _____ [Attach Copy]

1.2. Total value of Design/consultancy works executed and payments received in the preceding five Financial Years. (` In Crores) (attach certificate from Statutory Auditors)

2018-2019: -----

2019-2020: -----

2020-2021: -----

2021-2022: -----

2022-2023: -----

K-RIDE

1.3. Work performed as consultant (in the same name) on works of similar nature over during the five financial years specified in 1.2 above.

Project Name	Name of Employer	Description of Work	Contract Number	Value of contract Rs. Cr.	Date of Issue of work order	Specified period of completion	Actual date of completion	If partner in a JV, specify participation in total contract amount	Remarks explaining reasons for delay in completion of work
1	2	3	4	5	6	7	8	9	10

Note:

- (1) If the qualifying work of similar nature is done by a joint venture, then Value shall be considered as per percentage participation by the member(s) in that joint venture.
- (2) Value of *similar nature of work completed shall be updated up to 2023-24 price level as per table given below:

Financial year	2018-19	2019-20	2020-21	2021-22	2022-23
Indian Currency					
Foreign Currency					

- (3) For completed works, the value of work done shall be updated to current FY 2023-24 price level assuming 10% inflation for Indian rupees every year or part thereof up to the month previous to the Bid submission month. Credentials if submitted in foreign currency shall be converted into Indian currency i.e., Indian Rupee as under: Bids will be compared in Indian Rupees only. The exchange rate of foreign currency shall be applicable 28 days before the tender submission date. For conversion of foreign currency to Indian Rupee exchange rates published by Financial Benchmarks Private limited (www.fbil.org.in) 28 days before the date of bid submittal will be considered. In case the particular day happens to be a holiday the exchange rate published on the next working day will be considered. In case of works in foreign currency the effect of inflation is considered as included, as the exchange rate prevailing 28 days before tender submission is being considered for conversion to Indian Rupees,

The bidder shall attach a copy of the Certificate(s) issued by the employer in support of the information being furnished in the above form, failing which the claim of the bidder shall be liable to be rejected (in case of experience as a sub-contractor, the employer shall be the owner of the Project who has engaged the main Contractor).

SEAL AND SIGNATURE

1.4. Quantities of work executed as consultant (in the same name) during the last five financial years-

Year	Name of Work	Name of Employer	Quantity of work performed (As mentioned in Qualification of the Tenderer, Clause 3.4 of Section 2)	Remarks (Indicate contract reference Contract No., Award Date, Completion date, Role in contract, total contract amount, JV participation proportion, performance)
2018-2019				
2019-2020				
2020-2021				
2021-2022				
2022-2023				

Note:

- 1) Copy of Certificate(s) issued by the employer in support of the information being furnished above, shall be attached with each respective form, as per detailed requirements indicated in clause 3.4 of Section 2 failing which the claim of the bidder shall be liable to be rejected (in case of experience as a sub-contractor, the employer shall be the owner of the Project who has engaged the main Contractor).

SEAL AND SIGNATURE

1.5. Information on works for which Tenders have been submitted and works which are yet to be completed as on the date of this Tender.

(A) Existing commitments and on-going works:

Description of Work	Place & State	Contract No. & Date	Name and Address of Employer	Value of Contract (Rs. In Crores)	Stipulated period of completion	Value of works remaining to be completed (Rs. In Crores) (Attach certificate from Engineer in charge)	Value of the works to be executed in the next 'P+3' months	Anticipated date of completion
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

where,

P = The completion period (in months) specified for the work

(B) Works for which Tenders already submitted:

Description of Work	Place & State	Name and Address of Employer	Estimated value of works (Rs. In Crores)	Stipulated period of completion	Date when decision is expected	Remarks if any
(1)	(2)	(3)	(4)	(5)	(6)	(7)

1.6. DELETED

1.7. Reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the last five years;

1.8. Qualification and experience of the key technical and management personnel in permanent employment with the tenderer and those that are proposed to be deployed on this contract, if awarded.

1.9. Name, address, and telephone, telex, and fax numbers of the Tenderers' bankers who may provide references if contacted by the Employer.

1.10. Evidence of access to financial resources to meet the qualification requirement specified in ITT Clause 3.3 (b): Cash in hand, Letter of Credit etc. List them and attach certificate from the Banker in the suggested format given in Section 3, Form No.CL3 & CL4.

1.11. Proposals for subcontracting components of works amounting to more than 20% of the contract price.

Item of Work	Value of Sub-Contract	Identified Sub-Contractor (Name and Address)	Experience of similar works (Attach Certificates from the respective Employers)	Remarks (Undertaking from Specialist subcontractors to be provided as per Form CL-2)

1.12. Information on litigations in which the Tenderer is involved:

Litigation History

(This has reference to Eligibility cum Qualification Criteria document.)

Name of Tenderer or member of Joint Venture: -

Sl. No.	Name of the Employer/ Client	Name of the work	No. of cases in the work	cause of Litigation/ arbitration/ details of disputes	Year	Litigation/ arbitration initiated by	Award in favor of Tenderer/ Client	Disputed Amount	Remarks showing present status

Note: Tenderers including each of the partners of a Joint Venture, should provide information on any history of litigation or Arbitration resulting from contracts executed in the last 05 years as on date of submission of this tender. A separate sheet should be used for each partner of a Joint Venture

- 1.13. **The proposed methodology and program of construction, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones.**

APPROACH & METHODOLOGY PROPOSED FOR PERFORMING THE ASSIGNMENT

Name of Project: “.....”

The approach and methodology will be detailed precisely under the following topics:

1. Understanding of the assignment
2. Work Breakdown structure/ Work plan.
3. Composition of the Team
4. Organizational set up/ Construction methodology for execution of the work as outline in Section 8A
5. Documentation and procedures to be prepared, adopted and furnished to K-RIDE (Rail Infrastructure Company (Karnataka) Limited).
6. Reporting Procedure
7. Sourcing of Material

Note:

- i. **The approach and methodology should be precise and relevant to the assignment. Include Bar charts.**

B) ADDITIONAL QUALIFICATION INFORMATION/BIDDING FORMS

Form: PS1

LETTER OF TECHNICAL BID

(Separately for each Package)
Date.....

Invitation for Bid No.:.....

To,
.....

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Tenderer (ITT);
- (b) We offer to execute the Works in conformity with the Bidding Documents;
- (c) Our bid shall be valid for a period of 180 days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (e) If our bid is accepted, we commit to deploy key equipment and key personnel consistent with the requirements stipulated in Section 8A: Works Requirements.
- (f) If our bid is accepted, we commit to submit work method statements for all major activities and get these approved from the engineer prior to commencing work on such activities. We also understand that the work shall be executed as per the approved method statements and KEY DATES without any deviations and delay in completion.
- (g) We, including any subcontractors or suppliers for any part of the contract, do not have any conflict of interest in accordance with ITT clause 2.4;
- (h) We declare that we are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITT clause 2.2, other than alternative offers submitted in accordance with ITT clause 14;
- (i) We declare that we are not liable to be disqualified in accordance with ITT clause 2.5, and we are enclosing the affidavit for the same as per the Performa given in the bid document.

- (j) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- (k) We have not made any deviations from the requirement of the bidding document and we have also not made any tampering or changes in the bidding documents on which the bid is being submitted and if any tampering or changes are detected at any stage, we understand the bid will invite summary rejection and invocation of bid security declaration, the contract will be liable to be terminated along with forfeiture of performance security, even if LOA has been issued.
- (l) We understand that we will be considered for participating for which we have submitted the bid security(ies) declaration form and we will be considered for award, subject to fulfilling the eligibility criteria as given in bidding document;
- (m) If our bid is accepted, we opt to take payment into the bank account, nominated by us.
- (n) We declare that the submission of this bid confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services or any other item of work related to the award and performance of this contract. We further confirm and declare that no agency commission or any payment which may be construed as an agency commission has been, or will be, paid and that the bid price does not include any such amount. We acknowledge the right of the Employer, if he finds to the contrary, to declare our bid to be noncompliant and if the contract has been awarded to declare the contract null and void
- (o) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (p) A Power of Attorney to sign and submit this letter is attached.
- (q) Having inspected the site, examined the complete bid document including Employer's requirements, Conditions of Contract, Special Conditions of Contract, particular conditions of Contract, Technical Specifications, Safety, Health & Environment (SHE) manual, Eligibility Cum Qualification Criteria, Instructions to Bidder and Addenda/Corrigendum etc., thereto (if any) for above mentioned work and prepared the bid entirely in accordance with all the requirements of the bid document and agree entirely with them.
- (r) We here by confirm that we have visited the sites of work and have become conversant with the local conditions of working.
- (s) For the purpose of your evaluation, study, review and decision-making we are ready to let you inspect our business premises / site, etc.
- (t) We authorize K-RIDE or any of their authorized representative to approach, enquire, verify and check the matter furnished in our submission with the concerned client / owner of the Project / Contract and the concerned Banker of reference provided by us.
- (u) We undertake to hold in confidence all documents and information whether Technical or Commercial supplied to us at any time by or on behalf of K-RIDE in connection with this bid and without your written authority or as otherwise required by law not to publish or otherwise disclose the same.

- (v) If our bid is accepted, we agree to establish our project office in Bengaluru and will ensure all key staff availability.
- (w) We have submitted the Statement of Integrity, Eligibility, Social, and Environmental Responsibility signed and abide by the same.
- (x) We understand that this Bid shall be governed by and construed in all respects according to the laws for the time being force in India. The courts at Bangalore will have exclusive jurisdiction in the matter.
- (y) We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

We hereby confirm that this Tender complies with the Tender validity and Earnest money deposit required by the Tender documents.

- (z) We confirm and declare that by virtue of our signature below, to the best of knowledge and belief that the information provided by us as required in this Bid Document, all supporting and explanatory information is truthful and exact.

Name.....
..... In the capacity
of.....
Signed

Duly authorized to sign the Bid for and on behalf of

Date

(SEAL AND SIGNATURE OF THE BIDDER)

LETTER OF PRICE BID

Date.....

Invitation for Bid No.....

To,

.....

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITT) 9;
- (b) We offer to execute the Work in conformity with the Bidding Documents;
- (c) The total price of our Bid, indicated in the Price Bid on Karnataka e-procurement portal
- (d) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- (e) We have not made any deviations from the requirement of the bidding document and we have also not made any tampering or changes in the bidding documents on which the bid is being submitted and if any tampering or changes are detected at any stage, we understand the bid will invite summary rejection and forfeiture of bid security/the contract will be liable to be terminated along with forfeiture of performance security, even if LOA has been issued.
- (f) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Name.....

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date

Seal

Form: PS 3

FORMAT FOR AFFIDAVIT TO BE SUBMITTED BY BIDDER ALONGWITH THE BID

(To be separately given for each package)

*(To be executed in presence of Public Notary on non-judicial stamp paper of the appropriate value in accordance with relevant stamp Act. The stamp paper has to be in the name of the bidder) ***

I **(Name and designation)** **..... appointed as the attorney/authorized signatory of the bidder (including its constituents), M/s. _____ (hereinafter called the bidder) for the purpose of the Bid for the work of _____ as per the bid No. _____ of K-RIDE, do hereby solemnly affirm and state on behalf of the bidder including its constituents as under:

- *1. That the bidder or any of its constituents has not been Blacklisted/ banned for business dealings for all Government Departments or by Ministry of Railways or by K-RIDE at any time and/or no such blacklisting is in force as on the deadline for submission of bids.
- *2. That none of the previous contracts of the bidder or any of its constituents had been terminated/rescinded for Contractor's failure or part terminated for its failure as a JV partner with forfeiture of its full Performance Security, by Rail Infrastructure Development Company (Karnataka) Ltd. during the period of last 3 years before the deadline for submission of bids.

(Add Proviso of Clause 2, (ITT) suitably, if any Contract was so terminated).

- *3. The bidder or any of its constituents has not been imposed liquidated damages of 5% or more of contract value by any Government Department or by Ministry of Railways or by K-RIDE due to delay in the implementation of any previous contract (either in the capacity of a single entity or as constituent of any other JV) within the period of last 2 years before the deadline for submission of bid [2 years shall be reckoned from the date on which imposed L.D. has exceeded 5% of the contract price] and there are no such accrued delay damages which has not been fully recovered before the deadline for submission of bids on account of contractor's request for deferring recovery to maintain cash flow and K-RIDE has acceded to the same in the interest of the project and the work under the previous contract in question has been completed before the deadline for submission of bid, unless imposition of such delay damages has been set aside by the Competent Authority.
- 4. That the Bidder or any of its constituents is neither Bankrupt/Insolvent nor is in the process of winding-up nor is such a case pending before any Court on the deadline of submission of the bid.
- *5. That the name of the Bidder or any of its constituents is not on the list of "Poor Performer" of any Government Department or by Ministry of Railways or by K-RIDE as on the deadline for submission of bid.
- 6. We declare that the bidder or any of its constituents have not either changed their name or created a new business entity. Consequent to having been banned business dealings for specified period which is not over or suspended business dealings or having been declared as poor performer.

7. We declare and certify that balance sheets for last five financial years including that for the latest concluded financial year are being submitted.

OR

We declare and certify that balance sheet for the latest concluded financial year has not been finalized till date and that is why we are furnishing financial data for last five financial years ignoring the latest concluded financial year.

(# - Delete whichever is not applicable) **.

8. We declare and certify that we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
9. We declare that the information and documents submitted along with the bid by us are correct and we are fully responsible for the correctness of the information and documents, submitted by us.
10. We understand that in case we cease to fulfil the requirements of qualifying and eligibility criteria at any time after opening of bids and till finalization of bids, it will be our bounden duty to inform the Employer of our changed status immediately and in case of our failure to do so, our bid shall be rejected and bid security shall be forfeited. In case such failure comes to the notice of Employer at any time after award of the contract, it will lead to termination of the contract and forfeiture of Bid or Performance Security. We shall also be liable for Banning of Business dealings up to a period of five years.
11. We understand that if the contents of the affidavit are found to be false at any stage during bid evaluation, it will lead to rejection of our bid and forfeiture of the bid security. Further, we **[insert name of the bidder]** ** _____ and all our constituents understand that we shall be liable for banning of business dealings up to a period of five years.
12. We declare and certify that we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
13. We also understand that our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon us.
14. We declare that the information and the document submitted along with the tender by us are correct and we are fully responsible for the correctness of the information and documents, submitted by us.
15. We understand that if the certificate regarding Eligibility Criteria 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 tender EMD besides banning of business for five years in K-RIDE. Further, we (Insert name of the Tenderer)** and all our constituents understand that our offer shall be summarily rejected.
16. We also understand that if the certificate submitted by us are found to be false/forged or incorrect at any time after the award of contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and performance guarantee besides any other action provided in the contract including banning of business for five years in K-RIDE.

(SEAL AND SIGNATURE OF THE BIDDER)

Verification:

We above named tenderer do hereby solemnly affirm and verify that the contents of our above affidavit are true and correct. Nothing has been concealed and no part of it is false.

(SEAL AND SIGNATURE OF THE BIDDER)

*Modify the contents wherever necessary, in terms of sub-clause 2 ITT.

** The contents in Italics are only for guidance purpose and details as appropriate, are to be filled in suitably by Bidder.

Attestation before Magistrate/Public Notary

K-RIDE

Form – BDF/1**FORMAT OF BID SECURITY (BANK GUARANTEE)**

WHEREAS _____ having its registered office at _____
 _____ (hereinafter called the –Bidder) has submitted his bid dated _____ for the work
**Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary
 Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV
 Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis,
 Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings,
 BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and
 Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor
 – 2, modifying same OHE suitable for BSRP afterwards.** (hereinafter called "the Works") KNOW ALL PEOPLE by these
 presents that we, _____ having its registered office
 at _____ (hereinafter called the Bank) are bound unto the Managing Director, Rail
 Infrastructure Development Company Karnataka Ltd (**K-RIDE**), Bangalore. (hereinafter called "the Employer") in the
 sum of Rs. _____ (Rupees _____) for which payment well and truly to be made to the
 said Employer the Bank binds itself, his successors and assigns by these presents; SEALED with the Common Seal
 of the said Bank this day _____.

THE CONDITIONS OF THIS OBLIGATION ARE:

(1) If after Bid opening the Bidder withdraws his Bid during the period of Bids validity specified in the Form of Bid.

OR

(2) If the Bidder having been notified of the acceptance of his Bid by the Employer during the period of Bid Validity.

- a. Fails or confuses to execute the form of Agreement in accordance with the instructions to Bidders, if required; or
- b. Fails or refuse to furnish the Performance Security, in accordance with the instruction to Bidders; or
- c. Does not accept the correction of the Bid Price pursuant to clause 24

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the conditions of one or both of the two conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date 225 days after the deadline for submission of bids as such deadline is stated in the instructions to Bidders of as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____

SEAL _____

Form: JV/1

PRO-FORMA LETTER OF PARTICIPATION FROM EACH PARTNER OF JOINT VENTURE (JV)

(On each Firm's Letter Head)

No.....

Dated:.....

From,

.....
.....

To,

The General Manager,
Rail Infrastructure Development Company (Karnataka) Limited,
"Samparka Soudha", 1st Floor,
B.E.P Premises (Opp. Orion Mall),
Rajajinagar 1st Block,
Bangalore - 560 010.

Gentlemen,

Re: ... "[Insert name of work]"

Ref: Your notice for Invitation for Bid (IFB)

1. We wish to confirm that our company/firm (delete as appropriate) has formed a Joint Venture by name of with for the purposes associated with IFB referred to above.

*(Members who are not the lead partner of the JV should add the following paragraph) **

2. 'The JV is led by ... whom we hereby authorize to act on our behalf for the purposes of submission of Bid for and authorize to incur liabilities and receive instructions for and on behalf of any and all the partners or constituents of the Joint Venture.'

OR

*(Member(s) being the lead member of the group should add the following paragraph) **

2. 'In this group we act as leader and, for the purposes of applying for qualification, represent the Joint Venture:'

3. In the event of our group being awarded the contract, we agree to be jointly with..... (names of other members of our JV) and severally liable to the (K-RIDE) Rail Infrastructure Development Company (Karnataka) Limited, Bangalore, its successors and assigns for all obligations, duties and responsibilities

arising from or imposed by the contract subsequently entered into between Rail Infrastructure Development Company (Karnataka) Limited, Bangalore and our JV.

4. */I/We, further agree that entire execution of the contract shall be carried out exclusively through the lead partner.

Yours faithfully,

(Signature)

(Name of Signatory)

(Capacity of Signatory)

Seal

* Delete as applicable

K-RIDE

Form: JV/2

**FORMAT FOR POWER OF ATTORNEY FOR AUTHORISED
SIGNATORY OF JOINT VENTURE (JV) PARTNERS**

POWER OF ATTORNEY

(To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant stamp Act. The stamp paper to be in the name of the company who is issuing the power of Attorney)

Know all men by these presents, we ... do hereby constitute, appoint and authorize Mr/Ms. who is presently employed with us and holding the position ofas our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our bid for the work of ...Including signing and submission of all documents and providing information/responses to Rail Infrastructure Development Company (Karnataka) Limited, Bangalore, representing us in all matters, dealing with Rail Infrastructure Development Company (Karnataka) Limited, Bangalore, in all matters in connection with our bid for the said project and if successful, till the whole of the bid process.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

Dated this the day of 20...

(Signature of authorized Signatory)

.....

(Signature and Name in Block letters of Signatory)

Seal of Company

Witness

Witness 1:

Name:

Address:

Occupation:

Witness 2:

Name:

Address:

Occupation:

*Notes:

- i. To be executed by all the partners individually, in case of a Joint Venture.
- ii. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.
- iii. Also wherever required, the executants(s) should submit for verification the extract of the charter documents and documents such as resolution/ power of attorney in favour of the person executing this power of attorney for the designation of power hereunder on behalf of the bidder.

Form: JV/3

**FORMAT FOR POWER OF ATTORNEY TO
LEAD PARTNER OF JOINT VENTURE (JV)**

*(To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant stamp Act.
The stamp paper to be in the name of the company who is issuing the power of Attorney)*

POWER OF ATTORNEY

Whereas Rail Infrastructure Development Company (Karnataka) Limited Bangalore, has invited Bids for the work of

Whereas, the members of the Joint Venture comprising of M/s., M/s., and M/s. are interested in submission of bid for the work of ... *[Insert name of work]* ... in accordance with the terms and conditions contained in the bidding documents.

Whereas, it is necessary for the members of the Joint Venture to designate one of them as the Lead Partner, with all necessary power and authority to do, for and on behalf of the Joint Venture, all acts, deeds and things as may be necessary in connection with the bid for the project, as may be necessary in connection the Joint Venture's bid for the project.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT:

We, M/s., hereby designate M/s., being one of the partners of the Joint Venture, as the lead partner of the Joint Venture, to do on behalf of the Joint Venture, all or any of the acts, deeds or things necessary or incidental to the Joint Venture's bid for the contract, including submission of bid, participating in conferences, responding to queries, submission of information/ documents and generally to represent the Joint Venture in all its dealings with K-RIDE/ Railway or any other Government Agency or any person, in connection with the contract for the said work until culmination of the process of bidding till the contract agreement is entered into with the Rail Infrastructure Development Company (Karnataka) Limited, Bangalore and thereafter till the expiry of the contract agreement.

We hereby agree to ratify all acts, deeds and things lawfully done by lead member, our said attorney, pursuant to this power of attorney and that all acts deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us/ Joint Venture.

Dated this the Day of 202...

.....

(Signature)

.....

(Name in Block letters of Executant)

Seal of Company

Witness 1:
Name:
Address:
Occupation:

Witness 2:
Name:
Address:
Occupation:

Notes:

1. To be executed by all the Partners of the JV except the lead Partner.
2. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

K-RIDE

Form: JV/4

DRAFT FORMAT OF JOINT VENTURE AGREEMENT

M/s having its registered office at (hereinafter referred to as)
acting as the Lead Partner of the first part,

and

M/s having its registered office at (here in after referred to as
.....) in the capacity of a Joint Partner of the other part.

and

M/s having its registered office at (here in after referred to as
.....) in the capacity of a Joint Partner of the other part.

The expressions of and shall wherever the context admit, mean and include their
respective legal representatives, successors-in-interest and assigns and shall collectively be referred to as “the
Parties” and individually as “the Party”

WHEREAS:

Rail Infrastructure Development Company (Karnataka) Limited (K-RIDE) [hereinafter referred to as “Employer”]
has invited bids for ... “[Insert name of work]” Vide LOA No.....awarded contract.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. The following documents shall be deemed to form and be read and construed as an integral part of this
AGREEMENT.
 - i. Notice for Bid, and
 - ii. Bidding document
 - iii. Any Addendum/Corrigendum issued by Rail Infrastructure Development Company (Karnataka)
Limited
 - iv. The bid submitted on our behalf jointly by the Lead Partner.
 - v. Letter of Acceptance issued by Rail Infrastructure Development Company (Karnataka) Ltd.
2. The ‘Parties’ have studied the documents and LOA issued to enter into Joint Venture as under and have
agreed to participate.
3. M/sshall be the lead member of the JV for all intents and purpose and shall represent the Joint
Venture in its dealing with the Employer. For the purpose of execution, the parties agree to nominate
as the leader duly authorized to sign and submit all documents and enter into correspondence with the
Employer.
4. The ‘Parties’ have resolved that the distribution of share and responsibilities between the JV partners is as
under

(a) Lead Partner Share %

Responsibilities

(I) Key Activities and %age execution assigned

i.

(II) Price Schedule No. and %age execution assigned

i.

ii.

iii.

(b) Joint Venture Partner Share.....%

Responsibilities

(I) Key Activities and %age execution assigned

i.

(II) Price Schedule No. and %age execution assigned

i.

ii.

iii.

(c) Joint Venture Partner Share.....%

Responsibilities

(I) Key Activities and %age execution assigned

i.

(II) Price Schedule No. and %age execution assigned

i.

ii.

iii.

Note: In case any Bill or items of a Bill are proposed to be executed by more than one JV partner then indicate the breakup of that Item/Bill no. for each JV partner.

5. JOINT AND SEVERAL RESPONSIBILITIES

The Parties undertake that they shall be jointly and severally liable to the Employer in the discharge of all the obligations and liabilities as per the contract with the Employer and for the performance of contract awarded to their JV.

6. ASSIGNMENT AND THIRD PARTIES

The parties shall co-operate throughout the entire period of this AGREEMENT on the basis of exclusivity and neither of the Parties shall make arrangement or enter into agreement either directly or indirectly with any other party or group of parties on matters relating to the Project except with prior written consent of the other party and the Employer.

7. EXECUTIVE AUTHORITY

The said Joint Venture through its authorized representative shall receive instructions, payments from the Employer. The management structure for the project shall be prepared by mutual consultations to enable completion of project to quality requirements within permitted cost and time.

8. GUARANTEES AND BONDS

Performance Security and other Securities of a JV shall be in the name of the JV that submits the bid.

9. BID SUBMISSION

Each Party shall bear its own cost and expenses for preparation and submission of the bid and all costs until conclusion of a contract with the Employer for the Project. Common expenses shall be shared by both the parties in the ratio of their actual participation.

10. INDEMNITY

Each party hereto agrees to indemnify the other party against its respective parts in case of breach/default of the respective party of the contract works of any liabilities sustained by the Joint Venture.

11. For the execution of the respective portions of works, the parties shall make their own arrangements to bring the required finance, plants and equipment, materials, manpower and other resources.

12. DOCUMENTS & CONFIDENTIALITY

Each Party shall maintain in confidence and not use for any purpose related to the Project all commercial and technical information received or generated in the course of preparation and submission of the bid.

13. ARBITRATION

Any dispute, controversy or claim arising out of or relating to this agreement shall be settled in the first instance amicably between the parties. If an amicable settlement cannot be reached as above, it will be settled by arbitration in accordance with the Indian Arbitration and Conciliation Act 1996 or any amendments thereof. The venue of the arbitration shall be Bangalore.

14. VALIDITY

This Agreement shall remain in force till the defect liability period is over and Securities are released.

15. This AGREEMENT is drawn in number of copies with equal legal strength and status. One copy is held by M/s and the other by M/s. &M/s and a copy submitted with the Bid.

16. This AGREEMENT shall be construed under the laws of India.

17. NOTICES BETWEEN JV PARTNERS

Notices shall be given in writing by fax confirmed by registered mail or commercial courier to the following fax numbers and addresses:

Lead Partner	Other Partner	Other Partner
.....
.....
(Name & Address)	(Name & Address)	(Name & Address)

IN WITNESS WHEREOF THE PARTIES, have executed this AGREEMENT the day, month and year first before written.

M/s.....	M/s.....
.....
(Seal)	(Seal)

Witness

1.....(Name & Address)
 2..... (Name & Address)



Bidders Qualification

To establish its qualifications to perform the contract in accordance with Section 2 (Qualification Information) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

To establish its qualifications to perform the contract in accordance with Section 2 (Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

Form ELI - 1: Bidder's Information Sheet

Bidder's Information	
Bidder's legal name	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone numbers, fax numbers, e-mail address)	
Bidder's Bank Details: (a) Name of the Bank and branch: (b) Account Number: (c) IFSC code: (d) Bank's Contact Number and Fax Number: (e) PAN: GST Registration No:	

The bidder shall attach copies of the following original documents with the form:

1. In case of single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITT clause 2.
2. Authorization to represent the firm or JV named in above, in accordance with ITT clause 14.
3. In case of JV, JV agreement, in accordance with ITT clause 2.

SEAL AND SIGNATURE

K-RIDE

Form ELI - 2: JV Information Sheet

Each member of a JV must fill in this form separately

JV Information	
Bidder's legal name	
JV Partner's legal name	
JV Partner's country of constitution	
JV Partner's year of constitution	
JV Partner's legal address in country of constitution	
JV Partner's authorized representative information (name, address, telephone numbers, fax numbers, e-mail address)	
Bidder's Bank Details: (f) Name of the Bank and branch: (g) Account Number: (h) IFSC code: (i) Bank's Contact Number and Fax Number: (j) PAN: (k) GST Registration No:	

The bidder shall attach copies of the following original documents with the form:

1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITT clause 2.
2. Authorization to represent the firm named above, in accordance with ITT clause 14.

SEAL AND SIGNATURE

Note for Form ELI-1 & ELI-2: Following needs to be submitted by the bidder;

- (a) Affidavit in case of Proprietary firm.
- (b) Partnership Deed in case of partnership firm.
- (c) Memorandum & Article of Association in case of Public/Private limited company.
- (d) Authorization/POA in favour of authorised signatory of bidder to sign the bid.
- (e) Board of Resolution nominating particular director to authorize a signatory to sign the bid.
- (f) In case of JV partners the above relevant documents as applicable needs to be submitted.

Form FIN-1: Financial Situation

(Each Bidder or each member of a JV must fill in this form separately)

NAME OF BIDDER/JV PARTNER

	Financial Data for Last 5 Years [Indian National Rupees]				
	Year 1:	Year 2:	Year 3:	Year 4:	Year 5:
1. Total Assets					
2. Current Assets					
3. Total Liabilities					
Current Liabilities					
5. Net Worth [= 1 – 3]					
6. Working Capital [= 2 - 4]					
7. Profit Before Tax (PBT)					

1. The bidder shall attach copies of the following original documents with the form

Copies of the audited balance sheets, including all related notes, and income statements for the last five years, as indicated above, complying with the following conditions.

- i. All such documents reflect the financial situation of the Bidder or partner to a JV, and not sister or parent companies.
- ii. Historic financial statements must be audited by a certified accountant.
- iii. Historic financial statements must be complete, including all notes to the financial statements.
- iv. Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

2. Contents of this form should be certified by a Statutory Auditor

- i. In the event that the audited accounts for the latest concluded Financial Year are not available, the Bidder shall furnish information pertaining to the last five financial years after ignoring the latest concluded financial year. In case, the bidder submits audited financial information for the last six or more years, only the figures for the latest five years shall be considered for evaluation.
- ii. Financial data for last five financial years has to be submitted by the bidder along with audited balance sheets. The financial information of the Bidder must be certified either by the Independent Financial Auditor (statutory Auditor) of the company appointed under the companies' Act.
- iii. In case any discrepancy in data is found between the balance sheet and the financial information submitted, the data as available in the balance sheet will be considered.

- iv. In case the audited balance sheet of the last financial year is not made available by the Bidder, he has to submit an affidavit certifying that 'The Balance Sheet has actually not been audited so far'. In such a case the financial data of previous '4' audited financial years will be taken into consideration for evaluation. If audited balance sheet of any year other than the last financial year is not submitted, then the bid will be considered as non-responsive
- v. In case the company's financial year is from Jan 19 to Dec 19, then it will be considered under financial year 2019 - 20 similar procedure will be applicable for other financial years also.

SEAL AND SIGNATURE OF THE BIDDER

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 Statutory Auditor)

Name of Statutory Auditor : _____

Registration No: _____

(Seal)

Form FIN-2: Annual Turnover for the last 5 Financial years

Each Bidder or each member of a JV must fill in this form separately:

NAME OF BIDDER/JV PARTNER:

Sl. No.	Year	Annual Turnover	Multiplying factor	Updated Annual turnover
		INR	INR	INR
1	2018-2019			
2	2019-2020			
3	2020-2021			
4	2021-2022			
5	2022-2023			

Annual Turnover Data for the Last 5 Financial Years (Design/Consultancy work only)			
Year	Amount Currency	Exchange Rate	Indian National Rupees Equivalent
Average Annual Turnover for last 5 Financial Years			

1. The information supplied shall be substantiated by data in the audited balance sheets and profit and loss accounts for the relevant years and submitted as attachments to form Fin-1 in respect of the bidder or all partners constituting the bidder.
2. Contents of this form should be certified by a Statutory Auditor.
3. In case the audited balance sheet of the last financial year is not made available by the Bidder, he has to submit an affidavit certifying that 'The Balance Sheet has actually not been audited so far'. In such a case the financial data of previous '4' audited financial years will be taken into consideration for evaluation. If audited balance sheet of any year other than the last financial year is not submitted, then the bid will be considered as non-responsive

SEAL AND SIGNATURE

|

Form FIN-3: DELETED

K-RIDE

FORM NO. 1

DELETED

K-RIDE

FORM NO. 2

**CHECKLIST FOR CLAUSES PERTAINING TO SUMMARY
REJECTION OF BID**

We, the undersigned, declare that we have read and understood the content of ITT clauses section:2 mentioned below. We also understand that our bid shall be summarily rejected in case we fail to comply the requirements of undermentioned clauses:

ITT Clause No. Section 2	Reason for Summary Rejection
2.5	Non-submission of Affidavit (Form PS-3)
2.5	Non-submission of immediate information to the Employer in case Bidder ceases to fulfill eligibility in terms of ITT clause 2.
10.3	Letter of Technical Bid (Form PS-1)
11.5	Quoting more than one price for any schedule
11.5	Non-submission of the Letter of Price Bid (LPB) (Form:PS-2)
13	Bid not accompanied with EMD/Bid Security
2.3	Bid not accompanied with power of attorney/General power of Attorney to sign on behalf of the bidders

SEAL AND SIGNATURE OF THE BIDDER

Form: 3 C 1

FORMAT FOR CERTIFICATE TO BE SUBMITTED BY BIDDER ALONGWITH THE BID

(On the letter head of the Firm)

We/I, _____, having registered office at _____ do hereby certify that "I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered. (Where applicable, evidence of valid registration by the competent Authority shall be attached.)"

Dated this ____ day of _____, 2023

For- _____

Authorized Signatory Signature _____

Full Name: _____

Place: _____

K-RIDE

(SEAL AND SIGNATURE OF THE BIDDER)

Form: 3 C 2

**FORMAT FOR CERTIFICATE TO BE SUBMITTED BY
BIDDER ALONGWITH THE BID FOR SUB CONTRACTING**

(On the letter head of the Firm)

We/I, _____, having registered office at _____ do hereby certify that "I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the competent Authority and will not sub-contractor any work to a contractor from such countries unless such contractor is registered with the competent Authority. I hereby certify that his bidder fulfils all requirements in this regard and is eligible to be considered. (Where applicable, evidence of valid registration the Competent Authority shall be attached.)"

Dated this ____ day of _____, 2023

For: _____

Authorized Signatory Signature _____

Full Name: _____

Place: _____

K-RIDE

(SEAL AND SIGNATURE OF THE BIDDER)

Key Personnel for the work

MINIMUM QUALIFICATION AND EXPERIENCE REQUIRED FOR KEY PERSONNEL TO BE DEPLOYED FOR THE WORK

Sl. No	Key Personnel	Qualifications & Total Experience	Particular Experience (Minimum requirement)	Minimum Number of Personnel Required	Name of the key personnel proposed	Qualification	Total number of years of experience	Number of Years in similar works experience
1								

Note:

- Further details to be updated as per clause 3.3 (c) of section 2 ITT.

(Signature)

(Name of Signatory)

(Capacity of Signatory)

Seal.....

K-RIDE

Format of Curriculum Vitae (cv) for proposed key professional staff

- Proposed Position:
- Name of Firm:
- Name of Staff:
- Profession:
- Date of Birth:
- Years with Firm/Entity: Nationality:
- Membership in Professional Societies:
- Detailed Tasks Assigned:
- Key Qualifications:

[Give an outline of staff member’s experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations.]

- Education:
[Summarize college/university and other specialized education of staff member and degrees obtained.]
- Employment Record:
[Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, titles of positions held, and locations of assignments. Also give types of activities performed and client references, where appropriate.]

Period	Name of Employing Organization	Name of the Project	Title / Position	Activity performed	Location of the Assignment

- Languages:
[For each language, indicate proficiency: excellent, good, fair, or poor; in speaking, reading, and writing]

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

Date:
[Signature of staff member and authorized representative of the Firm] Day/Month/Year

Full name of staff member: _____
Full name of the authorized representative: _____

**POWER OF ATTORNEY (POA) FOR SUBMITTING BID
(FOR SINGLE ENTITY/SOLE BIDDER ONLY)**

Know all men by these presents, we _____(name and address of the registered office) do hereby constitute, appoint and authorize Mr./Ms _____(name and residential address) who is presently employed with us and holding the position of _____ as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our bid for the Project, including signing and submission of all documents and providing information/responses to K-RIDE, representing us in all matters before K-RIDE, and generally dealing with K-RIDE in all matters in connection with our Bid for the Project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall always be deemed to have been done by us.

_____(Signature)
(Name, Title and address) of the Person issuing the POA

Notes:

- (i) The bidder should submit the notarized Power of Attorney.
- (ii) The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.
- (iii)The bidder should submit following additional document in support of the POA as case-to-case basis
 - a) Proprietorship Affidavit in case of Proprietary bidder.
 - b) Partnership deed in case partnership bidder.
 - c) Board Resolution in case of Public/Private limited company.
 - d) Memorandum & Article of Association in case of a Public Private limited.
 - e) Board Resolution in case of a Limited Liability Partnership.

FORM CL-2

UNDERTAKING FROM NOMINATED/IDENTIFIED SUB-CONTRACTOR

(Refer Clause of EQC)

(On the Letterhead of Nominated/Identified sub-contractor)

I/We,.....(Legal Name of Nominated/Identified Subcontractor) hereby confirm that we are associating with(Legal name of the bidder) for the work of(Name of work as stated in Invitation for Bids {IFB}), for the key activity stated in clause 3.4 of ITT (if applicable).

I/We hereby undertake that in case M/s.....(Legal name of the bidder) are awarded the work of(Name of work as stated in Invitation for Bids {IFB}),the key activity stated in clause 3.4 of ITT shall be undertaken by us as per bid conditions (if applicable).

**STAMP & SIGNATURE OF AUTHORISED
SIGNATORY OF NOMINATED/IDENTIFIED SUB CONTRACTOR**

**STAMP & SIGNATURE OF AUTHORISED
SIGNATORY OF BIDDER**

Availability of Financial Resources
(Section-2, ITT clause 3.3 (b))

Bidders must demonstrate sufficient financial resources, comprising of Working Capital supplemented by credit line statements or overdraft facilities to meet the Bidder’s financial requirements for

- a) its current contract commitments, and
- b) the subject contract.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner’s name:

Joint Venture Partner: _____

Financial Resources		
No.	Source of financing	Amount (equivalent)
1	Working Capital	
2	Credit Line	
Total Available Financial Resources		

To be considered, Credit Line must be substantiated by a letter from the bank issuing the line of credit, specific for the subject contract, as prescribed. Any letter or document not complying with this requirement shall not be considered as supplementary financial resources.

Note:

In case the financial statement data is other than Indian Rupees, the equivalent Indian Rupees with the exchange rates as defined in the Section-2, ITT.

Evidence of Availability of Credit Line Financial Resources

(Section-2 ITT, Clause:3(b))

[Each Bidder to fill out this form in case of demonstrating financial resources comprising credit line statements or overdraft facilities from bank.]

Project Name:

Bidding Package Name and Identification Number: (to be filled in as indicated in ITT 1) ...

BANK CERTIFICATE

This is to certify that M/s is a reputed company with a good financial standing.

If the contract for the work, namely..... is awarded to the above firm, we shall be able to provide overdraft / credit facilities to the extent of ` to meet their working capital requirements for executing the above contract.

___Sd.____

Name of Bank: _____

Senior Bank Manager_____

Address of the Bank_____

[In case of Joint Venture, change the text as follows:]

This is to certify that M/s who has formed a Joint Venture with M/s. and M/s. for participating in this bid, is a reputed company with a good financial standing.

If the contract for the work, namely..... is awarded to the above joint venture, we shall be able to provide overdraft / credit facilities to the extent of Rs..... to M/s to meet their working capital requirements for executing the above contract.

Form EXP-1**WORK EXPERIENCE CERTIFICATE**

To whom so ever it may concern
(Issued for the purpose of Quoting in K-RIDE tenders)

M/s/Sri (Name and address of the contractor) is a working contractor of this unit and was awarded the following work. The relevant details of the work are as under: -

Sl. No	Description	Details
1	Name of work	
2	Acceptance Letter No and Date	
3	Agreement Number, date and name of the agency	
4	Agreement value in Rupees (in words and figures)	
5	Due date of completion	
6	Actual date of completion of work	
7	Value of Final Bill if passed (in words)	
8	Work completed but Final measurements not recorded. a) Amount paid so far as in CC bill No.	
9	Work completed. Final measurements recorded with negative variation a) Amount so far paid as in CC bill No.	
10	Work completed. If Final measurements recorded with Positive variation which is not sanctioned yet. Original agreement value of Last sanctioned agreement value whichever is lower.	
11	Scope of work (Broad category of works i.e., the name of the work in the agreement on which work is	
12	Details of values of major components/ works executed in the completed work.	

Note:

The Certificate to satisfy similar work should be signed by an officer not lower than JAG officer in Railways and Executive Engineer rank or equivalent grade in other department of Govt. of India/State Government/PSUs of Government of India / State Undertaking and Competent Authority of Public Listed Company.

Signature :.....

Name of officer.....

Designation:

Address:

Office seal: -.....

Phone/FAX No.:

Date :

Form for Undertaking for Not Back-listed or Debarred

We do hereby undertake that none of the Central or State Government Organization/ department Public Sector Undertaking Other Government entity including Metro Rail Corporation and/or other Rail Corporations/ Multilateral Bilateral funding agencies have not blacklisted or debarred us (any member in case of JVI Consortium) as on the date of online tender submission.

Stamp and Signature of Authorized Signatory

Note:

The undertaking shall be signed by authorized signatory of the tenderer.

Form for Undertaking for Not Being Imposed of Liquidated Damages/ Penalty

We do hereby undertake that we have not been imposed liquidated damages of 10% of the contract value in a contract or penalty of 10% (or more) of the contract value executed during last ten years ending 31.03.2023.

Stamp and Signature of Authorized Signatory

Note:

The undertaking shall be signed by respective authorized signatory of constituent members, counter signed by the authorized signatory of tenderer.

Form for Undertaking for Not Being in The Process of Debt Restructuring K-RIDE

We do hereby undertake that we have not applied for obtained corporate debt restructuring in immediately preceding 36 months from the last date of online lender submission. A certificate to this effect from our statutory auditors is enclosed herewith.

Enclosures: As above.

Stamp and Signature of Authorized Signatory

Note:

The undertaking shall be signed by respective authorized signatory of constituent members, counter signed by the authorized signatory of tenderer.

Form 8

Remuneration of staff

The consultant needs to submit monthly remuneration for non-key staff in percentage of quoted lumpsum price for the purpose of addition/deduction from / to Schedule-A in case the man-months of Appendix-A (Sl. No. 5-9) of section-8 are underutilized/Overutilized across project duration.

Item No.	Description	Unit	% of quoted lumpsum price
(1)	(2)	(3)	(4)
(i)	Interference Engineer	Man Month	
(ii)	OHE Engineer	Man Month	
(iii)	PSI Engineer	Man Month	
(iv)	Simulation Engineer	Man Month	
(v)	CAD Engineer	Man Month	

Note:

- 1. The percentage submitted in the above table shall be used only for calculation of remuneration of staff in man month basis but not for financial evaluation.**
2. 30 man-days will be considered as 1 man-month for calculation of rate in man-days from the submitted percentage of man-months for respective staff.

Stamp and Signature of Authorized Signatory

--00--00--00--

SECTION-4

**FORM OF TENDER, LETTER OF ACCEPTANCE,
NOTICE TO PROCEED WITH THE WORK AND
AGREEMENT FORM ETC.,**

FORM OF TENDER, LETTER OF ACCEPTANCE, NOTICE TO PROCEED WITH THE WORK AND AGREEMENT FORM ETC.,

SL. NO.	TITLE	FORM NUMBER	PAGE NO.
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2	ISSUE OF NOTICE TO PROCEED WITH THE WORK	FORM-2	94
3	AGREEMENT FORM	FORM-3	95

K-RIDE

FORM OF TENDER (DELETED)

Please refer Form PS-1 of Section 3: Qualification Information/Bidding Forms.

K-RIDE

LETTER OF ACCEPTANCE

(Letter head paper of the Employer)

_____ [date]

To: _____ [name and address of the Contractor]

Dear Sirs,

This is to notify you that your Tender dated _____ for execution of **Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings, BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.** Tender No: **KRIDE/2023-24/EL/WORK_INDENT6,** Dated: _____ for the Contract Price of Rupees _____. (_____ [amount in words and figures], as corrected and modified in accordance with the Instructions to Tenderers is hereby accepted by our Agency.

You are hereby requested to furnish (Performance Security) plus additional security for unbalanced tenders in accordance with of Clause 25.5 of ITT, in the form detailed in Clause 29.1 of ITT and clause 43 of the conditions of contract for an amount of ` _____ (As defined in contract data) within 20 days of the receipt of this letter of acceptance valid up to 30 days from the date of expiry of Defects Liability Period i.e., up to and sign the contract.

Yours faithfully,

Authorized Signature

Name and Title of Signatory

Name of Agency.

FORM-2

ISSUE OF NOTICE TO PROCEED WITH THE WORK

(Letter head of the Employer)

_____ (Date)

To

_____ (name and address of the Contractor)

Dear Sirs:

With reference to LOA, for the construction of **Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings, BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.**

. a Tender Price of ` _____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of signatory authorized to sign on behalf of Employer)

FORM-3

AGREEMENT FORM

Agreement

This agreement, made the _____ day of _____ 20_____, between _____ (Name and Address of Employer) (herein after called "the Employer") of the one part and _____ [name and address of contractor] (herein after called "the Contractor") of the other part.

Whereas the Employer is desirous that the Contractor execute, : Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings, BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.

KRIDE/2023-24/EL/WORK_INDENT6, Dated:_____ (herein after called "The Works") and the Employer has accepted the Tender by the Contractor for the execution and completion of such Works and the remedying of any defects therein at a contract price of Rupees.....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
 - i) Letter of Acceptance;
 - ii) Notice to proceed with the works;
 - iii) Contractor's Tender;
 - iv) Contract Data;
 - v) Conditions of contract (including Special Conditions of Contract and Particular Condition of Contract)
 - vi) Specifications;
 - vii) Bill of Quantities; and

- viii) Any other document listed in the Contract Data as forming part of the contract.

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of _____
was hereunto affixed in the presence of:
Signed, Sealed and Delivered by the said _____

_____ in the presence of:
Binding Signature of Employer _____
Binding Signature of Contractor _____

K-RIDE

SECTION – 5

CONDITIONS OF CONTRACT(CC) AND SPECIAL CONDITIONS OF CONTRACT (SCC)

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CONDITIONS OF CONTRACT

A. GENERAL

1. DEFINITIONS

- 1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Bold letters are used to identify defined terms.

Bill of Quantities means the priced and completed Bill of Quantities forming part of the Tender.

The **Completion Date** is the date of completion of the Works as certified by the Employer in accordance with Sub Clause 46.1.

The **Contract** is the contract between the Employer and the Consultant to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.2 below.

The **Contract Data** defines the documents and other information which comprise the Contract.

The **Consultant** is a person or corporate body or Joint Venture whose Tender to carry out the Works has been accepted by the Employer.

The **Consultant's Tender** is the completed Tender document submitted by the Consultant to the Employer.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects liability period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Consultant to carry out the Works.

Equipment is the machinery and vehicles brought by the consultant to the Site to execute the Works. It also include the equipment provided to the employer/Engineer to monitor the work.

The **Initial Contract price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Consultant shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Employer by issuing an extension of time.

'**Joint Venture**' means an ad hoc association of firms that pool their resources and skills to undertake a large or complex contract in the role of "Consultant," with all firms (partners in the JV) being legally liable, jointly and severally, for the execution of the Contract in the event of a partner's withdrawal.

Materials are all supplies, including consumables, used by the consultant for incorporation in the Works.

Plant is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Employer.

The **Commencement Date** is given in the Contract Data. It is the date when the Consultant shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A Sub-Consultant is a person or corporate body who has a Contract with the Consultant to carry out a part of the work in the Contract which includes work on the Site.

A **Variation** is an instruction given by the Employer/Engineer which varies the Works.

2. INTERPRETATION

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Employer will provide instructions clarifying queries about the Conditions of Contract.

2.2 The documents forming the Contract shall be interpreted in the following order of priority:

- (1) This Contract Agreement and Appendices hereto
- (2) Letter of Acceptance,
- (3) Letter of Bid and the Price Schedule Submitted by the Consultant
- (4) Addendum, Corrigendum and Pre-bid Clarification of The Tender
- (5) Contract Data, Special Provisions if any
- (6) Particular Conditions of contract (PCC)
- (7) General conditions of Contract (GCC)/ Conditions of Contract (CC)
- (8) Terms of reference including the Scope of Works, The Schedule
- (9) Technical Specifications
- (10) Design & drawings
- (11) any other document pertaining to Tender, issued by the Employer
- (12) Consultants Technical Proposal
- (13) Any Other document pertaining to tender, submitted by the Consultant

If an ambiguity or discrepancy is found in the documents, the Engineer will bring the same to the notice of the Employer and the Employer will issue necessary clarification or instruction, as per the need.

3. LAW GOVERNING CONTRACT

3.1 The law governing the Contract is the Laws of India supplanted by the Karnataka Local Acts.

4. EMPLOYER'S DECISIONS

4.1 Except where otherwise specifically stated, the Employer will decide contractual matters between the Employer and the Consultant.

5. DELEGATION

5.1 The Employer may delegate any of his duties and responsibilities to other people after notifying the Consultant and may cancel any delegation after notifying the Consultant.

6. COMMUNICATIONS

6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

7. SUBCONSULTING:

7.1 The Consultant may sub consult with the approval of the Employer but shall not assign the part of the work to the Sub-Consultant without the approval of the Employer in writing. Subconsulting does not alter the Consultant's obligations.

8. OTHER CONSULTANTS:

8.1 The Consultant shall cooperate and share the Site with approval from the Employer, with other Consultants, public authorities, utilities, and the Employer.

9. PERSONNEL

9.1 The Consultant shall employ the technical personnel (of number and qualifications) as may be stipulated by K-RIDE from time to time during the execution of the work. The technical staff so employed shall be available at site as may be stipulated by the Employer.

9.2 If the Employer asks the Consultant to remove a person who is a member of the Consultant's staff or his work force stating the reasons, the Consultant shall ensure that the person leaves the Site with immediate effect and has no further connection with the work in the Contract.

10. EMPLOYER'S AND CONSULTANT'S RISKS

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Consultant carries the risks which this Contract states are Consultant's risks.

11. EMPLOYER'S RISKS

11.1 The Employer is responsible for the excepted risks which are:

- (a) Rebellion, riot commotion or disorder unless solely restricted to employees of the Consultant or his Sub Consultants arising from the conduct of the Works; or
- (b) a cause due solely to the design of the Works, other than the Consultant's design; or
 - (i) could not have reasonably foreseen; or
 - (ii) could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures;
 - (A) prevent loss or damage to physical property from occurring by taking appropriate measures or
 - (B) insure against such loss or damage

12. CONSULTANT'S RISKS

- 12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Consultant.

13. INSURANCE:

- 13.1 The Consultant shall prior to commencing the works, effect and thereafter maintain insurances, in the joint names of the Employer and the Consultant, (cover from the first working day after the Commencement Date to the end of Contract Period), in the amounts stated in the Contract Data:

- (a) for loss or damage to the Works,
- (b) for liability of both Parties for loss, damage, death and injury to third parties or their property arising out of the Consultant's performance of the Contract including the Consultant's liability for damage to the Employer's property other than the Works and
- (c) for liability of both Parties and of any Employer's representative for death and injury to the Consultant's personnel except to the extent that liability arises from the negligence of the Employer, any Employer's representative or their Employees.

- 13.2 Policies and certificates for insurance shall be delivered by the Consultant to the Employer for his approval before the Commencement Date. All such insurance shall provide for compensation to be payable to rectify the loss or damage incurred. All payments received from insurers relating to loss or damage shall be held jointly by the Parties and used for the repair of the loss or damage or as compensation for loss or damage that is not to be repaired.

- 13.3 If the Consultant fails to effect or keep in force any of the insurances referred to in the previous sub-clauses or fails to provide satisfactory evidence, policies or receipts, the Employer may without prejudice to any other right or remedy, effect insurance for the cover relevant to such default and pay the premiums due and recover the same as a deduction from any other monies due to the Consultant. If no payment is due, the payment of the premiums shall be a debt due.

- 13.4 Alterations to the terms of an insurance shall not be made without the approval of the Employer.

- 13.5 Both Parties shall comply with any conditions of the insurance policies.

14. SITE INVESTIGATION REPORTS:

- 14.1 The Consultant, in preparing the tender, shall rely on any site investigation reports referred to in the Contract data, supplemented by any information available to the Tenderer.

15. QUERIES ABOUT THE CONTRACT DATA

- 15.1 The Employer will clarify queries on the Contract Data.

16. CONSULTANT TO DESIGN THE WORKS

- 16.1 The Consultant shall Design the Works in accordance with the Specification and Drawings.

17. THE WORKS TO BE COMPLETED BY THE INTENDED COMPLETION DATE

17.1 The Consultant may commence design Works on the Commencement Date and shall carry out the Works in accordance with the program submitted by the Consultant, as updated with the approval of the Employer, and complete them by the Intended Completion Date.

18. APPROVAL BY THE EMPLOYER:

18.1 The Consultant shall submit Specification and drawings showing the proposed Temporary Works to the Employer, who is to approve them if they comply with the Specifications and Drawings.

18.2 The Consultant shall be responsible for the design of Temporary Works and Railway Electrification Works

18.3 The Employer's approval shall not alter the Consultant's responsibility for design of the Temporary Works and Permanent Works.

18.4 The Consultant shall obtain approval of Employer for all design of the temporary and Permanent Works.

18.5 All Drawings prepared by the Consultant for the execution of the temporary or permanent Works, are subject to prior approval by the Employer before their use.

19. SAFETY

19.1 The Consultant shall be responsible for the safety of their staff involved in any activities on the Site.

20 DISCOVERIES

Deleted.

21 POSSESSION OF THE SITE

Deleted.

22 ACCESS TO THE SITE

Deleted.

23 INSTRUCTIONS

23.1 The Consultant shall carry out all instructions of the Employer which comply with the applicable laws where the Site is located.

24 PROCEDURE FOR RESOLUTION OF DISPUTES:

24.1 If the Consultant is not satisfied with the decision taken by the Employer, the dispute shall be referred by either party to Arbitration within 30 days of the notification of the Employer's decision.

24.2 If neither party refers the dispute to Arbitration within the above 30 days, the Employer's

decision will be final and binding.

- 24.3 The Arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of Contract.

B. TIME CONTROL

25. PROGRAM

- 25.1 Within the time stated in the Contract Data the Consultant shall submit to the Employer for approval a Program showing the general methods, arrangements, order, and timing for all the design activities.
- 25.2 The Employer's approval of the Program shall not alter the Consultant's obligations. The Consultant may revise the Program and submit it to the Employer again at any time. A revised Program is to show the effect of Variations and Compensation Events.

26. EXTENSION OF THE INTENDED COMPLETION DATE

- 26.1 The Employer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date.
- 26.2 The Employer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Consultant asking the Employer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information.

27. DELAYS ORDERED BY THE EMPLOYER

- 27.1 The Employer may instruct the Consultant to delay the Commencement or progress of any activity within the Works for any reason, which may not be communicated to the Consultant.

28. MANAGEMENT MEETINGS

- 28.1 The Employer may require the Consultant to attend a management meeting. The business of a management meeting shall be to review the progress achieved and the plans for remaining work.
- 28.2 The responsibility of the parties for actions to be taken is to be decided by the Employer either at the management meeting or after the management meeting and stated in writing to be distributed to all who attended the meeting.

C. QUALITY CONTROL

29. IDENTIFYING DEFECTS

29.1 The Employer shall check the Consultant's design and notify the Consultant of any Defects that are found. Such checking shall not affect the Consultant's responsibilities. The Employer may instruct the Consultant to search for a Defect and to uncover and test any work that the Employer considers may have a Defect.

30. TESTS

30.1 If the Employer instructs the Consultant to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Consultant shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

31. CORRECTION OF DEFECTS

31.1 The Employer shall give notice to the Consultant of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

31.2 Every time notice of a Design Defect is given, the Consultant shall correct the notified Defect within the length of time specified by the Employer's notice.

32. UNCORRECTED DEFECTS

32.1 If the Consultant has not corrected a Defect within the time specified in the Employer's notice, the Employer will assess the cost of having the Defect corrected, and the Consultant will pay this amount.

D. COST CONTROL

33. Price Schedule:

33.1 Deleted.

33.2 The Price schedule is used to calculate the Contract Price. The Consultant is paid as per stage wise payment as per the price schedule.

34. VARIATIONS

34.1 The Employer shall have power to order the Consultant to do any or all of the following as considered necessary or advisable during the progress of the work by Consultant.

(a) Increase or decrease of any item of work included in the Price Schedule;

(b) Omit any item of design work;

(c) Change the character or quality or kind of any item of design work;

(d) Deleted.

(e) Execute additional items of work of any kind necessary for the completion of the design works; and

(f) Change in any specified sequence, methods or timing of design of any part of the work.

34.2 The Consultant shall be bound to carry out the work in accordance with any instructions in this connection, which may be given to him in writing by the Employer and such alteration shall not vitiate or invalidate the contract.

34.3 If the Consultant's quotation is determined unreasonable, the employer may order the variation and make a change to the contract price which shall be based on employers own forecast of the effects of the variation on the Consultant's costs

34.4 Under no circumstances the Consultant shall suspend the work on the plea of non-settlement of rates for items falling under this clause.

35. PAYMENTS FOR VARIATIONS

35.1 Payment for change of scope shall be made in accordance with the payment schedule specified in the change of scope order. The Consultant shall execute and be bound for variations of all change of scope of orders till the price does not exceed 25% of the Contract Price as specified in LOA/Original agreement.

35.2 The rates for additional, substituted or altered item of work, Consultant shall be requested to submit his quotation for the items supported by analysis of the rate or rates claimed, within 7 days.

35.3 If the Consultant's quotation is determined unreasonable, the Employer may order the Variation and make a change to the Contract Price which shall be based on Employer's own forecast of the effects of the Variation on the Consultant's costs.

35.4 Under no circumstances the Consultant shall suspend the work on the plea of non-settlement of rates for items falling under this Clause.

36. SUBMISSION OF BILLS FOR PAYMENT

36.1 The Consultant shall submit to the Employer monthly bills of the value of the work completed less the cumulative amount paid previously.

36.2 The Employer shall check the Consultant's bill and determine the value of the work executed which shall comprise of (i) value of the quantities of the items as per stage payment of price schedule and (ii) valuation of Variations and Compensation Events.

36.3 The Employer may exclude any item paid in a previous bill or reduce the proportion of any item previously paid in the light of later information.

37. PAYMENTS

37.1 Payments shall be adjusted for deductions for payments other than recoveries in terms of contract and taxes, at source as applicable under law. The Employer shall pay the Consultant within 60 days of submission of bill. The Consultant shall be liable to pay liquidated damages for shortfall in progress.

37.2 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed to be covered in lumpsum Price of the Contract.

38. COMPENSATION EVENTS:

Deleted.

39. TAX

39.1 The rates quoted by the Consultant shall be deemed to be inclusive of the sales, GST and other taxes that the Consultant will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

40. PRICE ADJUSTMENT:

Deleted.

41. LIQUIDATED DAMAGES

41.1 The Consultant shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the Contract Data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Consultant's. Payment of liquidated damages does not affect the Consultant's liabilities.

41.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Employer shall correct any overpayment of liquidated damages by the Consultant by adjusting the next payment of bill.

42. ADVANCE PAYMENTS:

42.1 Deleted.

42.2 Deleted.

42.3 Deleted.

43. SECURITIES:

43.1 The Performance Security (including additional security for unbalanced tenders) shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and type of instrument acceptable to the Employer. The Performance Security as indicated in the contract data shall be valid until a date 60 days after the expected end of completion Period and the additional security for unbalanced tenders shall be valid until a date 60 days from the expected end of completion Period. The security deposit will be released against BG.

44. COST OF REPAIRS:

44.1 Deleted.

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E. FINISHING THE CONTRACT

45. COMPLETION

45.1 The Consultant shall request the Employer to issue a Certificate of Completion of the Design Works and the Employer will do so upon deciding that the Design Work is completed.

46. TAKING OVER

46.1 The Employer shall take over the Designs after issuing a certificate of Completion.

47. FINAL ACCOUNT

47.1 The Consultant shall supply to the Employer a detailed account of the total amount that the Consultant considers payable under the Contract before the end of Contract Period. The Employer shall certify any final payment that is due to the Consultant within 90 days of receiving the Consultant's account if it is correct and complete. If it is not, the Employer shall issue within 90 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Employer shall decide on the amount payable to the Consultant and make payment within 60 days of receiving the Consultant's revised account.

48. AS BUILT DRAWINGS AND /OR OPERATING AND MAINTENANCE MANUALS

48.1 If "As Built Drawings" (Completion Drawing) and/or operating and maintenance manuals are required, the Consultant shall supply them by the dates stated in the Contract Data.

48.2 If the Consultant does not supply the Drawings by the dates stated in the Contract Data, or they do not receive the Employer's approval, the Employer shall withhold the amount stated in the Contract Data from payments due to the Consultant.

49. TERMINATION

49.1 The Employer may terminate the Contract if the other party causes a fundamental breach of the Contract.

49.2 Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Consultant stops work for 45 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Employer;
- (b) - "DELETED"-
- (c) The Consultant becomes bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) - "DELETED"-

SECTION – 5: CONDITIONS OF CONTRACT(CC) AND SPECIAL CONDITIONS OF CONTRACT (SCC)

- (e) the Employer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Consultant fails to correct it within a reasonable period of time determined by the Employer;
- (f) the Consultant does not maintain a security which is required;
- (g) the Consultant has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- (h) if the Consultant, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.

For the purpose of this paragraph: “corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. “Fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.”

- 49.3 When either party to the Contract gives notice of a breach of contract to the Employer for a cause other than those listed under Sub Clause 49.2 above, the Employer shall decide whether the breach is fundamental or not.
- 49.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.
- 49.5 If the Contract is terminated the Consultant shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

50. PAYMENT UPON TERMINATION

- 50.1 If the Contract is terminated because of a fundamental breach of Contract by the Consultant, the Employer shall prepare bill for the value of the work done less advance payments received up to the date of the bill, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Consultant, the difference shall be a debt payable to the Employer.
- 50.2 If the Contract is terminated at the Employer's convenience, the Employer shall prepare bill for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Consultant's personnel employed solely on the Works, and the Consultant's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract, and less taxes due to be deducted at source as per applicable law and make payment accordingly.

51. PROPERTY

- 51.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Consultant's default.

52. RELEASE FROM PERFORMANCE

- 52.1 If the Contract is frustrated by any event entirely outside the control of either the Employer or the Consultant the Employer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

K-RIDE

F. SPECIAL CONDITIONS OF CONTRACT

1. LABOUR :

The Consultant shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Consultant shall, if required by the Employer, deliver to the Employer a return in detail, in such form and at such intervals as the Employer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Consultant on the Site and such other information as the Employer may require.

2. COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the Contract, the Consultant and his sub- Consultant shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. The Consultant shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Consultant, Employer shall have the right to deduct any money due to the Consultant including his amount of security deposit. The Employer shall also have right to recover from the Consultant any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Consultant and the Sub-Consultant in no case shall be treated as the employees of the Employer at any point of time.

3. PROTECTION OF ENVIRONMENT:

The Consultant shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. During continuance of the contract, the Consultant and his sub- Consultant shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

4. CLAIMS, DISPUTES AND ARBITRATION

4.1 Consultant's Claims

If the Consultant considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Consultant shall give notice to the Engineer, describing the event or

SECTION – 5: CONDITIONS OF CONTRACT(CC) AND SPECIAL CONDITIONS OF CONTRACT (SCC)

circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Consultant became aware, or should have become aware, of the event or circumstance.

If the Consultant fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Consultant shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

The Consultant shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Consultant shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting the Employer's liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Consultant to keep and provide further contemporary records. The Consultant shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer.

Within 45 days after the Consultant became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Consultant and approved by the Engineer, the Consultant shall send to the Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Consultant shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and
- (c) the Consultant shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Consultant and approved by the Engineer.

Within 45 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Engineer and approved by the Consultant, the Engineer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such fixed period of time.

Each Payment Certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Consultant shall only be entitled to payment for such part of the claim as he has been able to substantiate.

The Employer shall proceed in accordance with Sub-Clause: [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause: [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Consultant is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Consultant fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent

(if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

4.2 Amicable Settlement

In case any dispute between the Engineer and the Consultant for which claim has already been made by the Consultant, remains unresolved, the Consultant shall, then, give notice of dissatisfaction and intention to commence arbitration to the Employer duly specifying the subject of the dispute or difference as also the amount of claim item wise. The Parties shall make attempts to settle the dispute amicably before the commencement of arbitration as per procedure set by K-RIDE. However, unless both Parties agree otherwise, demand for arbitration may be made by the Consultant after ninety days from the day on which a notice of dissatisfaction and intention to commence arbitration was given, even if no attempt at amicable settlement has been made.

Procedure for Amicable Settlement in contracts

1. Amicable Settlement Committee at senior management level shall make an attempt to resolve the issues/disputes within 90 days of request by the Consultant.
2. The committee shall comprise of the following: -
 - (i) GM /K-RIDE or senior officer directly in-charge of the project;
 - (ii) Concerned finance officer, and
 - (iii) GM /K-RIDE (in the same order) directly in-charge of the project of other discipline(s) in case the issues involve other discipline(s) of the engineering
3. Whenever the Consultant submits a request for amicable settlement, MD/K-RIDE should forward the same to concerned GM /K-RIDE (in the same order) directly in-charge of the project. GM /K-RIDE on receipt of the same shall issue a note to the concerned finance officer and concerned GM/K-RIDE of other discipline in case the issues involved other discipline(s) of engineering, about the request for amicable settlement to be dealt by them and fix a date in consultation with them for a hearing. The date should then be communicated to the MD/K-RIDE, GM/ /K-RIDE of other department (if the issues involved their department) and Consultant for presenting their case before the Amicable Settlement Committee.
4. This being an additional workload like arbitration, the Committee members shall be paid fee by K-RIDE at the rates payable to the Arbitrators of K-RIDE.

4.3 Arbitration

Any dispute, in respect of which amicable settlement has not been reached, arising between the Employer and the Domestic or Foreign Consultant related to any matter arising out of or connected with this contract, then the Consultant shall be entitled to demand in writing that the dispute or difference be referred to arbitration.

Only such dispute(s) or difference(s) in respect of which the demand had been made for amicable settlement under GCC 4.2 but could not be settled, shall be referred to arbitration.

The Arbitration proceedings shall commence from the day, a written and duly quantified demand for arbitration is received by Managing Director, Rail Infrastructure Development Company (Karnataka) Limited, Bangalore /K-RIDE).

The disputes so referred to arbitration shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996 and any statutory modification or re-enactment thereof.

Any dispute or difference or claim arising out of, or in connection with, or relating to the present contract or the breach, termination or invalidity thereof shall be referred and settled under the Arbitration Centre – Karnataka (Domestic and International) Rules 2012, by one or more arbitrators appointed in accordance with its rules.

4.3.1 Procedure for Appointment of Arbitrators: The arbitrators shall be appointed as per following procedure:

Any dispute or difference or claim arising out of, or in connection with, or relating to the present contract or the breach, termination or invalidity thereof shall be referred and settled under the Arbitration Centre – Karnataka (Domestic and International) Rules 2012, by one or more arbitrators appointed in accordance with its rules.

4.3.2 Arbitration proceedings shall be held at Bengaluru, India or at a place where K-RIDE's (dealing the contract) office is located, and the language of the arbitration proceedings and that of all documents and communications between the Parties shall be in English.

4.3.3 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.

4.3.4 The fees and other charges of the conciliator/arbitrators shall be as per the fee structure fixed by the employer with reference to the Rules of Arbitration Centre – Karnataka (Domestic and International) Rules 2012. The cost of arbitration shall be borne equally by the respective parties.

4.3.5 Performance under the contract shall continue during the arbitration proceedings and payments due the Consultant by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceeding.

4.3.6 Excepted matters:

The following are the list of excepted matters in arbitration.

- a. Assistance by Employer for the Stores to be obtained by the Consultant.
- b. Illegal Gratification.
- c. Meaning and intent of specifications and Drawings.
- d. Rates for Non-tendered items of works.
- e. Signing of "No claim Certificate"
- f. Measurement of works.
- g. Provisions of Payment of Wages Act 1936.
- h. Provisions of Contract Labour (Regulation and Abolition) Act, 1970.
- i. Provisions of Employees Compensation Act 1923.
- j. Provisions of Mines Act 1952.
- k. Right of Employer to determine the Contract

- I. Payment on determination of Contract by Employer.

5.1 JURISDICTION OF COURTS

The Contract Agreement shall be subject to exclusive jurisdiction of Courts as indicated in the Contract Data. The Jurisdiction **of Courts is Bengaluru, Karnataka**

5.2 Settlement through Court

It is a term of this contract that the Consultant shall not approach any Court of Law for settlement of such disputes or differences unless an attempt has first been made by the parties to settle such disputes or differences through Dispute resolution as above.

6. All the works are to be carried out as per the Standard specification Issued from time to time.

K-RIDE

SECTION – 6
CONTRACT DATA

CONTRACT DATA			
SL. No	Conditions	CC/SCC/PCC Sub Clause	Data
1.	Employer's name and address	37 / IFT	Sr. Deputy General Manager/Electrical Rail Infrastructure Development Company (Karnataka) Limited, #8, 1 st Floor, Samparka Soudha, Dr. Rajkumar Road, Opposite Orion Mall Rajajinagar 1 st Block, Bengaluru-560010 Tel +91-9881235883 E-mail: jgmelec@kride.in / electrical.kride@gmail.com
2.	Engineer's name and address	Clause-1, Definition / PCC	Project Director, General Consultant (EGIS-AECOM-LBI(WSP) JV), #11/23, Suryadev Building, Rajajinagar, 1 st Block, Bengaluru-560010.
3.	Start of Designs	Clause – 9 / Section 8 -TOR	The consultant shall start the activity of Designs immediately after issue of LOA.
4.	Commencement Date	CC Clause 1.1/ CC	The Employer shall give a Notice to the Contractor stating the Commencement Date, not less than 14 days before the Commencement Date.
5.	Time for Completion	IFT Section-1 Table	50 Months
6.	Electronic transmission systems	38 / IFT	E-mail: electrical.kride@gmail.com , jgmelec@kride.in , dgmrs@kride.in
7.	Governing Law	3 / CC	This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law.
8.	Language for communications	New Clause 15/ PCC	English
9.	Time for the Parties entering into a Contract Agreement	1.1 / CC Definitions	This Contract shall come into effect on the date of issue of LOA signed by both Parties.
10.	Performance Security	New Clause- 4.19 / PCC	As per the clause referenced.
11.	Normal working hours	1.5 / PCC	As per the clause referenced.
12.	Delay damages for the works/Key Dates (KD)		The liquidity damages for each Key dates / milestone have been indicated at Appendix-B of Section - 8 / TOR & Scope

CONTRACT DATA			
SL. No	Conditions	CC/SCC/PCC Sub Clause	Data
			of Works for not achieving the Key Date / Milestone for each Week.
13.	Maximum amount of Delay damages/ Liquidated Damages (LD)	26.8 / PCC	The liquidity damages for each Key dates / milestone have been indicated at Appendix-B of Section 8 TOR & Scope of Works for not achieving the Key Date / Milestone for each Week. The maximum amount of liquidated damages for the whole of the works is 10% (Ten percent) of final contract price.
14.	Percentage of Retention Money/ Security Deposit (SD)	New Clause 4.20 / PCC	5% of the contract price
15.	Limit of Retention Money/SD (Security Deposit)	New Clause 4.20 / PCC	As per Section-7/PCC, New Clause 4.20 Security Deposit
16.	Interim Payment Certificates	37.1 / PCC	Application for Interim Payment Certificate as per clause 37.1, PCC.
17.	Minimum Amount of Interim Payment Certificates	37.3 / PCC	1% of the Accepted Contract Amount after six months of commencement of work as per Letter of Award.
18.	Maximum total liability of the Consultant to the Employer	22.2.2 / PCC	The Accepted Contract Amount.
19.	Periods for submission of insurance: a. Evidence of insurance b. Relevant Policies	13 / CC	From the date of issue of Letter of Acceptance: a. Before start date of work b. Before start date of work
20.	Maximum amount of deductibles for insurance of the Employer's risks	13 / CC	As per the clause referenced.
21.	Professional Indemnity	13.6 / PCC	The Consultant shall provide to the Authority, within 30 days of the Commencement Date, evidence of professional liability insurance maintained by its Design Director and/or consultants to cover the risk of professional negligence in the design of Works. The professional liability cover shall be for a sum of not less than [6% (Six per cent)] of the Contract Price and shall be maintained until the end of the Defects Liability Period.
22.	Defect Liability Period	NEW CLAUSE-9 / PCC	12 Months

CONTRACT DATA			
SL. No	Conditions	CC/SCC/PCC Sub Clause	Data
23.	Minimum amount of third-party insurance	13.8 / PCC	As per the clause referenced.
24.	Bonus for early completion	26.14 / PCC	As per the Section-7, PCC Clause-26.14 Bonus for early completion.
25.	Date by which the Arbitrator shall be appointed	4.3 / SCC	The Arbitration proceedings shall commence from the day, a written and duly quantified demand for arbitration is received by Managing Director, Rail Infrastructure Development Company (Karnataka) Limited, Bengaluru / K-RIDE).
26.	Arbitrator Remuneration	4.3.4/ SCC	The fees and other charges of the conciliator/arbitrators shall be as per the fee structure fixed by the Engineer / Employer with reference to the Rules of Arbitration Centre – Karnataka (Domestic and International) Rules 2012. The cost of arbitration shall be borne equally by the respective parties.
27.	Language of Arbitration	4.3.2/ SCC	English
28.	Place of Arbitration	4.3.2 / SCC	Bengaluru, India
29.	Jurisdiction of Court	5.1 / SCC	The Contract Agreement shall be subject to exclusive jurisdiction of Courts as indicated in the Contract Data. The Jurisdiction of Courts is Bengaluru, Karnataka.
30.	The Methodology and Program of Construction	7.2 / TOR	Section - 8
31.	Site Investigation Reports	2.6.14.1 / TOR	Section - 8
32.	Time Frame for completion of DDC	Appendix-B / TOR	Section - 8
33.	As built drawings	7.6 / TOR	Section - 8
34.	Termination by Employer	49 / CC	Section - 5

SECTION-7

PARTICULAR CONDITIONS OF CONTRACT (PCC)

INDEX

PARTICULAR CONDITIONS OF CONTRACT (PCC)

The following Particular Conditions of Contract (PCC) shall supplement the Conditions of Contract (CC)/GCC/SCC/Contract Data. Whenever there is a conflict, the provisions herein shall prevail over those in the CC/GCC/SCC/Contract Data. The conditions indicated in PCC will be on priority as compared to the conditions of CC/GCC/SCC/Contract Data.

CC/SCC REFERANCE CLAUSE	DESCRIPTION
<p>Clause-1/CC Definitions</p>	<p>The following paras are added to the Existing CC Clauses.</p> <p>“DDC” means the consultant firm appointed to carry out the work of detail design and associated activities of this work.</p> <p>“Contract Agreement” The Parties shall enter into a Contract Agreement within 28 days after the Consultant receives the Letter of Acceptance, unless they agree otherwise.</p> <p>“Letter of Acceptance” means the letter of formal acceptance, signed by the Employer, of the Letter of Bid, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression “Letter of Acceptance” means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.</p> <p>“Letter of Bid” means the document entitled letter of bid, which was completed by the Consultant and includes the signed offer to the Employer for the Works.</p> <p>“Drawings” means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.</p> <p>“Schedules” means the document(s) entitled schedules, completed by the Consultant and submitted with the Letter of Bid, as included in the Contract. Such document may include the Price schedule, data, lists, and schedules of rates and/or prices.</p> <p>“Bid/Tender” means the Letter of Technical Bid and Letter of Price Bid and all other documents which the Consultant submitted with the Letter of Technical Bid and Letter of Price Bid, as included in the Contract.</p> <p>“Employer’s Requirements” means the document entitled ‘Employer’s Requirements’ as part of Design Requirements and as included in the Contract, and any additions and modifications to such document in accordance with the Contract. Such document specifies the purpose, scope, and/or design and/or other technical criteria, for the works.</p> <p>“Terms of Reference” means the document entitled “Terms of Reference” as part of works. Requirements and as included in the Contract, and any additions and modifications to such document in accordance with the contract. Such document specific the purpose, scope, and/or design and/or other technical criteria, for the works.</p> <p>Parties and Persons</p> <p>“Party” means the Employer or the Consultant, as the context requires.</p> <p>“Engineer” means the person nominated by the Employer to act as the Engineer for the</p>

purposes of the Contract and named in the Contract Data, or other person appointed from time to time by the Employer and notified to the Consultant under New-Clause 3.4 [Replacement of the Engineer]. The person nominated to act as an engineer may be an employee of Rail Infrastructure Development Company (Karnataka) Ltd (K-RIDE) or an employee of a Project Management Consultancy firm engaged by K-RIDE for project management as per the discretion of the Employer.

“Consultant’s Representative” means the person named by the Consultant in the Contract or appointed from time to time by the Consultant under New-Clause 4.3 [Consultant’s Representative], who acts on behalf of the Consultant.

“Employer’s Representative” means the person named by the Employer in the Contract or appointed from time to time by the Employer who acts on behalf of the Employer.

“Employer’s Personnel” means the Engineer, the assistants referred to in New-Clause 3.2 [Delegation by the Engineer] and all other staff, labour and other employees of the Engineer and of the Employer; and any other personnel notified to the Consultant, by the Employer or the Engineer, as Employer’s Personnel.

“Consultant’s Personnel” means the Consultant’s Representative and all personnel whom the Consultant utilises on Site, who may include the staff, labour and other employees of the Consultant and of each Sub Consultant; and any other personnel assisting the Consultant in the execution of the Works.

“Base Date” means the date 28 days prior to the deadline for submission of bids.

“Base Month” means the month just prior to Bid Due Date Month. The Quarter for applicability of price adjustment shall be commence from next month after base month.

“Tests on Completion” means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 30 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by the Employer.

“Day” means any (working or non-working) calendar day from 00:00 hrs. to 24:00 hrs.

“Time Periods” Any reference to time period commencing “from” the specified day or date “till” or “until” a specified day shall include both such days.

Any reference to **“Time”** shall be according to Indian Standard Time (IST).

“Contractor” to be read as “Consultant”

Money and Payments

“Accepted Contract Amount” means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects. In the Letter of Acceptance, the Accepted Contract Amount shall have two components i.e. (i) the base amount including GST (ii) GST component (calculated at the rate for works contract service as per GST Laws).

“Cost” means all expenditure reasonably incurred (or to be incurred) by the Consultant, whether on or off the Site, including overhead and similar charges, but does not include profit.

“Final Statement” means the statement defined in Sub-Clause 37.12 [Application for Final

	<p>Payment Certificate].</p> <p>“Foreign Currency” means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.</p> <p>“Local Currency” means the currency in Indian Rupees.</p> <p>“Statement” means a statement submitted by the Consultant as part of an application, under Clause 37 and 40 [Contract Price and Payment], for a payment certificate</p> <p>Works and Goods</p> <p>“Consultant’s Equipment” means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Consultant’s Equipment excludes Temporary Works, Employer’s Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Electrification Works.</p> <p>“Goods” means Consultant’s Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.</p> <p>“Railway Electrification Works” means the Electrification works to be executed by the Consultant under the Contract.</p> <p>“Section” means a part of the Works specified in the Contract Data as a Section (if any).</p> <p>“Temporary Works” means all temporary works of every kind (other than Consultant’s Equipment) required on Site for the execution and completion of the Electrification Works including modification in the existing system and the remedying of any defects.</p> <p>Other Definitions</p> <p>“Consultant’s Documents” means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Consultant under the Contract.</p> <p>“Country” means India, the country in which the Site (or most of it) is located, where the Railway Electrification Works are to be executed.</p> <p>“Employer’s Equipment” means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Consultant in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Employer.</p> <p>“Laws” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.</p> <p>“Site” means the places where the Railway Electrification Works are to be executed and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.</p> <p>“Unforeseeable” means not reasonably foreseeable and against which adequate preventive precautions could not reasonably be taken by an experienced Consultant by the date for submission of the Bid.</p> <p>“Railway” means a railway, or any portion of a railway for public carriage of passengers and goods as defined in the Railways ACT 1989. Any reference to railway means the Indian</p>
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Railways and the respective Zonal Railway

(a) References to any legislation or any provision thereof shall include amendment or re-enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;

(b) References to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted;

(c) **References to a “person”** and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;

(d) **References to “construction” or “building” include**, unless the context otherwise requires, survey and investigation, design, developing, engineering, procurement, supply of plant, materials, equipment, labour, delivery, transportation, installation, processing, fabrication, testing, and commissioning of the Railway Project, including maintenance during the Construction Period, removing of defects, if any, and other activities incidental to the construction and “construct” or “build” shall be construed accordingly;

(e) The damages payable by either Party to the other of them, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the “Damages”);

“**Agreement**” means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;

“**Applicable Laws**” means all laws, brought into force and effect by GOI or the State Government(s) including rules, regulations and notifications made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;

“**Applicable Permits**” means all clearances, licences, permits, authorisations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction of the Railway Project during the subsistence of this Agreement;

“**Defect**” means any defect or deficiency in Construction of the Works or any part thereof, which does not conform with the Specifications and Standards;

“**Encumbrances**” means, in relation to the Railway Project, any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Railway Project, where applicable herein but excluding utilities referred

	<p>to in Clause 9.1;</p> <p>“EPC” means engineering, procurement and construction</p> <p>“Good Industry Practice” means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced Consultant engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Consultant in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;</p> <p>“Government Instrumentality” means any department, division or sub-division of the Government or the State Government and includes any commission, board, authority, agency or municipal and other local authority or statutory body, including panchayat, under the control of the Government or the State Government, as the case may be, and having jurisdiction over all or any part of the Railway Project or the performance of all or any of the services or obligations of the Consultant under or pursuant to this Agreement;</p> <p>“Intellectual Property” means all patents, trade-marks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semi-conductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;</p> <p>“Material Adverse Effect” means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;</p> <p>“Power Block” means the length of the railway line between two railway stations, on which the overhead equipment (OHE) is de-energized and earthed to enable the Consultant to execute construction or maintenance works</p> <p>“Project Assets” means all physical and other assets relating to (a) tangible assets such as civil works and equipment including [foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road over-bridges, drainage works, traffic signals, sign boards, kilometer-stones, electrical systems, communication systems, rest areas, relief centers, maintenance depots and administrative offices]; and (b) Project Facilities situated on the Site;</p> <p>“Right of Way” means the constructive possession of the Site free from encroachments and encumbrances, together with all way leaves, easements, unrestricted access and other rights of way, howsoever described, necessary for construction of the Railway Project in accordance with this Agreement;</p> <p>“Specifications and Standards” means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Railway Project, as set forth in Schedule-D, and any modifications thereof, or additions thereto, as included in the design and engineering for the Railway Project submitted by the Consultant to, and expressly approved by,</p>
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	<p>the Authority;</p> <p>“Sub-Consultant” means any person or persons to whom a part of the Works has been subcontracted by the Consultant and the permitted legal successors in title to such person, but not an assignee to such person;</p> <p>“Works” means all works including survey and investigation, design, engineering, procurement, construction, Plant, Materials, temporary works and other things necessary to complete the Railway Project in accordance with this Agreement; and</p> <p>“WPI” means the wholesale price index for various commodities as published by the Ministry of Commerce and Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding month.</p> <p>“RKM” means route kilometre. A unit of distance, measuring the distance by rail between two points of railway network, irrespective of the number of lines connecting them, whether single line or double. The length of all running tracks excluding tracks in sidings, yards and crossings is called track kilometre (TKM).</p> <p>“TKM” means track kilometre. The length of all running tracks including tracks in sidings, yards and crossings.</p>
<p>Clause-1/CC</p>	<p>The following paras are added to the Existing CC Clauses.</p> <p>Employers Name and Address: K-RIDE (Rail Infrastructure Development Company (Karnataka) Limited) (A Joint venture of GoK and MoR) #8, 1st Floor, Samparka Soudha, Dr. Rajkumar Road, Opposite Orion Mall Rajaji Nagar 1st Block Bangalore – 560010 Tele: 080-24482800</p> <p>Employers Representative and address: DGM/Electrical, K-RIDE (Rail Infrastructure Development Company (Karnataka) Limited) #8, 1st Floor, Samparka Soudha, Dr. Rajkumar Road, Opposite Orion Mall Rajaji Nagar 1st Block Bangalore – 560010 Tele: +91 9881235883 E – Mail: jmelec@kride.in / electrical.kride@gmail.com</p>
<p>Clause -2.1/CC Interpretation.</p>	<p>The following paras are added to the Existing CC Clauses.</p> <p>(a) provisions including the word “agree,” “agreed” or “agreement” require the agreement to be recorded in writing;</p> <p>(b) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and</p>

	(c) the word “tender” is synonymous with “bid”, and “tenderer” with “bidder” and the words “tender documents” with “bidding documents”
Clause-2.2/CC. Priority of Documents	<p>Replace the existing sub clause 2.2 of CC</p> <p>The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:</p> <ol style="list-style-type: none"> (1) This Contract Agreement and Appendices hereto (2) Letter of Acceptance, (3) Letter of Bid and the Price Schedule Submitted by the Consultant (4) Addendum, Corrigendum and Pre-bid Clarification of The Tender (5) Contract Data, Special Provisions if any (6) Particular Conditions of contract (PCC) (7) General conditions of Contract (GCC)/ Conditions of Contract (CC) (8) Terms of reference including the Scope of Works, The Schedule (9) Technical Specifications (10) Design & drawings (11) any other document pertaining to Tender, issued by the Employer (12) Consultants Technical Proposal (13) Any Other document pertaining to tender, submitted by the Consultant <p>If an ambiguity or discrepancy is found in the documents, the Engineer shall issue necessary clarification or instruction.</p>
Clause-6.1/CC, Communications	<p>The following para is added to the existing CC clause:</p> <p>Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be: in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Contract Data; and delivered, sent or transmitted to the address for the recipient’s communications as stated in the Contract Data.</p>
Clause- 7/CC	<p>The following paras are added to the Existing CC Clauses.</p> <p>7.1 Definition of nominated Sub Consultant</p> <p>In the Contract, “nominated Sub Consultant” means a Sub Consultant:</p> <ol style="list-style-type: none"> (a) who is stated in the Contract as being a nominated Sub Consultant, or (b) whom the Engineer, under Clause 7/CC [Sub-contracting], instructs the Consultant to employ as a Sub Consultant. <p>Sub-Consultants</p> <p>The Consultant shall not subcontract the whole of the Works. The Consultant shall be responsible for the acts or defaults of any Sub Consultant, his agents or employees, as if they were the acts or defaults of the Consultant.</p> <p>Unless otherwise stated in the Conditions of Contract:</p> <ol style="list-style-type: none"> (a) The Consultant shall not be required to obtain consent to suppliers solely of Materials, or

	<p>to a subcontract for which the Sub Consultant is named in the Contract or as specifically provided in the Contract data or value of any sub-contract for Works, provided that such works are not for the key activities.</p> <p>(b) The prior consent of the Engineer shall be obtained to other proposed Sub Consultants and/or suppliers. While submitting his proposal in this regard, the Consultant shall ensure that;</p> <p>(i) Total value of Works requiring such consent for subcontracting shall not be more than 50% (fifty per cent) of the Contract Price;</p> <p>(ii) The proposed sub Consultant must have executed works of 40% of value of the proposed subcontract through a single contract during last seven years; and</p> <p>(iii) No banning/blacklisting/declaration as poor performer by K-RIDE is in force on the proposed sub Consultant (on the date of grant of consent by the Engineer);</p> <p>(iv) No contract of the proposed sub Consultant has been terminated by K-RIDE during the last two years (to be reckoned from the date of grant of consent by the Engineer);</p> <p>(v) The Consultant shall submit the proposal for subcontracting with the name, particulars and the relevant experience of the proposed sub Consultant.</p> <p>(c) The Consultant shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Sub Consultant's work, and of the commencement of such work on the Site;</p> <p>(d) Each subcontract shall include provisions which would entitle the Employer to require the subcontract to be assigned to the Employer under New-Clause 4.23/PCC [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 49.7/PCC. [Termination by Employer]; and</p> <p>(e) On getting consent from the Engineer, the Consultant shall provide to the Engineer copy of the agreement entered with such sub Consultant.</p> <p>The Consultant shall ensure that the requirements imposed on the Consultant by New-Clause 1.6/PCC [Confidential Details] apply equally to each Sub Consultant.</p> <p>Where practicable, the Consultant shall give fair and reasonable opportunity for Consultants from the Country to be appointed as Sub Consultants.</p> <p>The Consultant shall endeavor to resolve all matters and payments amicably and speedily with the sub-Consultants.</p> <p>The Consultant shall indemnify and hold the Employer harmless against and from any claim of sub Consultants or suppliers of the materials.</p> <p>The Consultant shall release payment to the Sub-Consultants/Suppliers promptly and shall endeavor to resolve all issues amicably and speedily with the Sub-Consultants/Suppliers, so that the execution of work is not affected in any manner whatsoever.</p> <p>In case a Sub-Consultant/Supplier represents to the Engineer in writing with supporting documents, stating that he has not received payment due as per the agreement/work or purchase order for the works executed by such Sub-Consultant or supplies made by such Supplier, which have been covered in previous Payment Certificates and the Engineer finds such representation having merit, the Engineer, before issuing next Payment Certificate, may</p>
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forward a copy of the representation to the Consultant requesting the Consultant to supply reasonable evidence that the amount stated to be outstanding by the Sub-Consultant/Supplier for the works executed or supplies made, which have been covered in previous Payment Certificates has been paid and if not, why the same is not payable. The Engineer may recommend to make payment to the Sub-Consultant/Supplier unless the Consultant submits reasonable evidence to the Engineer:

- (i) that the amount claimed has been paid, or
- (ii) satisfying the Engineer in writing that the Consultant is entitled to withhold or that the amount is not payable.

On the recommendation of the Engineer, the Employer may (at his sole discretion) directly pay to the Sub-Consultant/Supplier the amount due for and on behalf of the Consultant, part or all of such amounts previously certified (less applicable deductions) as are found due to the Sub-Consultant/Supplier by the Engineer. The Employer shall adjust the amount paid directly to the Sub-Consultant/Supplier from any amount due by it to the Consultant. The Consultant shall repay the amount, in case no amount is found due by the Employer to the Consultant.

That the payment by Employer, on behalf of the Consultant to its Sub-Consultant/Supplier, shall not alter any terms of agreement between the Employer and the Consultant and nor the same shall result in any privity of contract between the Employer and the Sub-Consultant/Supplier.

Assignment of Consultant's and Sub-Consultant's Obligations:

The Consultant shall not assign a right or benefit under the Contract without first obtaining Employer's prior written consent, otherwise than by:

- A. a charge in favor of the Consultant's bankers of any money due or to become due under the Contract, or
- B. assignment to the Consultant's insurers (in cases where the insurers have discharged the Consultant's loss or liability) of the Consultant's right to obtain relief against any other party liable.

If a Sub Consultant's obligations extend beyond the expiry date of Defects Liability Period, then the Consultant shall assign the benefits of such obligations to the Employer.

In the event that a sub-Consultant of any tier provides to the Consultant or any other sub-Consultant a warranty in respect of Plant, Materials or services supplied in connection with the Works, or undertakes a continuing obligation of any nature whatsoever in relation to such Plant, Materials or services (including without limitation an obligation to maintain stocks of spare parts) extending for a period exceeding that of the Defects Liability Period or where there is more than one Defects Liability Period exceeding that of the latest Defects Liability Period, and if the Engineer so directs in writing within 21 days of the expiry of the Defects Liability Period or the latest Defects Liability Period (as the case may be), the Consultant shall immediately assign or obtain the assignment of the benefit of such warranty or obligation to the Employer or at the direction of the Employer, to any third party.

Specialist Subcontracting

If an Applicant intends to subcontract any highly specialized elements of the Works to specialist Sub Consultants, such elements and the proposed Sub Consultants shall be clearly identified, and the experience and capacity of the Sub Consultants shall be described in the relevant

Information Forms.

Acceptable Substitutes

With reference to subcontracting & specialist subcontracting, the Employer may require Applicants to provide more information about their proposals. If any proposed Sub Consultant is found ineligible or unsuitable to carry out an assigned task, the Employer may request the Applicant to propose an acceptable substitute, and may conditionally pre-qualify the Applicant accordingly, before issuing an invitation to tender.

7.2 Objection to Nomination

The Consultant shall not be under any obligation to employ a nominated Sub Consultant against whom the Consultant raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Employer agrees to indemnify the Consultant against and from the consequences of the matter:

- (a) there are reasons to believe that the Sub Consultant does not have sufficient competence, resources or financial strength;
- (b) the subcontract does not specify that the nominated Sub Consultant shall indemnify the Consultant against and from any negligence or misuse of Goods by the nominated Sub Consultant, his agents and employees; or
- (c) the subcontract does not specify that, for the subcontracted work (including design, if any), the nominated Sub Consultant shall:
 - (i) undertake to the Consultant such obligations and liabilities as will enable the Consultant to discharge his obligations and liabilities under the Contract, and
 - (ii) Indemnify the Consultant against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Sub Consultant to perform these obligations or to fulfil these liabilities.

7.3 Payments to nominated Sub Consultants

The Consultant shall pay to the nominated Sub Consultant the amounts which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with Clause 34/PCC, except as stated in Sub-Clause 7.4/PCC [Evidence of Payments].

7.4 Evidence of Payments

Before issuing a Payment, Certificate which includes an amount payable to a nominated Sub Consultant, the Engineer may request the Consultant to supply reasonable evidence that the nominated Sub Consultant has received (Within 7 days of receipt of previous payment by the Consultant) all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Consultant, submits this reasonable evidence to the Engineer, or

- (i) satisfies the Engineer in writing that the Consultant is reasonably entitled to withhold or refuse to pay these amounts, and
- (ii) submits to the Engineer reasonable evidence that the nominated Sub Consultant has been notified of the Consultant's entitlement,

	<p>then the Employer may (at his sole discretion) pay, direct to the nominated Sub Consultant, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Sub Consultant and for which the Consultant has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Consultant shall then repay, to the Employer, the amount which the nominated Sub Consultant was directly paid by the Employer.</p> <p>7.5 Assignment of Benefit of Subcontract</p> <p>If a Sub Consultant's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Engineer, prior to this date, instructs the Consultant to assign the benefit of such obligations to the Employer, then the Consultant shall do so. Unless otherwise stated in the assignment, the Consultant shall have no liability to the Employer for the work carried out by the Sub Consultant after the assignment takes effect.</p>
<p>Clause11/CC</p>	<p>The clause 11 of CC is modified as under:</p> <p>Risk and Responsibility</p> <p>11.1 Indemnities</p> <p>The Consultant shall indemnify and hold harmless the Employer, the Employer's Personnel, Employers Representative and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:</p> <p>(a) bodily injury, sickness, disease or death, of any person including railway user whatsoever arising out of or in the course of or by reason of the Consultant's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and</p> <p>(b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Consultant's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel,, their respective agents, or anyone directly or indirectly employed by any of them.</p> <p>The Employer shall indemnify and hold harmless the Consultant, the Consultant's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 13.8/PCC [Insurance Against Injury to Persons and Damage to Property].</p> <p>11.2 Consultant's Care of the Works</p> <p>The Consultant shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 46.1/PCC [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a</p>

Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.

After responsibility has accordingly passed to the Employer, the Consultant shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

If any loss or damage happens to the Works, Goods or Consultant's Documents during the period when the Consultant is responsible for their care, from any cause not listed in Sub-Clause 11.3/PCC [Employer's Risks], the Consultant shall rectify the loss or damage at the Consultant's risk and cost, so that the Works, Goods and Consultant's Documents conform with the Contract.

The Consultant shall be liable for any loss or damage caused by any actions performed by the Consultant after a Taking-Over Certificate has been issued. The Consultant shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Consultant was liable.

1.3 Employer's Risks

The risks referred to herein below, in so far as they directly affect the execution of the works in the Country, are:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, terrorism, sabotage by persons other than the Consultant's Personnel, revolution, insurrection, military or usurped power, or civil war, within the Country,
- (c) riot, commotion or disorder within the Country by persons other than the Consultant's Personnel,
- (d) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the Consultant's use of such munitions, explosives, radiation or radio-activity,
- (e) use or occupation by the Employer of any part of the Railway Electrification Works, except as may be specified in the Contract, and
- (f) design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible,

11.4 Consequences of Employer's Risks:

If and to the extent that any of the risks listed in Sub-Clause 11.3/PCC above results in loss or damage to the Works, Goods or Consultant's Documents, the Consultant shall promptly give notice to the Engineer and shall rectify this loss or damage to the extent required by the Engineer.

If the Consultant suffers delay and/or incurs Cost from rectifying this loss or damage, the Consultant shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 4.1/SCC [Consultant's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under

Sub-Clause [Extension of Time for Completion], and

- (b) In the case of sub-paragraphs (f) and (g) of Sub-Clause 11.3/PCC [Employer's Risks], Cost shall be payable.

After receiving this further notice, the Engineer shall proceed in accordance with New-Clause 3.5/PCC [Determinations] to agree or determine these matters.

11.5.1 Intellectual and Industrial Property Rights

In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.

Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

The Employer shall indemnify and hold the Consultant harmless against and from any claim alleging an infringement which is or was:

- (a) an unavoidable result of the Consultant's compliance with the Contract, or
- (b) a result of any Works being used by the Employer:
 - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - (ii) in conjunction with anything not supplied by the Consultant, unless such use was disclosed to the Consultant prior to the Base Date or is stated in the Contract.

The Consultant shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Consultant is responsible.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

11.5.2 Copyright

As between the Parties, the Consultant shall retain the copyright and other Intellectual Property rights in the Consultant's Documents and other design documents made by (or on behalf of) the Consultant. The Consultant shall be deemed (by signing this Agreement) to give to the Authority a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Consultant's Documents, including making and using modifications of them. This licence shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Consultant's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- (c) in the case of Consultant's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Consultant:

11.5.2.1 The Consultant's Documents and other design documents made by (or on behalf of) the Consultant shall not, without the Consultant's consent, be used, copied or communicated to a third party by (or on behalf of) the Authority for purposes other than those permitted under this Clause.

11.5.2.2 As between the Parties, the Authority shall retain the copyright and other Intellectual Property rights in this Agreement and other documents made by (or on behalf of) the Authority. The Consultant may, at its cost, copy, use, and obtain communication of these documents for the purposes of this Agreement. They shall not, without the Authority's consent, be copied, used or communicated to a third party by the Consultant, except as necessary for the purposes of the contract.

11.6 Limitation of Liability

Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, provided that this exclusion shall not apply to any obligation of the Consultant to pay Delay Damages to the Employer under Sub-Clause 26.6/PCC [Delay Damages].

The total liability of the Consultant to the Employer, under or in connection with the Contract other than under New-Clause 4.37/PCC [Electricity, Water and Gas], New Clause 4.38/PCC [Employer's Equipment and Free-Issue Material], Sub-Clause 11.1/PCC [Indemnities] and Sub-Clause 11.5/PCC [Intellectual and Industrial Property Rights], shall not exceed the sum as specified in the Contract Data or if nothing is specified in the Contract Data, the accepted Contract Amount.

This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

Maximum total liability of Consultant is accepted contract amount.

11.7 Use of Employer's Accommodation/ Facilities

The Consultant shall take full responsibility for the care of the Employer provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Consultant until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).

	<p>If any loss or damage happens to any of the above items while the Consultant is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Consultant shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.</p>
<p>Clause 13/CC</p>	<p>The following paras are added to the Existing CC Clauses.</p> <p>INSURANCE</p> <p>13.6 General Requirements for Insurances</p> <p>In this Clause, “insuring Party” means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.</p> <p>Wherever the Consultant is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Employer. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.</p> <p>If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause,</p> <ul style="list-style-type: none"> (i) the Consultant shall act under the policy on behalf of these additional joint insured except that the Employer shall act for Employer’s Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy. <p>The consultant shall provide to the employer, within 28 days of the Commencement Date, evidence of professional liability insurance maintained by its Design/Director and/or consultants to cover the risk of professional negligence in the design of works. The professional liability cover shall be for a sum of not less than (6% (Six per cent)) of the Contract Price and shall be maintained until the end of the Defect Liability Period.</p> <p>Waiver of subrogation</p> <p>All insurance policies in respect of the insurance obtained by the Consultant pursuant to this Insurance clause shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, the Authority, and its assigns, successors, undertakings and their subsidiaries, Affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.</p> <p>Cross liabilities</p> <p>Any such insurance maintained or effected in pursuance of this Insurance clause shall include a cross liability clause such that the insurance shall apply to the Consultant and to the Authority as separately insured.</p> <p>Accident or injury to workmen</p>

Notwithstanding anything contained in this Agreement, it is hereby expressly agreed between the Parties that the Authority shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Consultant or Sub-Consultant, save and except as for death or injury resulting from any act, omission or default of the Authority, its agents or servants. The Consultant shall indemnify and keep indemnified the Authority from and against all such claims, proceedings, damages, costs, charges, and expenses whatsoever in respect of the above save and except for those acts, omissions or defaults for which the Authority shall be liable.

Insurance against accident to workmen

The Consultant shall effect and maintain during the Agreement such insurances as may be required to insure the Consultant's personnel and any other persons employed by it on the Railway Project from and against any liability incurred in pursuance of this Insurance clauses Provided that for the purposes of this para, the Consultant's personnel/any person employed by the Consultant shall include the Sub-Consultant and its personnel. Provided further that in respect of any persons employed by any Sub-Consultant, the Consultant's obligations to insure as aforesaid under this para shall be discharged if the Sub-Consultant shall have insured against any liability in respect of such persons in such manner that the Authority is indemnified under the policy. The Consultant shall require such Sub-Consultant to produce before the Authority, when required, such policy of insurance and the receipt for payment of the current premium within 10 (ten) days of such demand being made by the Authority.

Application of insurance proceeds

The proceeds from all insurance claims, except for life and injury, shall be applied for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Railway Project and the provisions of this Agreement in respect of construction of Works shall apply mutatis mutandis to the Works undertaken out of the proceeds of insurance.

Compliance with policy conditions

The Consultant expressly acknowledges and undertakes to fully indemnify the Authority from and against all losses and claims arising from the Consultant's failure to comply with conditions imposed by the insurance policies effected in accordance with this Agreement.

Periods for submission of insurance:

- a) evidence of insurance: Before start date of work.
- b) relevant policies: Before start date of work.

Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.

The relevant insuring Party shall, within the respective periods stated in the Contract Data (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, and
- (b) copies of the policies for the insurances described in Sub-Clause 13.7/PCC

[Insurance for Works and Consultant's Equipment] and Sub-Clause 13.8/PCC [Insurance against Injury to Persons and Damage to Property].

- (c) If the Consultant fails to submit evidence and copies of the policies as mentioned in (a) & (b) above to prove that the policies have been obtained within the period specified in the contract data, and submits the same later on and from the submitted evidence it is found that the policies have not been obtained within the period specified, the Employer shall recover double the cost of the premium for the period the policies have been delayed.

When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay double the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Consultant or the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Consultant and/or the Employer in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to New-Clause 2.4/PCC [Employer's Claims] or Sub-Clause 4.1/SCC [Consultant's Claims], as applicable.

The Consultant shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 13/CC/PCC with insurers from any eligible source country.

13.7 DELETED

13.8 Insurance against injury to Persons and Damage to Property

The insuring Party shall insure against each Party's liability for any loss, theft, damage, death or bodily injury which may occur to any physical property (except things insured

	<p>under Sub-Clause 13.7/PCC [Insurance for Works and Consultant's Equipment]) or to any person (except persons insured under Sub-Clause 13.9/PCC [Insurance for Consultant's Personnel]), which may arise out of the Consultant's performance of the Contract and occurring before the issue of the Performance Certificate.</p> <p>This insurance shall be for a limit per occurrence of not less than the amount stated in the Contract Data, with no limit on the number of occurrences. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.</p> <p>Unless otherwise stated in the Special Conditions of Contract, the insurances specified in this Sub-Clause:</p> <ul style="list-style-type: none"> (a) shall be effected and maintained by the Consultant as insuring Party, (b) shall be in the joint names of the Parties, (c) shall be extended to cover liability for all loss and damage to the Employer's property including Railways Property (except things insured under Sub-Clause 13.7/PCC) arising out of the Consultant's performance of the Contract, and (d) may however exclude liability to the extent that it arises from: <ul style="list-style-type: none"> (i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works, (ii) damage which is an unavoidable result of the Consultant's obligations to execute the Works and remedy any defects, and (iii) a cause listed in Sub-Clause 11.3/PCC [Employer's Risks], except to the extent that cover is available at commercially reasonable terms. <p>13.9 Insurance for Consultant's Personnel</p> <p>The Consultant shall abide by the provisions of ESIC Act, 1948 (extended from time to time) to take care of insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness or disease. In addition, the Consultant shall also maintain insurance against liability for claim of death of any person employed by the Consultant or any other of the Consultant's Personnel.</p> <p>The Employer and the Engineer shall also be indemnified under the policy of insurance, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.</p> <p>The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Sub Consultant's employees, the insurance may be effected by the Sub Consultant, but the Consultant shall be responsible for compliance with this Clause.</p> <p>Maximum number of deductibles for insurance of Employer's risks: Nil</p>
<p>Clause- 22/CC. Right of Access to the Site</p>	<p>DELETED</p>
<p>Clause 25 of CC</p>	<p>The following paras are added to the Existing CC Clauses.</p>

	<p>25.3 Programme</p> <p>The Consultant shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 26.3/PCC [Commencement of Works]. The program shall include the physical and Financial Progress vis-à-vis program and forecast cash flow adopting Project Management Software Primavera/Sure Track/MS Project or as mutually agreed. The program must identify the milestones, interface requirements and program reporting elements. The Consultant 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 Consultant shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Consultant's obligations. Each programme shall include:</p> <ul style="list-style-type: none"> (a) the order in which the Consultant intends to carry out the Works, including the anticipated timing of each stage of design (if any), Consultant's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing, (b) each of these stages for work by each nominated Sub Consultant (as defined in Clause 7/PCC [Nominated Sub Consultants]), (c) the sequence and timing of inspections and tests specified in the Contract, and (d) a supporting report which includes: <ul style="list-style-type: none"> (i) a general description of the methods which the Consultant intends to adopt, and of the major stages, in the execution of the Works, and (ii) details showing the Consultant's reasonable estimate of the number of each class of Consultant's Personnel and of each type of Consultant's Equipment, required on the Site for each major stage. <p>Unless the Engineer, within 21 days after receiving a programme, gives notice to the Consultant stating the extent to which it does not comply with the Contract, the Consultant shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.</p> <p>The Consultant shall promptly give notice to the Engineer of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Engineer may require the Consultant to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 34.2/PCC [Procedure for change of scope].</p> <p>If, at any time, the Engineer gives notice to the Consultant that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Consultant's stated intentions, the Consultant shall submit a revised programme to the Engineer within 15 days in accordance with this Sub-Clause.</p>
<p>Clause 26 of CC</p>	<p>The following paras are added to the Existing CC Clauses.</p> <p>26.3 Commencement of Works</p>

The Engineer shall give the Consultant not less than 7 days' notice of the Commencement of work. Unless otherwise stated in the Special Conditions of Contract, the Commencement of work shall be within the number of days after the Consultant receives the Letter of Acceptance as specified in Contract Data.

The Consultant shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.

26.4 Time for Completion

The Consultant shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- (a) achieving the passing of the Tests on Completion, and
- (b) completing all work which is stated in the Contract as being required for whole of the Works or Section(s) to be considered to be completed for the purposes of taking-over under Sub-Clause 46.1/PCC [Taking Over of the Works and Sections].

26.5 Extension of Time for Completion

The Consultant shall be entitled subject to Sub-Clause 4.1/SCC [Consultant's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 46.1/PCC [Taking-Over of the Works and Sections] is or will be delayed by any of the following causes:

- a) Delay in providing the Right of Way, [approval of Drawings,] environmental/ forest clearances, in accordance with the provisions of this Agreement;
- b) Change of Scope, unless an adjustment to the Scheduled Completion Date has been agreed under change of scope.
- c) Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 34.2/PCC [Procedure for change of scope]) or other substantial change in the quantity of an item of work included in the Contract,
- d) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- e) exceptionally adverse climatic conditions and occurrence of Force Majeure event.
- f) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- g) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other Consultants.

If the Consultant considers himself to be entitled to an extension of the Time for Completion, the Consultant shall give notice to the Engineer in accordance with Sub-Clause 4.1/SCC [Consultant's Claims]. When determining each extension of time under Sub-Clause 4.1/SCC the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

26.6 DELETED

26.7 Rate of Progress

If, at any time:

- (a) actual progress is too slow to complete within the Time for Completion, and/or
- (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 25.3/PCC [Programme],

other than as a result of a cause listed in Sub-Clause 26.5/PCC [Extension of Time for Completion], then the Engineer may instruct the Consultant to submit, under Sub-Clause 25.3/PCC [Programme], a revised programme and supporting report describing the revised methods which the Consultant proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Consultant shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Consultant's Personnel and/or Goods, at the risk and cost of the Consultant. If these revised methods cause the Employer to incur additional costs, the Consultant shall subject to New-Clause 2.4/PCC [Employer's Claims] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 26.8/PCC below

26.8 Extension of Time for Completion with Delay Damages

If the Consultant fails to comply with Sub-Clause 26.4/PCC [Time for Completion for entire work or for specified section wise completion period], and he is not entitled to an extension of time under sub clause 26.5/PCC then the employer may grant extension of time with delay damage in such case, the Consultant shall subject to New-Clause 2.4/PCC [Employer's Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Contract Data.

Further, if the Consultant fails to achieve physical/financial targets as per the agreed programme for a consecutive period of 3 months without any valid reasons, other than attributable to the Consultant, a provisional recovery of delay damages shall be made from the next interim payment certificate @ 1/10th of the sum of delay damages stated in the contract data, for the entire period of 3 months. Such recovery shall continue from the further interim payment certificates till the Consultant is able to make good the shortfall and achieve the cumulative targets as per agreed programme. On achieving the cumulative progress targets as per agreed programme, the entire amount recovered till that month, shall be refunded to the Consultant in the next interim payment certificate. In case the Consultant is unable to make good the shortfall and achieve the cumulative targets resulting in delay in completion of the project, then the provisional recoveries made shall be adjusted against the delay damages to be finally imposed on the Consultant.

These delay damages shall be the only damages due from the Consultant for such default, other than in the event of termination under Sub-Clause 49.7/PCC [Termination by Employer] prior to completion of the Works. These damages shall not relieve the Consultant from his obligation to complete the Works, or from any other duties, obligations

or responsibilities which he may have under the Contract.

26.9 Suspension of Work

The Engineer may at any time instruct the Consultant to suspend progress of part or all of the Works. During such suspension, the Consultant shall protect, store and secure such part or the Works against any deterioration, loss or damage.

The Engineer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Consultant, the following Sub-Clauses 26.10, 26.11 and 26.12 of PCC shall not apply.

26.10 Consequences of Suspension

If the Consultant suffers delay and/or incurs Cost from complying with the Engineer's instructions under Sub-Clause 26.9/PCC [Suspension of Work] and/or from resuming the work, the Consultant shall give notice to the Engineer and shall be entitled subject to Sub-Clause 4.1/SCC [Consultant's Claims] to:

a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 26.5/PCC [Extension of Time for Completion], and

b) **DELETED**

After receiving this notice, the Engineer shall proceed in accordance with New-Clause 3.5/PCC [Determinations] to agree or determine these matters.

The Consultant shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Consultant's faulty design, workmanship or materials, or of the Consultant's failure to protect, store or secure in accordance with Sub-Clause 26.9/PCC [Suspension of Work].

Table of Compensation for the suspension period has been **DELETED**.

26.11 Payment for Plant & materials in Event of Suspension DELETED

26.12 Prolonged Suspension

If the suspension under Sub-Clause 26.9/PCC [Suspension of Work] has continued for more than 84 days, the Consultant may request the Engineer's permission to proceed. If the Engineer does not give permission within 28 days after being requested to do so, the Consultant may, by giving notice to the Engineer, treat the suspension as an omission under Clause 34/PCC [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Consultant may give notice.

26.13 Resumption of Work

After the permission or instruction to proceed is given, the Consultant and the Engineer shall jointly examine the Works and the Plant and Materials affected by the suspension. The Consultant shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension

26.14 Bonus for early completion:

	<p>If the Consultant achieves completion of the whole of the Works or any section(s) prior to the intended Completion Date prescribed in Contract data (Extension of time pursuant to Clause 26.5/PCC or any other clause of these conditions will not be considered), the Employer shall pay to the Consultant a sum stated in the Contract data as bonus for early completion, for every calendar month which shall elapse between the date of completion of all items of works as stipulated in the contract, including variations ordered by the Engineer and the time prescribed in Clause 26.4.</p> <p>For the purpose of calculating bonus payments, the time given in the Bid for completion of the whole works or any section(s) is fixed and unless otherwise agreed, no adjustment of the time by reasons of granting an extension of time pursuant to clause 26.5/PCC or any other clause of these conditions will be allowed. Any period falling short of completed month shall be ignored for the purpose of computing the period relevant for the payment of bonus.</p> <p>Amount of bonus for early completion 1% of initial Contract Price per month (part of the month to be excluded) for substantial completion of work.</p> <p>Maximum limit of bonus 3% of Contract Price.</p> <p>(For earlier completion of the work as a whole from the stipulated original date of completion, a bonus payment of as above shall be paid to the Consultant. The employer's decision is final and binding on the Consultant so far as bonus payment to the Consultant is concerned. If bonus payment is made, earlier penalties levied for delay caused to various intermediate Key Dates will be refunded.)</p>
	26.15 DELETED
Clause-30/CC	DELETED
Clause 34/CC	<p>The following paras are added to the Existing CC Clause 34.</p> <p>VARIATIONS AND ADJUSTMENTS.</p> <p>34.1 Right to Vary</p> <p>Variations may be initiated by the Employer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by making a request to the Consultant to submit a proposal.</p> <p>The Consultant shall execute and be bound for variations of all change of scope of orders till the price does not exceed 25% of the Contract Price as specified in LOA/Original agreement. For variation beyond the above the Consultant shall be bound to execute, unless the Consultant promptly gives notice to the Engineer stating (with supporting particulars) that the Consultant cannot readily obtain the Goods required for the Variation. Upon receiving this notice, the Engineer shall cancel, confirm or vary the instruction.</p> <p>Each Variation may include:</p> <p>(a) changes to the quantities of any item of work included in the Contract,</p>

- (b) changes to the quality and other characteristics of any item of work,
- (c) changes to the levels, positions and/or dimensions of any part of the Works,
- (d) omission of any work unless it is to be carried out by others,
- (e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
- (f) changes to the sequence or timing of the execution of the Works.

The Consultant shall not make any alteration and/or modification of the Permanent Works, unless and until the Engineer instructs or approves a Variation

34.2 Value Engineering

The Consultant may, at any time, submit to the Engineer a written proposal which (in the Consultant's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Consultant and shall include the items listed in Sub-Clause 34.3/PCC [Variation Procedure].

If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:

- (a) the Consultant shall design this part,
- (b) sub-paragraphs (a) to (d) of New-Clause 4.1/PCC [Consultant's General Obligations] shall apply, and
- (c) if this change results in a reduction in the contract value of this part, the Engineer shall proceed in accordance with New-Clause 3.5/PCC [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
 - (i) such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 34.7/PCC [Adjustments for Changes in Legislation] and Sub-Clause PVC/Contract Data [Adjustments for Changes in Cost], and
 - (ii) the reduction (if any) in the value to the Employer of the varied works, taking account of any reductions in quality, anticipated life or operational efficiencies.

However, if amount (i) is less than amount (ii), there shall not be a fee.

34.3 Variation Procedure

If the Engineer requests a proposal, prior to instructing a Variation, the Consultant shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

- (a) a description of the proposed work to be performed and a programme for its execution,
- (b) the Consultant's proposal for any necessary modifications to the programme

according to Sub-Clause 25.3/PCC [Programme] and to the Time for Completion, and

- (c) the evaluation of the Variation shall be as specified in New-Clause 35/PCC [Payment for Variation].

The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 34.2/PCC [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Consultant shall not delay any work whilst awaiting a response.

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Consultant, who shall acknowledge receipt.

Each Variation shall be evaluated in accordance with New-Clause 7 [Measurement and Evaluation], unless the Engineer instructs or approves otherwise in accordance with this Clause.

34.4 DELETED

34.5 Provisional Sums

Each Provisional Sum shall only be used, in whole or in part, in accordance with the Engineer's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Consultant shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Engineer shall have instructed. For each Provisional Sum, the Engineer may instruct:

- (a) work to be executed (including Plant, Materials or services to be supplied) by the Consultant and valued under Sub-Clause 34.3/PCC [Variation Procedure]; and/or
- (b) Plant, Materials or services to be purchased by the Consultant, from a nominated Sub Consultant (as defined in Clause 7 [Nominated Sub Consultants]) or otherwise; and for which these shall be included in the Contract Price:
 - (i) the actual amounts paid (or due to be paid) by the Consultant, and
 - (ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in the Contract Data shall be applied.

The Consultant shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation

34.6 Day work

For work of a minor or incidental nature, the Engineer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods for the work, the Consultant shall submit quotations to the Engineer. When applying for payment, the Consultant shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the Daywork Schedule specifies that payment is not due, the Consultant shall deliver each day to the Engineer accurate statements in duplicate

	<p>which shall include the following details of the resources used in executing the previous day's work:</p> <ul style="list-style-type: none"> (a) the names, occupations and time of Consultant's Personnel, (b) the identification, type and time of Consultant's Equipment and Temporary Works, and (c) the quantities and types of Plant and Materials used. <p>One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Consultant. The Consultant shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 37.1/PCC [Application for Interim Payment Certificates]</p> <p>34.7 Adjustments for Changes in Legislation</p> <p>Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Consultant in the performance of obligations under the Contract.</p> <p>If the Consultant suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Consultant shall give notice to the Engineer and shall be entitled subject to Sub-Clause 4.1/SCC [Consultant's Claims] to:</p> <ul style="list-style-type: none"> (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 26.5/PCC [Extension of Time for Completion], and (b) payment of any such Cost, which shall be included in the Contract Price. <p>After receiving this notice, the Engineer shall proceed in accordance with New-Clause 3.5 [Determinations] to agree or determine these matters.</p> <p>In case there is a decrease in cost as a result of changes of Law by Legislation after the Base Date, the Engineer shall proceed in accordance with New-Clause 3.5 (determination) to agree or determine these matters without waiting for Consultant's / Employer's Notice.</p> <p>Notwithstanding the foregoing, the Consultant shall not be entitled to such an extension of time if the same shall already have been taken into account in determining an extension and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause PVC/Contract Data.</p>
<p>Clause 35/CC</p>	<p>The clause 35 of CC is substituted with following paras.</p> <p>1. Variations/ new items:</p> <p>1.1 The Employer shall have the power to order the Consultant to do any or all of the following as considered necessary or advisable during the progress of the work by him.</p> <ul style="list-style-type: none"> a. increase or decrease of any item of work included in the Bill of Quantities

	<p>(BOQ)</p> <ul style="list-style-type: none"> b. Omit any item of work c. Change the character or quality or kind of any item of work d. Change the levels, lines, positions, and dimensions of any part of the work; e. Execute additional items of work of any kind necessary for the completion of the works f. Change in any specified sequence, method, or timing of construction of any part of the work. <p>1.2 The Consultant shall be bound to carry out the work in accordance with any instructions in this connection, which may be given to him in writing by the Employer and such alteration shall not vitiate or invalidate the Contract.</p> <p>1.3 Variations shall not be made by the Consultant without an order in writing by the Employer, provided that no order in writing shall be required for an increase or decrease in the quantity of an item appearing in the BOQ so long as the work executed conforms to the approved drawings.</p> <p>1.4 The Consultant shall not make any alteration and/or modification of the Works, unless and until the Engineer instructs or gives consent to a Variation.</p> <p>1.5 If the Construction and/or Manufacture Documents or Works are not in accordance with the Contract, the rectification shall not constitute a Variation.</p> <p>2. Payment for Variations/New Items.</p> <p>2.1 Variation in the Bill of Quantities</p> <ul style="list-style-type: none"> i) The quantities of items shown in the Bill of Quantities are approximate, and liable to vary during the actual execution of the work. Some items/group of items may have to be altered, added or omitted. The Consultant shall be bound to carry out and complete the stipulated work as instructed by the Engineer, irrespective of the magnitude of variations including additions, alterations or omissions in the Bill of Quantities, individual items or group of items, specified in the Bill of Quantities. <p>Such variations shall be paid as follows:</p> <p>2.2 Payment for the increase in the quantities of an item in the BOQ up to 25 % of that provided in the Bill of Quantities shall be made at the rates quoted by the Consultant, except in the case of foundation.</p> <p>2.3 In case of foundation work, no variation limit applies and Consultant shall carryout the Work, at rates stipulated in the Contract irrespective of any variation.</p> <p>2.4 For quantities in excess of 125% of the tendered quantity of an item as given in the BOQ, the Consultant shall be paid at the reasonable rate derived from the details mentioned in para no. 3 (applicable for the area of work and current at the time of variations), plus-minus the overall percentage of the original tendered rates over the current schedule of rates prevalent at the time of contract.</p>
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- 2.5** If there is no rate for the additional, substituted, or altered item of the work in the BOQ, efforts would be made to derive the rates from those given in the BOQ or the Schedule of Rates (applicable for the area of the work and current at the time of award of Contract) and if found feasible the payment would be made at the derived rate for the item plus or minus the overall percentage of the original tendered rates over the current Schedule of Rates prevalent at the time of award of Contract.
- 2.6** If the rates for additional, substituted, or altered items of work cannot be determined either as at 1.2,1.4, or 1.5 above, the Consultant shall be requested to submit his quotation for the items supported by analysis of the rate or rates claimed, within 7 days.
- 2.7** If the Consultant's quotation is determined unreasonable, the Employer may order the Variation and make a change to the Contract Price which shall be based on the Employer's own forecast of the effects of the Variation on the Consultant's costs.
- 2.8** Under no circumstances the Consultant shall suspend the work on the plea of non-settlement of rates for items falling under this Clause.

3. Procedure for the operation of new items/ variations

The following procedure is to be followed in dealing with the proposal for variation in contractual quantity and/or new items

- 3.1** If any item of work that is not provided for in the BOQ or in case of variation in BOQ Quantity is to be operated, the Consultant shall take the instructions in writing from the Engineer as per the relevant Clause specified in the conditions of the contract on Variations.
- 3.2** The Consultant on receipt of the instructions shall submit a proposal with the details as specified in the Contract including the proposed rates for the items and proper analysis for the same. (New items and Beyond 125 % of individual items in case of variation)
- 3.3** The Engineer on receipt of the claim from the Consultant for new items and/or variation in BOQ quantity, shall scrutinize the same and determine the rates strictly based on the specific contract conditions and submit the same with his recommendations to the concerned HOD who shall forward the same to the standing committee for further scrutiny. (New items and Beyond 125% of individual items in case of variation)
- 3.4** The nominated committee shall examine the proposal and submit its recommendations for the approval of the Competent Authority

4. Rate for variation and new items

General principle to be adopted shall be, in case of relevant LAR is available it should be considered. In the absence of relevant LAR, SOR rates/ analysis mentioned as per SOR to be followed.

In case of General Electrical works and utility shifting works policy letter issued from time to time by government of Karnataka shall be followed.

	<p>The rate for new items or variations beyond 125% may be derived from the latest reasonable rates of following sequence:</p> <p>KRIDE LAR SWR LAR BMRCL LAR SOR of KPWD/KPTCL USSOR Railways SOR of CPWD</p> <p>In the absence/conflict of above (LAR/ SOR) rate may be derived as below.</p> <ol style="list-style-type: none"> a. Cost of Materials at current market price, as may be actually utilized in the final finished Permanent Works, including a reasonable percentage for wastage and transportation. b. Cost of enabling works, if any, (unless provided for separately) worked out on the above basis but with less stringent quality. Specifications minus the salvage value of serviceable material released after completion of work and cost of material released as scrap. c. Cost of labour actually used at the site of work at rates under Payment of Minimum Wages Act for the area of work for each category of workers, further enhanced by a percentage of 10% of the aforesaid rates to account for labour not directly utilized at the Site and other ancillary and incidental expenses on labour. d. Hire charges for Plant and Machinery, scaffolding, shuttering, forms, etc. required to be used at the site of the work. The tools used by the various trades shall not be counted as Plant & Machinery for this purpose. e. An amount of 10% of items a, b, c & d above to allow for the Consultant's overheads and profit. This percentage shall also apply to the estimated cost of Materials supplied free to the Consultant. f. All taxes as applicable on above.
<p>Clause 37/CC</p>	<p>The clause 37 of CC is replaced with the following.</p> <p>Payments.</p> <p>37.0 Procedure for Estimating the Payment for the work</p> <ol style="list-style-type: none"> 1. The Employer shall make interim payments to the Contractor, as certified by the Engineer on completion of a stage, for a length, number or area as specified, and valued in accordance with the proportion of the Contract price assigned to each item and its stage and payment procedure in Lumpsum price schedule and contract price weightages. 2. The Contractor shall base their claim for interim payment for the stages completed till the end of the month for which the payment is claimed, valued in accordance with para 1 supported with necessary particulars and documents in accordance with this

	<p>Agreement.</p> <p>3. Any reduction in the Contract Price arising out of Change of scope or the works withdrawn, as the case may be, shall not affect the amount payable for the items or stage payments thereof which are not affected by such change of scope or withdrawal. The parties further agree that the adjustments arising out of the aforesaid modifications shall be carried out in a manner that the impact of such modifications is restricted to the said change of scope or withdrawal, as the case may be, and does not alter the payments due for and in respect of items or stage payments which do form part of such change of scope or withdrawal.</p> <p>4. Stage payment statement for works</p> <p>The Contractor shall submit a statement (the stage payment Statement) in 3 copies, by the 7th (seventh) day of a month to the Engineer in the prescribed form, showing the amount calculated in accordance with Para 3 above to which the Contractor considers itself entitled for the completed stage(s) of Works. The Stage Payment Statement shall be accompanied with the progress reports and any other supporting documents. The Contractor shall not submit any claim for payment of incomplete stages of work. In the event that there is no claim for a month in accordance with the provisions of this Para 4, the Contractor shall submit a nil claim to the Engineer.</p> <p>5. Stage Payment for Works</p> <ol style="list-style-type: none"> i. Deleted. ii. Deleted. iii. In cases where there is a difference of opinion as to the value of any stage, the opinion of the Engineer shall prevail and Interim payments shall be made to the Contractor on this basis; provided that the foregoing shall be without prejudice to the Contractor's right to raise a Dispute. iv. The Engineer may, for reasons to be recorded, withhold from payment: <ol style="list-style-type: none"> (a) the estimated value of work or obligation that the Contractor has failed to perform in accordance with this Agreement and in respect of which the Engineer had notified the Contractor; and (b) the estimated cost of rectification of any Works which have not been constructed in accordance with this Agreement. v. Payment by the Employer shall not be deemed to indicate the Employer's acceptance, approval, consent or satisfaction with the work done. vi. In the event the amounts released by the Employer under para 5 (i) exceed the amount finally determined by the Engineer pursuant to para 5 (ii) to para 5 (iv), the difference thereof shall be accounted for in the next IPC. <p>Time of Payment</p> <p>The Employer shall pay to the Contractor any amount due under any payment certificate issued by the Engineer in accordance with the provision of the contract.</p> <p>37.1 Application for Interim Payment Certificates</p> <p>Payments shall be adjusted for deductions for advance payments other than recoveries in terms of contract and taxes, at source as applicable under law. The Consultant shall be</p>
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liable to pay liquidated damages for shortfall in progress. Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

The Consultant shall submit a Statement in six copies to the Engineer in accordance with the payment procedure specified by the Engineer, after the end of each month, in a form approved by the Engineer, showing in detail the amounts to which the Consultant considers himself to be entitled, together with supporting documents which shall include the report on the progress during this month in accordance with New-Clause 4.39/PCC [Progress Reports] and Record Measurement Sheets.

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Consultant's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 34.7/PCC [Adjustments for Changes in Legislation] and Sub-Clause PVC/Contract Data [Adjustments for Changes in Cost];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Contract Data to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Contract Data;
- (d) Any amounts to be added and deducted for the advance payments and repayments in accordance with sub clause 42.0/PCC [Advance Payment];
- (e) any amounts to be added and deducted for Materials in accordance with New-Clause 13/PCC [Materials intended for the Works];
- (f) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 4.1/SCC [Claims, Disputes and Arbitration]; and
- (g) the deduction of amounts certified in all previous Payment Certificates.
- (h) for invoicing as per GST Laws, the estimated contract value of the Works executed in terms of (a) above and any amounts added or deducted as per (b), l to (g) above is to be broken up in two components i.e. (i) the base amount excluding GST (ii) GST component (calculated at the rate for works contract service as per GST Laws).
- (i) Statement of interim payments certificates should be submitted by the Consultant to the Engineer by the 7th day of each month for the work executed upto the end of the previous month.
- (j) An amount to be deducted for the payments to be made to different Departments towards payments liable to be made by the Consultant

37.2 Schedule of Payments

If the Contract includes a schedule of payments specifying the installments in which the Contract Price will be paid, then unless otherwise stated in this schedule:

- (a) the installments quoted in this schedule of payments shall be the estimated contract

values for the purposes of sub-paragraph (a) of Sub-Clause 37.1/PCC [Application for Interim Payment Certificates];

- (b) New-Clause 13/PCC [Provisional payment against material at site] shall not apply; and
- (c) if these installments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than that on which this schedule of payments was based, then the Engineer may proceed in accordance with New-Clause 3.5/PCC [Determinations] to agree or determine revised installments, which shall take account of the extent to which progress is less than that on which the installments were previously based.

If the Contract does not include a schedule of payments, the Consultant shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

37.3 Issue of Interim Payment Certificates

No amount will be certified or paid until the employer has received and approved the performance security. Thereafter, within 10 (ten) days of receipt of the bill from the consultant, the Engineer/Employer shall broadly determine the amount due to the consultant releasing 80% of the amount. After preliminary scrutiny and certifications by the Engineer/Employer, Payment of 80% of the certified net payment due (after recoveries and deductions) will be made by the Employer within 10 working days of receiving a statement and supporting documents from the Employer.

The remaining 20% of the bill shall be recommended by the Engineer after detail scrutiny and subsequent comments within 30 days of receipt of the bill from the consultant. After the submission of the bill from the Engineer to the Employer, remaining 20% amount of the bill shall be released within 15 working days by the Employer. Any discrepancy shall be rectified in the next payment to the consultant.

However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue the Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Contract Data. In this event, the Engineer shall give notice to the Consultant accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

- (a) if anything supplied or work done by the Consultant is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Consultant was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction.

37.4 Payment

	<p>The Employer shall pay to the Consultant:</p> <p>(a) the first installment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with New-Clause 4.19/PCC [Performance Security] and Sub-Clause 42.0/PCC [Advance Payment], whichever is later;</p> <p>(b) (i) After preliminary scrutiny and certifications by the Engineer, payment of 80% of the certified net payment due (after recoveries and deductions), shall be made by the Employer within 10 days of receiving a statement and supporting documents by the Engineer subject to the condition that last interim payment certificate has been settled after detailed check. In the event of the Consultant submitting bills based on false measurements, Project Director should issue a written warning to him to the effect that the facility of 80% payment without detailed check will be withdrawn in future. If the Consultant repeats the misconduct this facility should be withdrawn.</p> <p>(ii) The amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents. Any discrepancy shall be rectified in the next payment to the Consultant; and</p> <p>(c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate or, the undisputed amount shown in the Final Statement, within 56 days after the date of notification of the suspension.</p> <p>Payment of the amount due, unless specified in the Contract Data, shall be made in INR into the bank account, nominated by the Consultant.</p> <p>However, in case of JV, direct payment to individual JV partners shall be made on joint certification (about the net amounts payable to individual partners) by the authorized representative of the JV and concerned respective authorized representative of individual JV partners, after making requisite recoveries/deductions from the gross payment. In case of any dispute regarding the net amounts payable to individual partners, the Engineer shall decide the same on the basis of the execution of items of works under Schedules/Bills indicated in the JV agreement as the responsibility of execution of each JV partner. Payment to individual JV partners shall be treated as payment made to the JV. The said payment shall not alter any obligation of the JV and its individual Partners under the Agreement and their obligations under the agreement shall remain joint and several.</p> <p>A foreign company (either single entity or JV partner), shall have to submit proof of having opened their project office in India before any payment (including advance payment) is released to such a company. The required proof here shall be a copy of the report containing information as per format prescribed by Reserve Bank of India submitted to the Director General of Police (DGP) of the state concerned in which project office has been established.</p> <p>37.5 DELETED</p> <p>37.6 Delayed Payment :</p> <p>If the Consultant does not receive payment in accordance with Sub-Clause 37.4/PCC [Payment], the Consultant shall be entitled to receive interest compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 37.4/PCC [Payment], irrespective (in the</p>
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case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued.

Unless otherwise stated in the Special Conditions of Contract, the interest amount be calculated at the annual rate of 7% (seven percent).

The Consultant shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy, if the Consultant submits the complied (Fulfilled) documents.

37.7 DELETED

37.8 DELETED

37.9 DELETED

37.10 DELETED

37.11 Statement at Completion

Within 84 days after receiving the Taking-Over Certificate for the Works, the Consultant shall submit to the Engineer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 37.7/PCC [Application for Interim Payment Certificates], showing:

- (a) the value of all work done in accordance with the Contract up to the date stated in the Taking- Over Certificate for the Works,
- (b) any further sums which the Consultant considers to be due, and
- (c) an estimate of any other amounts which the Consultant considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Engineer shall then certify in accordance with Sub-Clause 37.3/PCC [Issue of Interim Payment Certificates].

Within 56 days after receiving the Performance Certificate, the Consultant shall submit, to the Engineer, six copies of a draft final statement as per procedure prescribed by the Engineer, with supporting documents showing in detail in a form approved by the Engineer:

37.12 Application for Final Payment Certificate

Within 56 days after receiving the Performance Certificate, the Consultant shall submit, to the Engineer, six copies of a draft final statement as per procedure prescribed by the Engineer, with supporting documents (including Consultant's certificate in terms of Sub-Clause 1.22/SCC showing in detail in a form approved by the Engineer:

- (a) the value of all work done in accordance with the Contract, and
- (b) any further sums which the Consultant considers to be due to him under the Contract or otherwise.

If the Engineer disagrees with or cannot verify any part of the draft final statement, as per procedure prescribed by the Engineer the Consultant shall submit such further

information as the Engineer may reasonably require and shall make such changes in the draft as may be agreed between them. The Consultant shall then prepare and submit to the Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However, if, following discussions between the Engineer and the Consultant and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Consultant) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 4.SCC [Obtaining Dispute Board's Decision] or Sub-Clause 4.2/SCC [Amicable Settlement], the Consultant shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

37.13 Discharge

When submitting the Final Statement, the Consultant shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Consultant under or in connection with the Contract. This discharge may state that it becomes effective when the Consultant has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date

37.14 Issue of Final Payment Certificate

Within 28 days after receiving the Final Statement and discharge in accordance with Sub-Clause 37.12/PCC [Application for Final Payment Certificate] and Sub-Clause 37.13/PCC [Discharge], the Engineer shall issue, to the Employer, the Final Payment Certificate which shall state:

- (a) the amount which he fairly determines is finally due, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Consultant or from the Consultant to the Employer, as the case may be.

If the Consultant has not applied for a Final Payment Certificate in accordance with Sub-Clause 37.12/PCC [Application for Final Payment Certificate] and Sub-Clause 37.13/PCC [Discharge], the Engineer shall request the Consultant to do so. If the Consultant fails to submit an application within a period of 28 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

37.15 Cessation of Employer's Liability

The Employer shall not be liable to the Consultant for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Consultant shall have included an amount expressly for it:

- (a) in the Final Statement and also
- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 37.11/PCC [Statement at Completion].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer

37.16 Currencies of Payment

- a) The Contract Price shall be paid in Indian Rupees (INR).

37.17 Tax Deduction at Source: Tax deductions will be made at source as per statutory requirement from every payment made to the Consultant at rates notified from time to time.

- i. **Income tax deduction:** Income Tax/GST deduction shall be as per law.
ii. **Labour Cess & Royalties:** The labour Cess & Royalties will be deducted as per norms of applicable law from each IPCs and remitted to the respective Authorities

37.18 Production of Vouchers

- a. The Consultant shall, whenever required by the Engineer, produce or cause to be produced for examination by the Engineer, any quotation, invoice, cost or other account books, vouchers, receipts, letters, memoranda or any copy of or extract from any such documents and also furnish information and returns, as may be required, relating to the execution of this Contract or relevant for verifying or ascertaining the cost of execution of this Contract or ascertaining the Materials supplied by the Consultant are in accordance with the Specifications laid down in the Contract. The Engineer's decision on the question of relevancy of any documents, information or returns shall be final and binding on the parties
- b. If any part or item of the Work is allowed to be carried out by a Sub-Consultant, assignee or any subsidiary or allied firm, the Engineer shall have power to secure the books of such Sub-Consultant, assignee or any subsidiary or allied firm through the Consultant, and shall have power to examine and inspect the same. The above obligations are without prejudice to the obligations of the Consultant under any statute, rules or orders.

37.19 Withholding and Lien For Sums Claimed

- (i) The Employer shall have lien on and over all materials of every description, tools, tackles, plant, equipment or any amount due and/or that may become due and payable to the Consultant under the Contract, and / or on and over the deposit of Performance Security or other amount or amounts made under the Contract and which may become payable to the Consultant. Employer may exercise a general lien also.
- (ii) And further, unless the Consultant pays and clears immediately on demand any claim of the Employer, the Employer shall at all times be entitled to deduct the amount of the said claim from the amount, securities and / or deposits which may have become or will become payable to the Consultant under the existing contract, or under any other Contract or transaction whatsoever between the Employer and the Consultant even if the matter stands referred to Arbitration. The Consultant shall have no claim for any interest or damage whatsoever in respect of any amounts withheld or treated as withheld under the lien referred to above and duly notified as such to the Consultant

	<p>37.20 Signature on Receipts for Payments</p> <p>Every receipt of payment to Consultant including refund of the Performance Security shall be signed by the person authorized to do so on his behalf. In the event of death of any of the Consultant's partners in case the Consultant is a partnership firm, during the currency of the Contract, it is hereby expressly agreed that every receipt by any one of surviving Consultant's partners, shall, if so signed as aforesaid, be a good and sufficient discharge as aforesaid, provided that nothing in this Clause shall be deemed to prejudice or affect any claim, which the Employer may hereafter have against the legal representatives of any Consultant's partner so dying, for or in respect of breach of any of the conditions of the Contract. Provided also that nothing contained in this clause shall be deemed to prejudice or affect the respective rights and obligations of the Consultant's partners, or of the legal heirs / representatives of any deceased Consultant / partner interest</p> <p>37.21 Post Payment Audit</p> <p>It is an agreed term of the Contract, that the Employer reserves to himself 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 Consultant for the refund of any excess amount paid to him, if as a result of such examination, any over-payment to him is discovered to have been made in respect of any work done or alleged to have been done by the Consultant, under the Contract. If any under-payment is discovered, the same shall be paid by the Employer to the Consultant. Such payments or recoveries, however, shall not carry any interest.</p> <p>37.22 Recovery of money due to the Employer</p> <p>All damages (including, without limitation, liquidated damages), costs, charges, expenses, debts, or sums for which the Consultant is liable to the Employer under any provision of the Contract may be deducted by the Employer from amount due to the Consultant under the Contract including, without limitation, and the Employer shall have the power to recover any balance not so deducted from amount due to the Consultant under any other contract between the Employer and the Consultant</p> <p>When the Consultant has assigned to a third party the right to receive amount due, or, to become due, under the Contract to the Consultant or charged such amount in favour of a third party, the Employer's right to deduct damages (including without limitation liquidated damages), costs, charges, expenses, debts or sums for which the Consultant is liable to the Employer from amount due to the Consultant under the Contract shall be limited to the right expressed above.</p>
<p>Clause-38/CC</p>	<p>The clause 38 of CC is substituted with the following para. DELETED</p>
<p>Clause 40/CC</p>	<p>The following paras are added to the Existing CC Clauses.</p> <p>40.1 The Contract Price</p> <p>Unless otherwise stated in the Special Conditions of Contract:</p> <p>(a) the Contract Price shall be agreed or determined under Clause 34.3/PCC [Payment for Variation] and be subject to adjustments in accordance with the Contract;</p> <p>(b) the Consultant shall pay all taxes, duties and fees required to be paid by him under</p>

	<p>the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in Sub-Clause 34.7/PCC [Adjustments for Changes in Legislation];</p> <p>(c) any quantities which may be set out in the Price schedule or other Schedule are estimated quantities and are not to be taken as the actual and final quantities:</p> <p>(i) of the Works which the Consultant is required to execute, or</p> <p>(ii) for the purposes of New-Clause 7/PCC [Measurement and Evaluation]; and</p> <p>(d) the Consultant shall submit to the Engineer, within 28 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules, if applicable. The Engineer may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.</p> <p>(e) It may be noted that in the event of the Consultant not making the due payments stated in sub-clause (b) above, and the concerned party puts up a claim with the Employer / Engineer, then the Employer / Engineer may make such payments and deduct the same from the sums due to the Consultant.</p> <p>Change in the Applicable law related to Taxes and duties.</p> <p>If, after the date of this Contract, there is any change in the applicable law in the Client's country with respect to taxes and duties which increases or decreases the cost incurred by the Consultant in performing the Services, then the remuneration and reimbursable expenses otherwise payable to the Consultant under this Contract shall be increased or decreased accordingly by agreement between the Parties hereto, and corresponding adjustments shall be made to the contract price.</p> <p>The accepted contract value shall be adjusted to take into account any increase or decrease in cost after the date of submission of proposal from:</p> <p>a. a change in the Laws of India including introduction of new laws and repeal or modification of existing laws; or</p> <p>b. in the judicial or official governmental interpretation of such laws of India; or</p> <p>c. the commencement of any Indian law which has not entered into effect until the date of submission of proposal; or</p> <p>d. any change in the rates of any of the Indian taxes that have direct effect on the contract</p> <p>If as a result of change in law, interpretation or rates of taxes defined above, Consultant benefits from any reduction in cost for the execution of the Contract, save and except as expressly provided for in this clause or in accordance with the provisions of the Contract, Consultant shall within 28 days from the date he becomes reasonably aware of such reduction in cost, notify Employer of such reduction in cost and the contract price shall be adjusted accordingly as mentioned above.</p>
Clause 42/CC	DELETED

<p>Clause 46/CC</p>	<p>The clause 46 of CC replaced with the following paras.</p> <p>Employer Taking Over</p> <p>46.1 Taking Over of the Works and Sections</p> <p>The Employer shall take over the design Works within after issuing a certificate of Completion. Except as stated in Sub-Clause 30.5/PCC [Failure to Pass Tests on Completion], the Works shall be taken over by the Employer/Railway when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 26.4/PCC [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.</p> <p>The Consultant may apply by notice to the Engineer for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Consultant's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Consultant may similarly apply for a Taking-Over Certificate for each Section.</p> <p>In case the works are to be taken over in accordance with sub-clause 30.6/PCC, the completed works shall be taken over by the K-RIDE with the procedure specified by the Engineer.</p> <p>The Engineer shall, within 28 days after receiving the Consultant's application:</p> <p>(a) issue the Taking-Over Certificate to the Consultant, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or</p> <p>(b) reject the application, giving reasons and specifying the work required to be done by the Consultant to enable the Taking-Over Certificate to be issued. The Consultant shall then complete this work before issuing a further notice under this Sub-Clause.</p> <p>If the Engineer fails either to issue the Taking-Over Certificate or to reject the Consultant's application within the period of 28 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.</p> <p>46.2 DELETED</p> <p>46.3 DELETED</p> <p>46.4 DELETED</p>
<p>Clause-49/CC</p>	<p>The following paras are added to the existing CC Clauses.</p> <p>TERMINATION BY EMPLOYER</p> <p>49.1 Notice to Correct/Notice of Termination</p> <p>If the Consultant fails to carry out any obligation under the Contract as mentioned below, but not limited to the obligations mentioned herein below, the Engineer/ Employer may serve the Consultant with a 14 days' notice in writing calling upon the Consultant to make good the failure and to remedy it. If the Consultant;</p>

	<p>(a) fails to comply with New-Clause 4.19/PCC [Performance Security],</p> <p>(b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,</p> <p>(c) without reasonable excuse fails to:</p> <ul style="list-style-type: none"> (i) proceed with the Works in accordance with Clause 26/CC/PCC [Commencement, Delays and Suspension], or (ii) comply with a notice issued under New-Clause 5.5 [Rejection] or New-Clause 5.6/PCC [Remedial Work], within 28 days after receiving it, or (iii) adhere to the agreed programme of work / activity on the critical path, by a margin of 10% of the stipulated period, or (iv) take steps to deploy competent and adequate number of personnel, and equipment to achieve progress as per agreed programme or (v) adhere to the instructions of Engineers/Employer persistently or (vi) comply any provision of the contract or (vii) provide the Engineer/Employer or their representative proper facilities for inspecting the works or any part thereof as required, under New-Clause 5.3/PCC (Inspection) and New-clause 5.4/PCC (Testing). <p>(d) subcontracts the whole or major part of the Works or assigns the Contract without prior written consent of the Employer.,</p> <p>If the Consultant does not, within 14 days of receipt of notice under this sub-clause, proceed to make good his default in so far as the same is capable of being made good and carry on the work of complying with such direction as contained in the notice under sub clause 49.6/PCC to the entire satisfaction of the Engineer/Employer, the Employer shall be entitled to take action under sub-clause 49.6/PCC, 49.7/PCC below,</p> <p>In case of Consultant's repeated failure to adhere to the agreed program, and whereas the Consultant has been served with a Notice to Correct under Clause 49.6 of PCC, if the Consultant approaches K-RIDE with a revised program with specific monthly physical and financial targets along with the proposal to deploy matching inputs in the form of manpower and other resources to the satisfaction of the Employer, then the Employer may consider whether to proceed with termination of the contract under Clause 49.7/PCC or to continue with the contract. -However, the request to continue with the contract shall only be considered if the Consultant supports his earnestness to adhere to the revised program by submitting additional Performance Security in the form of Bank Guarantee(s) of specified number and value as decided by the Employer (total value of which will not exceed 10% of the contract price). The encashment of these additional Bank Guarantee(s) shall be linked with the non-achievement of agreed physical/financial targets agreed upon by the Consultant and the Employer.</p> <p>In case the Consultant's failure is limited to only some of the works, and in response to Notice to Correct under Clause 49.6 of PCC, the Consultant approaches the Employer that such works may be offloaded from him and got executed through another agency and additional cost incurred, if any, should be recovered from his dues, the Employer, on being convinced that the anticipated additional cost for such works will not be substantial</p>
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and can be recovered from the dues of the Consultant and that such offloading will help in improving the overall progress of the project, may agree to such offloading without any repercussion on the performance security and/or additional bank guarantees, if any, submitted by the Consultant. However, the Employer will not be under any compulsion to agree to such a request. The Consultant shall be informed of the LOA issued to other agency(ies) for such works.

In case the Consultant does not approach the employer for offloading but the Employer is convinced that:

- (i) offloading of some works will help in improving the progress of the project;
- (ii) termination/part termination of the contract at this stage will not be in the interest of the project;
- (iii) the anticipated additional cost for such works will not be substantial and can be recovered from the dues of the Consultant;

The Employer may issue 7 days' notice to the Consultant stating the resources required to be deployed against each work. If the Consultant fails to deploy the required resources as indicated in the notice, the employer shall offload such works and proceed with getting the works executed through other agency(ies). The Consultant shall be informed of the LOA issued to other agency(ies) for such works.

Offloading under the sub clause 49.6/PCC shall be without any repercussion on the performance security and/or additional bank guarantees, if any, submitted by the Consultant. -The Consultant would have no future claim on this account and the extra expenditure so incurred, if any, by the Employer in getting the offloaded work done, shall be recovered from subsequent payment certificates or any other dues of the Consultant

49.2 Termination by Employer

The Employer shall be entitled to terminate the Contract as a whole or any part or parts (as may be specified in the Notice of Termination under any of the above Sub-Clause issue) if the Consultant:

- (a) fails to comply with the directions contained in the notice under Sub-Clause 49.6/PCC [Notice to Correct/ Notice of Termination],
- (b) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against it by Court or Statutory Authority him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
- (c) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:
 - (i) for doing or forbearing to do any action in relation to the Contract, or
 - (ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,

or if any of the Consultant's Personnel, agents or Sub Consultants gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph I. However, lawful inducements and rewards to Consultant's Personnel

shall not entitle termination:

- (d) a resolution for winding up of the Consultant is passed, or any petition for winding up of the Consultant is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof or the Consultant is ordered to be wound up by a court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Consultant are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Consultant under this Agreement; and provided that:
 - (i) the amalgamated or reconstructed entity has the capability and experience necessary for the performance of its obligations under this Agreement; and
 - (ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and has a credit worthiness at least as good as that of the Consultant as at the Appointed Date;
- (e) failure to complete the Punch List items within the periods stipulated.
- (f) the Consultant fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Authority's Engineer;
- (g) the Consultant creates any Encumbrance in breach of this Agreement;
- (h) the Consultant has failed to fulfil any obligation, for which failure Termination has been specified in this Agreement;
- (i) the Consultant commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or on the Authority.

In any of these events or circumstances, the Employer may, by Notice Terminate the contract with immediate effect.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Consultant shall remove all his plants and machinery from the site then leave the Site and deliver any required Goods, all Consultants' Documents, and other design documents made by or for him, to the Engineer within 7 days from the issue of Notice of Termination, failing which Delay Damages as prescribed for delay in completion of works shall be imposed as per provision of clause 26.8/PCC However, the Consultant shall use his best efforts to comply immediately with any reasonable instructions included in the notice of Termination (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Consultant's Documents and other design documents made by or on behalf of the Consultant for completing the work.

49.3 Valuation at Date of Termination

As soon as practicable after a notice of termination under Sub-Clause 49.7/PCC

[Termination by Employer] has taken effect, the Engineer shall proceed in accordance with Sub-Clause 3.5/PCC [Determinations] to agree or determine the value of the Works, Goods and Consultant's Documents, and any other sums due to the Consultant for work executed in accordance with the Contract. For this purpose, the Consultant shall be notified the date for witnessing of measurements and handing over of the materials for which Consultant has already been paid. In case the Consultant fails to attend or send a representative even after such notice, the Engineer shall export proceed with measurements of the works executed and taking over of plants and materials etc. for which payment has already been made to the Consultant, which shall be treated as final.

49.4 Payment after Termination

After a notice of termination under Sub-Clause 49.7/PCC [Termination by Employer] has taken effect, the Employer may:

- (a) proceed in accordance with New-Clause 2.4/PCC [Employer's Claims],
- (b) encash the Performance Guarantee and forfeit the Performance Security:
 - i. In full including additional Performance Guarantee amount if any taken in terms of ITT and not due for release on the date of issue of termination letter, in case of termination of the contract as a whole; or
 - ii. in part/parts proportionate to the contract price of the bill/schedule to which the terminated part of work belongs i.e.

$P = (A \times B) \div C$ where,

P = Proportionate Bank Guarantee Amount

A = Contract Price of the particular bill/schedule to which the terminated part of work belongs

B = Performance Guarantee amount in terms of CC New- clause 4.19/PCC

C = Total Contract Price

Plus, additional Performance Guarantee amount if any taken in terms of ITT and not due for release on the date of issue of termination letter against that particular bill/Schedule to which the terminated part of the work belongs in case of termination in part/parts.

- (c) release any payment due to the Consultant for works executed prior to termination and evaluation under clause 49.8/PCC (valuation at date of termination, however, if by this time the Consultant has failed to make a payment due to the Employer, the same will be deducted from the payment due and any balance remaining shall then be paid to the Consultant.)

49.5- Employer's Entitlement to Termination for Convenience

The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Consultant. The termination shall take effect 28 days after the later of the dates on which the Consultant receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another Consultant or to avoid a termination of the Contract by the Consultant.

After this termination, the Consultant shall proceed in accordance with the relevant clause and shall be paid in accordance with New-Clause 8/PCC [Payment and Release in case of Optional Termination].

49.6.1. Requirements after Termination

Upon Termination of this Agreement in accordance with the provisions of this clause 49, the Consultant shall comply with and conform to the following:

- (a) deliver to the Authority all Plant and Materials which shall have become the property of the Authority under this clause 49;
- (b) deliver all relevant records, reports, Intellectual Property and other licenses pertaining to the Works, other design documents and in case of Termination occurring after the Provisional Certificate has been issued, the "as built" Drawings for the Works;
- (c) transfer and/or deliver all Applicable Permits to the Authority to the extent permissible under Applicable Laws; and
- (d) vacate the Site immediately.

49.6.2 Other rights and obligations of the Parties

Upon Termination for any reason whatsoever

- (a) property and ownership in all Materials, Plant and Works and the Railway Project shall, as between the Consultant and the Authority, vest in the Authority in whole, free from any and all Encumbrances; provided that the foregoing shall be without prejudice to Clause 49.11.3;
- (b) risk of loss or damage to any Materials, Plant or Works and the care and custody thereof shall pass from the Consultant to the Authority; and
- (c) the Authority shall be entitled to restrain the Consultant and any person claiming through or under the Agreement from entering upon the Site or any part of the Project except for taking possession of materials, stores, implements, construction plants and equipment of the Consultant, which have not been vested in the Authority in accordance with the provisions of this Agreement.

49.6.3 Payment on Termination

After termination under Sub-Clause-49.7/PCC the Employer shall return the Performance Security, and shall pay the Consultant an amount calculated and certified in accordance with the following conditions:

- A. The value of approved materials actually brought to the site and reasonably required to execute the works during next three months, as per approved programme, and
- B. Value of work completed up to date by the Consultant at rates specified in the Contract, after taking into account any deductions, retentions, and setoff.
- C. DELETED

The payment as above are full compensation for termination under this clause and the Consultant has no claim for damages or other entitlements whether under the contract or otherwise.

In case of termination/ foreclosure of the Contract under whatsoever circumstances, any

	<p>remaining tools, plants, equipment's and surplus materials of the Employer with the Consultant will be returned to the Employer at Employer's depot at the Consultant's cost. In case of the failure of the Consultant to do so, the Employer will be entitled to recover their cost from the Consultant from the amount becoming due to the Consultant or from any other amount due in any other contracts.</p> <p>The decision of the Engineer of the amount to be recovered will be final decision and full credit at rates initially charged to the Consultant shall be allowed for such materials. Similarly, the Employer shall be entitled to recover the cost of the unreturned material, plants, equipment and tools from the Consultant, where such material have been supplied free of cost and plants, equipment and tools, free of cost or on lease basis to the Consultant as stipulated in the Contract.</p> <p>49.8 Survival</p> <p>Termination of this Contract</p> <ol style="list-style-type: none"> a. shall not relieve the Consultant or the Employer of any obligations already incurred hereunder which expressly or by implication survives Termination hereof and b. except as otherwise provided in any provision of this Contract expressly limiting the liability of either party, shall not relieve either party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination <p>49.9 Corrupt or Fraudulent Practices</p> <p>If the Employer determines that the Consultant has engaged in corrupt, fraudulent, collusive or coercive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days' notice to the Consultant, terminate the Consultant's employment under the Contract and expel him from the Site, and the provisions of Clause 49 CC/PCC shall apply as if such expulsion had been made under Sub-Clause 49.7/PCC.</p> <p>For the purposes of this Sub-Clause:</p> <ol style="list-style-type: none"> (a) "corrupt practice" means the offering, giving, receiving of soliciting of anything of "value to influence the action of a public official in the procurement process or in the Contract execution. (b) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of the Contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition (c) "collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the Employer, designed to establish bid prices at artificial, non-competitive levels. (d) "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract.
Clause 1/SCC	The following New-paras are added to the Existing SCC Clauses.

1.1 Engagement of Staff and Labour

Except as otherwise stated in the Specification, the Consultant shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.

The Consultant is encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from sources within the Country.

1.2 Rates of Wages and Conditions of Labour

The Consultant shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Consultant shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Consultant.

If the Employer is obliged to provide amenities or arrange payment of wages to contract labour employed by the Consultant either directly or through sub-Consultant under the contract on account of failures on the part the Consultant to provide the amenities and / or arrange payment of wages to the contract labour as required of him under the provision of the applicable acts / rules made there under, the Engineer/Employer shall be at liberty without prejudice to the rights of Engineer/Employer under Section 20(2) and 21(4) of the Contract Labour (Regulation and Abolition) Act 1970 to recover the whole or part of the expenditure so incurred on the wages so paid by the Engineer/Employer/Railway from the security deposit and/or from any sum or sums due to the Consultant whether under this contract or any other contract.

The Consultant shall inform the Consultant's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances, and any benefits as are subject to taxes under the Laws of the Country for the time being in force, and the Consultant shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

The Consultant shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there-under, regulation or notifications including amendment. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/ regulations including amendments, if any, on the part of the Consultant, the Engineer/Employer shall have the right to deduct any money due to the Consultant including his amount of performance security. The Employer/Engineer shall also have right to recover from the Consultant any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Consultant and the Sub-Consultant in no case shall be treated as the employees of the Employer at any point of time.

The Consultant shall duly comply with the provisions of the Apprentices Act 1961 (III of 1961), the rules made there under and the orders that may be issued from time to time under the said Act and the said Rules and on his failure or neglect to do so he shall be subject to all liabilities provide by the said Act and said Rules.

The Consultant and his Sub Consultants shall comply with all applicable Labour Laws, and

should not employ Child Labour for construction and maintenance activities. The Consultant shall provide appropriate facilities for children in Construction Camp sites.

The Consultants shall not differentiate wages between men and women for work of equal value

1.3 Persons in the Service of Employer

The Consultant shall not recruit, or attempt to recruit, staff and labour from amongst persons in the service of the Employer or the Engineer

1.4 Labour Laws

The Consultant shall comply with all the relevant Labour Laws applicable to the Consultant's Personnel, including Laws relating to their employment, health, safety, welfare, immigration, and emigration, and shall allow them all their legal rights. The Consultant and his sub-Consultants shall be responsible to ensure at his own cost, compliance 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 sub-Consultants or petty Consultants on the works which shall include all the acts listed in Appendix – 1 but not limited to the same.

The Consultant shall require his employees to obey all applicable Laws, including those concerning safety at work.

During continuance of the Contract, the Consultant and his Sub-Consultants shall abide at all times by all existing labor enactments and rules made thereunder, regulations, notifications and bye laws of the State or Central government or local authority and any other labor laws (including rules), regulations, bye laws that may be passed or notification that may be issued under any labor law in future either by the State or the Central Government or the local authority. Salient features of some of the major labor laws that are applicable to construction industry are given in Appendix 1 to these Conditions of Contract

1.5 Working Hours

No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the Contract Data, unless:

- (a) otherwise stated in the Contract,
- (b) the Engineer gives consent, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Consultant shall immediately advise the Engineer.
- (d) The Consultant, generally will have to carry out work during night hours also and in shifts unless specifically provided otherwise in the Contract. No increase in rates or extra payments shall be admissible for night work.

1.6 Facilities for Staff and Labour

Except as otherwise stated in the Specification, the Consultant shall provide and maintain all necessary accommodation and welfare facilities for the Consultant's Personnel. The Consultant shall also provide facilities for the Employer's Personnel as stated in the Specification.

The Consultant shall not permit any of the Consultant's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

1.7 Health and Safety

The Consultant shall at all times take all reasonable precautions to maintain the health and safety of the Consultant's Personnel. In collaboration with local health authorities, the Consultant shall ensure that medical staff, first aid facilities, sick bay and a standing arrangement for ambulance service are available at a phone call at all times at the Site and at any accommodation for Consultant's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

In the event of any outbreak of illness of an epidemic nature, the Consultant shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same. The Consultant shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Consultant shall provide whatever is required by this person to exercise this responsibility and authority.

The Consultant shall send, to the Engineer, details of any accident as soon as practicable after its occurrence.

HIV-AIDS Prevention. The Consultant shall conduct an HIV-AIDS awareness programme via an approved service provider, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Consultant's Personnel and the local community, to promote early diagnosis and to assist affected individuals

Epidemics

In the event of any outbreak of illness of an epidemic nature, the Consultant shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same.

Records of Safety and Health

The Consultant shall maintain such records and make such reports concerning safety, health and welfare of persons and damage to property as the Engineer may from time to time prescribe.

Submission of Returns

The Consultant shall be responsible for timely submission of all returns and statements to the concerned authorities in full compliance of all rules, bye-laws and regulations for the time being in force.

1.8 DELETED

1.9 Consultant's Personnel

The Consultant's Personnel shall be appropriately qualified, skilled and experienced in their

respective trades or occupations. The Engineer may require the Consultant to remove (or cause to be removed) any person employed on the Site or Works, including the Consultant's Representative if applicable, who:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

If the Engineer asks the Consultant to remove a person who is a member of the Consultant's staff or his work force stating the reasons, the Consultant shall ensure that the person leaves the Site within seven (7) days and has no further connection with the work in the Contract. The replacement person shall be appointed within fourteen (14) days of the notification by the Engineer.

A reasonable proportion of the Consultant's Superintending Staff shall have a working knowledge of the English language or the Consultant shall have available on site at all times a sufficient number of competent interpreters to ensure the proper transmission of instructions and information. If appropriate, the Consultant shall then appoint (or cause to be appointed) a suitable replacement person

1.10 Records of Consultant's Personnel and Equipment

The Consultant shall submit, to the Engineer, details showing the number of each class of Consultant's Personnel and of each type of Consultant's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Consultant has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works

1.11 Disorderly Conduct

The Consultant shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Consultant's Personnel, and to preserve peace and protection of persons and property on and near the Site

1.12 Foreign Personnel

The Consultant may bring in to the country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Consultant shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, without any financial liability, if requested by the Consultant, use his best endeavours in a timely and expeditious manner to assist the Consultant in obtaining any local, state, national, or government permission required for bringing in the Consultant's personnel.

The Consultant shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Consultant shall similarly be responsible for making the appropriate arrangements for their return or burial. Consultant shall also be responsible for any legal liabilities during their stay.

1.13 Supply of Foodstuffs

	<p>The Consultant shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Consultant's Personnel for the purposes of or in connection with the Contract</p> <p>1.14 Supply of Water</p> <p>The Consultant shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Consultant's Personnel</p> <p>1.15 Measures against Insect and Pest Nuisance</p> <p>The Consultant shall at all times take the necessary precautions to protect the Consultant's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Consultant shall comply with all the regulations of the local health authorities, including use of appropriate insecticide</p> <p>The Consultant shall provide his staff and labour with suitable prophylactics for the prevention of malaria, and take steps to prevent the formation of stagnant pools of water. He shall comply with all the regulations of the local health authorities in these respects and shall in particular arrange to spray thoroughly with approved insecticides all buildings erected on the site such treatment shall be carried out at least once a year or as instructed by the Engineer. The Consultant shall warn his staff and labour of the dangers of diseases like Malaria, Filariasis and other contagious diseases etc. and also regarding, Scorpions, Snakes, Wild animals etc. and preventive actions required to be taken by the labour and staff.</p> <p>1.16 Alcoholic Liquor or Drugs</p> <p>The Consultant shall not, otherwise than in accordance with the Laws of the Country, import, sell, give barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter or disposal thereto by Consultant's Personnel.</p> <p>1.17 Arms and Ammunition</p> <p>The Consultant shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Consultant's Personnel to do so.</p> <p>1.18 Festivals and Religious Customs</p> <p>The Consultant shall respect the Country's recognized festivals, days of rest and religious or other customs</p> <p>1.19 Funeral Arrangements</p> <p>The Consultant shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of his local employees who may die while engaged upon the Works.</p> <p>1.20 Prohibition of Forced or Compulsory Labour</p> <p>The Consultant shall not employ "forced or compulsory labour" in any form. "Forced or compulsory labour" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.</p> <p>1.21 Prohibition of Harmful Child Labour</p> <p>The Consultant shall not employ any child to perform any work that is economically</p>
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	<p>exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.</p> <p>1.22 Employment Records of Workers</p> <p>The Consultant shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and shall be available for inspection by the Engineer during normal working hours. These records shall be included in the details to be submitted by the Consultant under Sub-Clause 1.10/SCC of PCC [Records of Consultant's Personnel and Equipment].</p>
Clause Price adjustment/ Contract data	PRICE VARIATION CLAUSE(PVC) - DELETED
New Clause-1.1	<p>Assignment</p> <p>Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:</p> <ol style="list-style-type: none"> i. may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and ii. may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.
New Clause -1.2	<p>Care and Supply of Documents</p> <p>The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Consultant, who may make or request further copies at the cost of the Consultant.</p> <p>Each of the Consultant's Documents shall be in the custody and care of the Consultant, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Consultant shall supply to the Engineer six copies of each of the Consultant's Documents.</p> <p>The Consultant shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Consultant's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.</p> <p>If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.</p>
New Clause-1.3	DELETED
New Clause-1.4	<p>Employer's Use of Consultant's Documents</p> <p>As between the Parties, the Consultant shall retain the copyright and other intellectual property rights in the Consultant's Documents and other design documents made by (or on behalf of) the Consultant.</p> <p>The Consultant shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the</p>

	<p>Consultant's Documents, including making and using modifications of them. This licence shall:</p> <ul style="list-style-type: none"> (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works, (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Consultant's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and (c) in the case of Consultant's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Consultant. <p>The Consultant's Documents and other design documents made by (or on behalf of) the Consultant shall not, without the Consultant's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.</p>
New Clause-1.5	<p>Consultant's Use of Employer's Documents</p> <p>As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Employer. The Consultant may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Consultant, except as necessary for the purposes of the Contract.</p>
New Clause-1.6	<p>Confidential Details</p> <p>The Consultant shall disclose all such confidential and other information as the Engineer may reasonably require in order to verify the Consultant's compliance with the Contract.</p> <p>The Consultant shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out the Consultant's obligations under the Contract or to comply with applicable Laws. The Consultant shall not publish or disclose any particulars of the Works without the previous agreement of the Employer. However, the Consultant shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.</p>
New Clause-1.7	<p>Compliance with Laws</p> <p>The Consultant shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Special Conditions of Contract:</p> <ul style="list-style-type: none"> (a) the Employer shall have obtained (or shall obtain) the planning, zoning or similar permission for the Railway Electrification Works, and any other permissions described in the Specification as having been (or being) obtained by the Employer; and the Employer shall indemnify and hold the Consultant harmless against and from the consequences of any failure to do so; and (b) the Consultant shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Consultant shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so.

<p>New Clause-1.8</p>	<p>Joint Venture — Joint and Several Liability</p> <p>If the Consultant constitutes (under applicable Laws) a Joint Venture of two or more persons/firms:</p> <ul style="list-style-type: none"> (a) these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract; (b) these persons shall notify the Employer of their leader who shall have authority to bind the Consultant and each of these persons; and (c) the Consultant shall not alter its composition or legal status without the prior consent of the Employer. (d) In the event of default by any partner of Joint Venture, on or after achieving 25% of the financial progress (excluding advance if any) the lead partner or remaining partner(s), in case the defaulting partner is the lead partner, shall notify the Employer within twenty eight (28) days of the occurrence and within Fifty six (56) days of the said notification, the lead partner or remaining partner(s), who are not the defaulting partner, shall assign the works of the defaulting partner, to equally competent party with prior consent of the Employer. For this purpose the term “equally competent party” shall mean as under: “The new JV partner replacing the defaulting partner should meet the EQC requirement of package/combination of packages which was met by the defaulting partner on the basis of which the original tender was awarded.” <p>The replacement of any defaulting partner, with the new partner shall be subject to the condition that the new partner has to submit additional performance security equal to 10% of balance cost of work of the JV partner being replaced. The performance security submitted by the defaulting partner shall also continue with K-RIDE till satisfactory completion of the work.</p> <ul style="list-style-type: none"> (e) Notwithstanding the consent of the Employer for change in composition or legal status of the Joint Venture the partners shall continue to be jointly and severally liable to the Employer. (f) The Joint Venture shall enter into a Joint Venture Agreement incorporating the provisions of sub-paras (a) to I based upon the form annexed to the Conditions of Contract. The JV agreement shall indicate precisely the specific role of all members of the JV in respect of planning, design, construction equipment, key personnel, work execution, and financing of the project. The authority to sign the JV Agreement shall be evidenced by approved legal instruments. <p>Notwithstanding the contents of the sub-clauses above, if the performance of any JV partner is not found satisfactory by the Employer, in respect of the responsibilities assigned to him as per JV agreement which is a part of this agreement, the Employer may issue notice of such default to the said JV partner or the JV (depending upon reasons of default) and declare the said JV partner or the JV as Poor Performer. The issue of such notice shall automatically debar the JV partner or JV as the case may be from participating in any K-RIDE tender from the date of issue of notice of default.</p>
<p>New Clause-1.9</p>	<p>Inspections by the Employer</p> <p>The Consultant shall permit the Employer and/or persons appointed by the Employer to inspect</p>

	the Site and/or the Consultant's records relating to the performance of the Contract.
New Clause-1.10	<p>Bidder's Credentials:</p> <p>The bidder shall submit an affidavit on a stamp paper to the effect that all the documents submitted by her along with her bid are true. This shall be mandatory all bids. The bid shall be summarily rejected if the bidder fails to submit this undertaking along with the bid.</p> <p>After opening the financial bid, the tender committee shall verify the credentials of the bidder who is declared as the lowest bidder (L1) for their authenticity. In case the credentials of L1 are not found to be in order, The bid shall be treated as technically unresponsive and thus invalid. The process shall be repeated for the next higher bidder till the valid L1 is established. If any document (or copy thereof) submitted by a bidder is found to be false/forged:</p> <ol style="list-style-type: none"> a) The bidder/each partner/member of the bidding firm shall be liable to legal actions apart from punitive actions, as decided by competent authority of K-RIDE. In such an eventuality. The bid shall also be summarily rejected. b) If the contract has already been awarded, or Letter of Acceptance (LoA) has been issued and in the event of any failure to comply with the above, the contract shall be terminated, irrespective of the stage of progress in execution of the work. In such an eventuality, Security Deposit (SD), performance Guarantee (PG) and partial/full payments otherwise due to the Consultant, in respect of the partial/full work executed by the Consultant, shall be forfeited by the K-RIDE. c) Other punitive actions, like banning the bidder and partners/members of the bidding firm for future dealings with K-RIDE/Government of India/ Government of Karnataka may also be taken.
	2. THE EMPLOYER
New clause 2.0	<p>Obligations of the Employer</p> <ol style="list-style-type: none"> 1. The Employer shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement or arising hereunder. 2. The Employer shall be responsible for the correctness of the Scope of the Project, Project Facilities, Specifications and Standards and the criteria for Testing of the completed Works. 3. DELETED 4. In the event that <ol style="list-style-type: none"> (i) DELETED (ii) the delay has not occurred as a result of breach of this Agreement by the Consultant or due to Force Majeure, the Employer shall extend Time Extension in accordance with the provisions. 5. The Employer agrees to provide support to the Consultant and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this

	<p>Agreement and Applicable Laws, the following:</p> <ul style="list-style-type: none"> a) upon written request from the Consultant, and subject to the Consultant complying with Applicable Laws, provide reasonable support to the Consultant in procuring Applicable Permits required from any Government Instrumentality for implementation of the Project; b) DELETED c) DELETED d) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement; e) support, cooperate with and facilitate the Consultant in the implementation of the Project in accordance with the provisions of this Agreement; and <p>6. DELETED</p> <p>7. DELETED</p>
New Clause-2.1	<p>Permits, Licenses or Approvals</p> <p>The Employer shall (where he is in a position to do so) provide reasonable assistance to the Consultant at the request of the Consultant:</p> <ul style="list-style-type: none"> (a) by obtaining copies of the Laws of the Country which are relevant to the Contract but are not readily available, and (b) for the Consultant's applications for any permits, licences or approvals required by the Laws of the Country: <ul style="list-style-type: none"> (i) which the Consultant is required to obtain under New-Clause 1.7/PCC [Compliance with Laws], (ii) DELETED (iii) DELETED
New Clause -2.2	<p>Employer's Personnel</p> <p>The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other Consultants on the Site:</p> <ul style="list-style-type: none"> (a) co-operate with the Consultant's efforts under New-Clause 4.24/PCC [Co-operation], and (b) take actions similar to those which the Consultant is required to take under subparagraphs (a), (b) and (c) of New-Clause 4.26/PCC [Safety Procedures] and under New-Clause 4.36/PCC [Protection of the Environment].
New Clause-2.3	<p>Employer's Financial Arrangements</p> <p>The Employer has sourced the funds to finance the project</p> <p>Assignment by the Employer</p> <p>The Employer shall be fully entitled without the consent of the Consultant, to assign the benefit</p>

	of the Contract or any part thereof and any interest therein or there under to any third party.
New Clause-2.4	<p>Employer's Claims</p> <p>If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Employer or the Engineer shall give notice and particulars to the Consultant. However, notice is not required for payments due under New-Clause 4.37/PCC [Electricity, Water and Gas], under New-Clause 4.38/PCC [Employer's Equipment and Free-Issue Material], or for other services requested by the Consultant.</p> <p>The notice shall be given as soon as practicable after the Employer became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.</p> <p>The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The Engineer shall then proceed in accordance with New-Clause 3.5/PCC [Determinations] to agree or determine (i) the amount (if any) which the Employer is entitled to be paid by the Consultant, and/or (ii) the extension (if any) of the Defects Notification Period in accordance with New-Clause 6.12/PCC Extension of Defects Notification Period].</p> <p>This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Consultant, in accordance with this Sub-Clause.</p>
	3.THE ENGINEER
New Clause-3.1	<p>Engineer's Duties and Authority</p> <p>The Employer shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.</p> <p>The Engineer shall have no authority to amend the Contract.</p> <p>The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract.</p> <p>However, the Engineer shall obtain the specific approval of the Employer before taking action under the-following Sub-Clauses of these Conditions:</p> <ol style="list-style-type: none"> a) New-Clause 4.30/PCC [Unforeseeable Physical Conditions] Agreeing or determining an extension of time and/or additional cost. b) Sub-Clause 26.5/PCC [Extension of Time for Completion] Agreeing or determining extension of time. c) New-Clause 6.9/PCC [Performance Certificate] Issue of Performance Certificate. d) Sub-Clause 34. Except, <ol style="list-style-type: none"> (i) in an emergency situation as determined by the Engineer and as amplified in sub-paras (h) and (i) below, or

	<p style="text-align: center;"><u>(ii)</u> DELETED</p> <p>e) Sub-Clause 34.2 – Procedure for change of scope: Approving a proposal for Variation submitted by the Consultant in accordance with Sub Clause 34.1-</p> <p>f) Sub-Clause 37.16 -Payment in applicable Currencies: Specifying the amount payable in each of the applicable currencies for a Variation.</p> <p>g) Clause 4.1/SCC: Consultant Claims for extension of time and/or additional payment.</p> <p>h) Providing Power block or Traffic block to the Consultant.</p> <p>i) DELETED</p> <p>Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Consultant of any of his duties and responsibility under the Contract, instruct the Consultant to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Consultant shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 34/PCC and shall notify the Consultant accordingly, with a copy to the Employer.</p> <p>j) In case the emergency mentioned in above Sub-paras occurs on account of failure of Consultant, by way of not adhering to the approved scheme of work or not taking adequate safety precautions or by any other reason attributable to the Consultant, then no additional amounts shall be paid to the Consultant for attending to such emergencies and the Consultant shall be liable for Employer's claims.</p> <p>k) Clause 7/PCC regarding deployment of Sub-Consultants.</p>
<p>New Clause-3.2</p>	<p>Delegation by the Engineer</p> <p>The Engineer may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties.</p> <p>However, unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with New-Clause 3.5/PCC [Determinations].</p> <p>Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 3/CC [Law and Language].</p> <p>Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Consultant to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:</p> <p>(a) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or Materials;</p>

	(b) if the Consultant questions any determination or instruction of an assistant, the Consultant may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.
New Clause-3.3	<p>Instructions of the Engineer</p> <p>The Engineer may issue to the Consultant (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Consultant shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause34/PCC [Variations and Adjustments] shall apply.</p> <p>The Consultant shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant,</p> <ul style="list-style-type: none"> (a) gives an oral instruction and (b) receives a written confirmation of the instruction, from (or on behalf of) the Consultant, within two working days after giving the instruction, and (c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation, (d) then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).
New Clause-3.4	<p>Replacement of the Engineer</p> <p>Notwithstanding New-Clause 3.1/PCC, if the Employer intends to replace the Engineer, the Employer shall, not less than 21 days before the intended date of replacement, give notice to the Consultant of the name, address and relevant experience of the replacement Engineer.</p>
New Clause-3.5	<p>Determinations</p> <p>Whenever these Conditions provide that the Engineer shall proceed in accordance with this New-Clause 3.5/PCC to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.</p> <p>The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination unless and until revised under Clause 4/SCC [Claims, Disputes and Arbitration].</p>
	4.THE CONSULTANT
New Clause-4.1	<p>Consultant's General Obligations</p> <p>4.1.1 Subject to and on the terms and conditions of this Agreement, the Consultant shall undertake the survey, investigation, design, engineering, procurement, and construction of the Railway Project and observe, fulfil, comply with and perform all its obligations set out in this Agreement or arising hereunder.</p> <p>4.1.2 The Consultant shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement.</p>

	<p>4.1.3 Save and except as otherwise provided in this Agreement or Applicable Laws, as the case may be, the Consultant shall, in discharge of all its obligations under this Agreement, conform with and adhere to Good Industry Practice at all times.</p> <p>4.1.4 DELETED</p> <p>4.1.5 DELETED</p> <p>4.1.6 The Consultant shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:</p> <ul style="list-style-type: none"> (a) make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details as may be required for obtaining Applicable Permits and obtain and keep in force and effect such Applicable Permits in conformity with Applicable Laws; (b) procure, as required, the appropriate proprietary rights, licences, agreements and permissions for Materials, methods, processes, know-how and systems used or incorporated into the Railway Project; (c) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Sub-Consultants in connection with the performance of its obligations under this Agreement; (d) ensure and procure that its Sub-Consultants comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Consultant's obligations under this Agreement; (e) always act in a manner consistent with the provisions of this Agreement and not cause or fail to do any act, deed or thing, whether intentionally or otherwise, which may in any manner be violative of any of the provisions of this Agreement; (f) support, cooperate with and facilitate the Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement; (g) ensure that the Consultant and its Sub-Consultants comply with the safety and welfare measures for labour in accordance with Applicable Laws and Good Industry Practice; (h) keep, on the Site, a copy of Agreement, publications named in Agreement, the Drawings, Documents relating to the Project, Change of Scope Orders and other communications sent under Agreement, and provide access to all these documents at all reasonable times to the Authority's Engineer and its Mobilization personnel; (i) cooperate with other Consultants employed by the Authority and with personnel of any other public authority; and (j) not interfere unnecessarily or improperly with the convenience of the public, or the access to and use and occupation of all the existing facilities within the Right of Way, irrespective of whether they are public or in the possession of the Authority or of others. (k) to provide reasoned comments on any information relating to the Consultant's activities under or pursuant to the agreement, which the Authority may publish. (l) The Consultant shall undertake all necessary superintendence to plan, arrange, direct, manage, inspect and test the Works
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	<p>4.1.7 Electricity, water and other services</p> <p>The Consultant shall be responsible for procuring of all power, water and other services that it may require for consultant's office purpose.</p> <p>4.1.8 Unforeseeable difficulties</p> <p>Except as otherwise specified in the Agreement:</p> <ul style="list-style-type: none"> (a) the Consultant accepts complete responsibility for having foreseen all difficulties and costs of successfully completing the Works; (b) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs; and (c) the Scheduled Completion Date shall not be adjusted to take account of any unforeseen difficulties or costs. <p>For the purposes of this Clause, unforeseeable difficulties include physical conditions like man-made or natural physical conditions including sub-surface and hydrological conditions which the Consultant encounters at the Site during execution of the Works.</p> <p>4.1.9 DELETED</p>
New Clause-4.2	DELETED.
New Clause-4.3	DELETED.
New Clause-4.4	DELETED.
New Clause-4.5	DELETED.
New Clause-4.6	DELETED.
New Clause-4.7	DELETED.
New Clause-4.8	DELETED.
New Clause-4.9	DELETED.
New Clause-4.10	DELETED.
New Clause-4.11	<p>Publicity</p> <p>The Consultant shall not publish or otherwise circulate alone or in conjunction with any other person, any articles, photographs or other materials relating to the Contract, the Site, the Works, the Project or any part thereof, nor impart to the press, or any radio or television network any information relating thereto, nor allow any representative of the media access to the Site, Consultant's Works Areas, or off-Site place of manufacture, or storage except with the permission, in writing, of the Employer. The Consultant shall ensure that his sub-Consultants of any tier shall be bound by a like obligation and shall, if so required by the Employer, enforce the same at his own expense. The provisions of this Sub-Clause shall not exempt the Consultant from complying with any statutory provision in regard to the taking and publication of photographs.</p>
New Clause-4.12	<p>Disclosure of Relationship</p> <p>If the Consultant or any partner of the Consultant or Director of the Consultant's company is closely related to any of the Officers of the Employer or the Engineer, or alternatively, if any close relative of an officer of the Employer or the Engineer has financial interest / stake in the Consultant's firm, the same shall be disclosed by the Consultant at the time of filing his tender. Any failure to disclose the interest involved, shall entitle the Employer to rescind the Contract, without payment of any compensation to the Consultant. The Consultant shall note that he is</p>

	prohibited from developing such interest during the Contract period.
New Clause-4.13	DELETED.
New Clause-4.14	<p>In pursuance with this policy, the Employer</p> <p>a. Will reject the Tender for the Work or rescind the Contract, if the Employer determines that the Tenderer/Consultant has engaged in corrupt or fraudulent practices.</p> <p>b. Will declare a Tenderer/Consultant ineligible, either indefinitely or for a minimum period of 2 years from the date of identification of such prohibited conduct, to be awarded a Contract/s if the Employer at any time determines that the Consultant has engaged in corrupt or fraudulent practices in competing for, or in executing the Contract.</p>
New Clause-4.15	<p>Compensation to Consultant on rescission of Contract under this clause</p> <p>In the event of rescission of Contract, the Consultant shall not be entitled to any compensation whatsoever, except for the work done up to the date of rescission.</p>
New Clause-4.16	<p>Quality Assurance</p> <p>Unless otherwise stated in Special Conditions of Contract and/or Employer's Requirement, the Consultant shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. Such system shall be in accordance with the details stated in the Contract. Compliance with the quality assurance system shall not relieve the Consultant of his duties, obligations or responsibilities.</p> <p>Details of all procedure and compliance documents shall be submitted to the Engineer for his consent before each execution stage is commenced</p>
New Clause-4.17	<p>Work by Persons Other than Consultant</p> <p>I. If the Consultant shall fail to carry out any work required under the Contract or refuse to comply with any instruction or order given by the Engineer in accordance with the Contract within a reasonable time, the Engineer may give the Consultant 14 days' notice in writing to carry out such work or comply with such instruction.</p> <p>II. If the Consultant fails to comply with such notice, the Employer shall be entitled to carry out such work or instruction by his own workmen or by other Consultants in whatever manner the Engineer decides, be it single Tender or limited Tender or open Tender or on entrustment basis without any right of appeal by the Consultant.</p> <p>III. However, in case of emergencies/urgencies/affecting safety the period of 14 days' notice shall be 24hours notice in writing. The Classification of work as emergencies/urgencies/affecting safety is the prerogative of Engineer and his decision is final and binding on the Consultant. Without prejudice to any other right or remedy, all additional expenditure properly incurred by the Employer in having such work or instruction carried out shall be recoverable by the Employer from the Consultant.</p> <p>IV. If by reason of any accident or failure or other event occurring to, in, or in connection with the Works any remedial or other work shall, in the opinion of the Engineer, be urgently necessary and the Consultant is unable or unwilling at once to do such remedial or other work, the Engineer may authorize the carrying out of such remedial or other work by a person other than the Consultant.</p> <p>V. If the remedial or other work so authorized by the Engineer is work, which, in the Engineer's opinion, the Consultant was liable to do under the Contract; all expenses properly incurred in carrying out the same shall be recoverable by the Employer from the Consultant. Provided that the Engineer shall, as soon after the occurrence of any such emergency as may be reasonably practicable, notify the Consultant thereof in writing.</p>

<p>New Clause-4.18</p>	<p>Confidentiality of Information</p> <p>I. The Consultant shall not use or divulge, except for the purpose of the Contract or with the written permission of the Employer, any information relating to the Works or the Project provided in the Contract or otherwise provided by the Employer, or the Engineer. The Consultant shall ensure that his sub-Consultants of any tier shall be bound by a like confidentiality undertaking.</p> <p>II. The Employer, Engineer and any third party to whom an assignment has been made in accordance with New-clause 2.3/PCC may use any information provided by the Consultant in accordance with the Contract. The Employer shall use reasonable endeavours to ensure that the Engineer and any third party referred to in aforesaid New-clause 2.3/PCC shall not; divulge such information except for any purpose connected with the Contract.</p> <p>On completion of the works, the Consultant shall arrange to furnish to the Employer two (2) bound sets of all "As Erected" drawings for every component of the Works at his own cost, all such copies being on Polyester film of quality to be approved by the Engineer or his Representative. The Taking – over Certificate of the Works, as per the provisions of Clause 46.1/PCC herein, shall not be issued by the Engineer in the event of the Consultant's failure to furnish the aforesaid "As Erected" drawings for the entire works.</p> <p>If the Contract specifies that the Consultant shall design any part of the Railway Electrification Works, then unless otherwise stated in the Special Conditions of Contract:</p> <p>(a) the Consultant shall submit to the Engineer the Consultant's Documents for this part in accordance with the procedures specified in the Contract;</p> <p>(b) these Consultant's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 3/CC [Law and Language], and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each Party's designs;</p> <p>(c) the Consultant shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and</p> <p>(d) prior to the commencement of the Tests on Completion, the Consultant shall submit to the Engineer the "as-built" documents and operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 46.1/PCC [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.</p>
<p>New Clause-4.19</p>	<p>Performance Security</p> <p>The Consultant shall obtain (at his cost) a Performance Security and an additional Performance</p>

Security, if any in terms of ITB 35.5, for proper performance of the contract, for the amount, currencies and validity period for Performance Security stated in the Contract Data. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.

The Consultant shall deliver the Performance Security and additional Performance Security, if any, to the Employer within 20 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security/additional Performance Security shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer and shall be in the form as given in Section 10 (Formats) or in another form specifically approved by the Employer.

The procedure for obtaining Performance Guarantee is outlined below:

The successful bidder shall have to submit a Performance Guarantee (PG) within 20 (Twenty) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 20 (Twenty) 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 20(Twenty) days, i.e., from 21st 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 Railway, submission of PG can be accepted on the next working day.

In all other cases, if the Consultant 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 railway shall be entitled to forfeit Earnest Money Deposit and other dues payable against that contract. In case a tenderer has not submitted Earnest Money Deposit on the strength of their registration as a Start-up recognized by Department for promotion of industry and internal trade (DPIIT) under Ministry of Commerce and Industry, DPIIT shall be informed to this effect. The failed Consultant shall be debarred from participating in re-tender for that work.

The Performance Security/additional Performance Security shall be, at the Consultant's option, in any of the following forms:

- (i) An unconditional Bank Guarantee in the prescribed format
- (ii) A Pay Order / Demand Draft drawn on a Scheduled / Nationalized Bank in India in favour of "Rail Infrastructure Development Company (Karnataka) Ltd" payable at Bangalore.
- (iii) FDR in favour of "Rail Infrastructure Development Company (Karnataka) Ltd." (free from any encumbrance).
- (iv) A online bank transfer to K-RIDE account.

The Bank Guarantee shall be from a bank having minimum net-worth of over INR 500 million from the specified banks as under:

- (i) a Schedule Bank in India, or
- (ii) a Foreign Bank having their operations in India, or
- (iii) a Foreign Bank which does not have operations in India is required to provide a counter-guarantee by State Bank of India,

The Scheduled Bank is suing the Bank Guarantee must be on "Structured Financial Messaging System-(SFMS)"-platform. A separate advice of the BG shall be invariable be sent by the issuing bank to the Employer's Bank through SFMS and only after this the BG shall become

operative and acceptable to the Employer.

The Issuing Bank shall send the SFMS to:

Beneficiary: Rail Infrastructure Development Company (Karnataka) Ltd. (K-RIDE)Bank

Name: Canara Bank

Branch: Prime Corporate Branch

Account No. 0430201012110

IFSC Code: CNRB0002636

In case the Consultant is a JV; "the Performance Security/additional Performance Security, if any in terms of ITB 35.5, shall be submitted by each JV Partner separately on behalf of the JV in favour of K-RIDE in proportion of their respective percentage share specified in the JV Agreement. The additional Performance Security shall be submitted by the partner(s) responsible for execution of schedule(s) (as per JV agreement) against which additional Performance Security is required to be submitted in terms of ITB 35.5.

However, Submission of Performance Guarantee Security by individual partners on behalf of the JV shall in no way dilute their Joint & Several responsibility. The Employer shall be entitled to recover the amount of Bank Guarantees individually and / or from all the Partners jointly at its discretion."

The Consultant shall ensure that the Performance Security/additional Performance Security is valid and enforceable until the Consultant has executed and completed the Works and remedied defects, if any. If the Consultant does not complete the work for any reasons whatsoever, the terms of the Performance Security/ additional Performance Security specify its expiry date, and the Consultant has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Consultant shall be bound to extend the validity of the Performance Security/additional Performance Security until the Works have been completed and any defects have been remedied.

Failure of the successful Tenderer to furnish the required Performance Security shall be a ground for the annulment of the award of Contract and execution of the Tender Securing Declaration.

Release of performance security

- (i) The whole or such portion of the Performance Security amount shall be liable to be forfeited by the Employer at the discretion of the Employer, in the event of any breach of Contract on the part of the Consultant.
- (ii) After completion of the entire Work, the Performance Security shall be released to the Consultant, on issue of last Taking Over Certificate if more than one Certificate exist, by the Engineer, the release of Performance Security shall not relieve the Consultant from his obligations and liabilities, to make good that may be detected during the Defects Liability Period.

The Guarantees shall be unconditional and irrevocable. The Employer shall return the Performance Security to the Consultant within 21 days after receiving a copy of the Performance Certificate or passing of the Final Payment Certificate whichever is later. However, on completion of specified section(s) and successful passage of defect liability period for such section(s) along with execution of any leftover works at the time of completion of such section(s), the Consultant shall be entitled for release of 90% of the proportionate Performance

Security calculated as specified in Contract Data subject to the condition that Engineer certifies that no recoveries are pending in the contract. In case Engineer points out amount to be recovered then the Consultant shall be entitled for release of 90% of the proportionate Performance Security calculated as specified in Contract Data minus the amount to be recovered.

The Employer shall return additional Performance Security submitted in terms of ITB 35.5 as per the following;

- (a) If the Consultant submits an application stating that all the works against the particular schedule(s)/bill(s) for which additional Performance Security was submitted in terms of ITB 35.5 have been completed in all respect, then the Employer, on being satisfied with the claim of the Consultant, shall return the full additional Performance Security against the particular schedule(s). Decision of the Employer regarding completion of works against a particular schedule/bill shall be final and binding on the Consultant.
- (b) If the Consultant submits an application stating that majority of the works (physical progress being not less than 90%) against the particular schedule(s)/bill(s) for which additional Performance Security was submitted in terms of ITB 35.5 have been completed and execution of balance works is held up for reasons not attributable to the Consultant, then the Employer, on being satisfied with the claim of the Consultant, shall return 75% of the amount of additional Performance Security against the particular schedule(s). The balance amount of additional Performance Security shall however be returned only after completion of the works against the particular schedule(s)/bill(s) for which additional Performance Security was submitted in terms of ITB 35.5, in all respects to the satisfaction of the Employer. Decision of the Employer regarding completion of works against a particular schedule/bill shall be final and binding on the Consultant.

Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation or as a result of a Variation amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Consultant shall at the Engineer's request promptly submit Performance Guarantee @ 10% of the increased amount over the original contract price in a specific currency. On the other hand if the value of contract price decreases by more than 25% of the original contract price payable in a specific currency, Performance Guarantee @ 10% of the decrease in contract price from the original contract price in a specific currency shall be returned to the Consultant, on his request.

Wherever the contract is terminated under Clause 49.7/PCC, the Performance Guarantee shall be encashed by the Employer:

- i) in full including additional Performance Guarantee amount, if any, taken in terms of clause 25.5 and 29 of ITT and not due for release on the date of issue of termination letter in terms of this clause, in case of termination of the contract as a whole; Or
- ii) at the discretion of the Employer it may be encashed in part/parts proportionate to the Contract price of the bill/schedule to which the terminated part of work belongs i.e., $P=(A \times B) \div C$ where

P=Proportionate Bank Guarantee Amount.

A=Contract price of the particular bill/schedule to which the terminated part of

	<p>work belongs.</p> <p>—B=Performance Guarantee amount in terms of CC New-clause 4.19/PCC</p> <p>—C=Total Contract price.</p> <p>Plus additional performance Guarantee amount, if any, taken in terms of sub clause 25.5 and 29 of ITT and not due for release on the date of issue of termination letter in terms of this clause against this particular bill/schedule to which the terminated part of the work belongs, in case of termination in part/parts.</p> <p>The balance work should be got done separately, and independently by K-RIDE without risk and cost of the original Consultant. The original Consultant shall be debarred from participating in the tender for executing the balance work. If the failed Consultant is a JV or a partnership firm, then every member/partner of such a firm would be debarred from participating in the tender for the balance work either in his/her individual capacity or as a partner of any other JV/partnership firm.</p> <p>In case the Consultant fails to perform the Contract or any JV partner fails to perform its obligations under the JV agreement, which is a part of this agreement, the Employer may issue notice of such default to the said JV partner or the JV (depending upon reasons of default) and declare the said JV partner or the JV as Poor Performer. The issue of such notice shall automatically debar the JV partner or JV, as the case may be, from participating in any K-RIDE tender from the date of issue of notice of default. The relevant performance security including additional performance security, if any, in terms of sub clauses 25.5 and 29 of ITT submitted by the Consultant or submitted on behalf of JV partner to the extent not due for release at the time of contemplation of such action shall be encashed and forfeited either fully or in proportion of the percentage share of that partner in the JV agreement, as the case may be.</p>
<p>New Clause-4.20</p>	<p>Security Deposit: The Security Deposit shall be 5% of the contract value. Security Deposit may be deposited by the Consultant before release of first on account bill in cash or Term Deposit Receipt issued from Scheduled Bank, or may be recovered at the rate defined in this section PCC, the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Consultant, the Employer may retain any amount due for payment to the Consultant on the pending “on account bills” so that the amounts so retained (including amount guaranteed through Performance Security) may not exceed 10% of the total value of the contract. The security deposit may be recovered at the rate 6% of bill amount till the security deposit is recovered.</p> <p>Further, in case of contracts having value equal to or more than ₹ 50 crore (Rs Fifty crore) the Security Deposit may be deposited as Bank Guarantee Bond also, issued by a scheduled bank after execution of contract documents, but before payment of 1st on account bill. Provided further that the validity of Bank Guarantee Bond shall be extended from time to time, depending upon extension of contract granted in terms Clause No 26 of PCC.</p> <p>Further, in case Security Deposit has been submitted as Term Deposit Receipt/Bank Guarantee Bond in full amount, the Bid security by Consultant with his tender will be returned by K-RIDE.</p> <p>Note: After the work is physically completed as certified by competent authority, Security Deposit recovered from the running bills of a Consultant can be returned to him, if he so desires, in lieu of Term Deposit Receipt/irrevocable Bank Guarantee for equivalent amount</p>

	<p>from Scheduled Bank, to be submitted by him.</p> <p>4.2.b(i) Refund of Security Deposit: Security Deposit mentioned in clause above shall be returned to the Consultant along with or after, the following:</p> <ul style="list-style-type: none"> (a) Final Payment of the Contract and (b) Execution of Final Supplementary Agreement or Certification by Engineer that K-RIDE has No Claim on Consultant and (c) Maintenance Certificate issued, on expiry of the maintenance period. <p>4.2.b(ii) Forfeiture of Security Deposit: Whenever the contract is rescinded as a whole under clause 49 of CC/PCC, the Security Deposit already with K-RIDE under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 49 of CC/PCC, the Security Deposit shall not be forfeited.</p> <p>4.2.(c) No interest shall be payable upon the Bid Security and Security Deposit or amounts payable to the Consultant under the Contract, but Government Securities deposited in terms of New-Clause 4.19/PCC of this clause will be payable with interest accrued thereon.</p>
<p>New Clause - 4.21</p>	<p>Consultant Representative:</p> <p>The Consultant shall depute his Representative to attend all the review meetings notified by the Engineer.</p> <p>Facilities for and- Co-ordination with Others</p> <p>The Consultant shall not impede and shall afford all necessary facilities, access and/or services to the Employer, Engineer, Designated Consultants, utility undertakings, other relevant authorities and other Consultants (whether employed by the Employer or not) who are carrying out on, or in the vicinity of, the Site, works not included in the Contract but forming part of the Project:</p> <ul style="list-style-type: none"> A. The Consultant shall take all reasonable steps to ensure that the Works are co-ordinated and integrated with the Design, manufacture, installation execution and testing of such other works and shall in particular (but without limitation): <ul style="list-style-type: none"> (i) comply with any direction which the Engineer may give for the integration of the Design with the design of any other part of the Project; (ii) consult, liaise and co-operate with those responsible for carrying out such other works, including where necessary, in the preparation of the respective designs, the preparation of co-ordinated programmes, method statements, co-ordination drawings and specifications together with arrangements of service priorities and zoning; B. The Consultant shall undertake Design co-ordination with other Consultants who are carrying out works forming part of the Project as described in the Employer's Requirements. At the end of each such co-ordination period, the Consultant and the other Consultant with whose works the interface period refers shall jointly state in writing that their design co-ordination activities are complete and that their respective designs are integrated and can be finalised without interference with each other's designs or the

	<p>designs with which their designs have already been integrated.</p> <p>A copy of this joint written statement shall be provided to the Engineer within 7 days of the end of the said design co-ordination period. Unless and until copies of all relevant and necessary design co-ordination statements have been submitted to the Engineer, the Engineer shall be entitled to suspend any review or further review of the Consultant's or the other Consultant's design submissions. Such suspension shall not be grounds for the Consultant to claim nor shall be entitled to receive an extension of time or additional payments.</p> <p>C. The Consultant shall finalize within the Site, staging, storage and unloading areas for the use of Designated Contractors, if any, who are undertaking escalators, lifts, traction & power supply installation works, etc. Separate locations shall be provided for each such Contractor. The exact size and location of these staging, storage and unloading areas, and the commencement date shall be co-ordinated and agreed during the design interface period with each Designated Contractor.</p> <p>D. DELETED</p> <p>E. The Consultant shall in accordance with the requirements of the Engineer co-ordinate his own Works with that of Designated Consultants through Co-ordinated Installation Programme (CIP) stated in the Employer's Requirements, or as the Engineer may require, and shall afford the Designated Consultants all reasonable opportunities for carrying out their works.</p> <p>F. The Consultant shall afford all reasonable opportunities, for carrying out their work, to other Consultants employed by the Employer and their workmen respectively and the workmen of the Employer who may be engaged on or near the Site of any work, ancillary to the Works, but, not included in the Contract and shall not cause them inconvenience.</p> <p>G. DELETED</p> <p>H. DELETED</p>
New Clause-4.22	DELETED
New Clause-4.23	DELETED
New Clause-4.24	<p>Co-operation</p> <p>The Consultant shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:</p> <ul style="list-style-type: none"> (a) the Employer's Personnel, (b) any other Consultants employed by the Employer, and (c) the personnel of any legally constituted public authorities, <p>who may be employed in the execution on or near the Site of any work not included in the Contract.</p> <p>Any such instruction shall constitute a Variation if and to the extent that it causes the Consultant to incur Unforeseeable Cost. Services for these personnel and other Consultants may include the use of Consultant's Equipment, Temporary Works or access arrangements which are the responsibility of the Consultant.</p> <p>If, under the Contract, the Employer is required to give to the Consultant possession of any foundation, structure, plant or means of access in accordance with Consultant's Documents,</p>

	the Consultant shall submit such documents to the Engineer in the time and manner stated in the Specification.
New Clause-4.25	DELETED
New Clause-4.26	<p>Safety Procedures</p> <p>–The Consultant shall follow the provisions laid down in Chapter 1. (Safety and Security) of Section 8 and shall:</p> <ol style="list-style-type: none"> (a) comply with all applicable safety regulations, (b) take care for the safety of all persons entitled to be on the Site, (c) use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons, (d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 46/PCC [Employer's Taking Over], and (e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land. <p>Additional Safety Precautions</p> <ol style="list-style-type: none"> (1) The Consultant shall comply with all the precautions as required for the safety of the workmen by the I.L.O Convention No.62 as far as they are applicable to the Contract. The Consultant shall provide all necessary safety appliances; such as safety goggles, helmets, masks, etc- to the workmen and the staff. (2) Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except for such short period work as can be done safely from ladders. When a ladder is used, an extra labourer shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable foot-holds and hand-holds shall be provided on the ladder, which shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal in 1 vertical). (3) DELETED (4) DELETED (5) Every opening in the floor of a structure or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of one metre. (6) Safe means of access and egress shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 metres in length. The width between side rails in a rung ladder shall in no case be less than 30 cm for ladders up to and including 3 metres in length. For longer ladders the width shall be increased at least 6 mm for each additional 30 cm of length. Spacing of steps shall be uniform and shall not exceed 30 cm. (7) Adequate precautions shall be taken to prevent danger from electrical equipment.

Adequate safety measures shall be taken when any work is undertaken near any live highly charged electric wire. Necessary shutdown may be arranged, where and whenever essential. All rules in force in this connection shall be fully complied with. The Consultant shall ensure all precautions to prevent any accidents due to electrocution or otherwise.

- (8) No materials on any of the sites shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The Consultant shall provide all necessary fencing and lights to protect the public from accidents and shall be bound to bear the expenses of defending every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the Consultant be paid to compromise any claim by any such person.

(9) DELETED

- (10) Demolition-: Before any demolition work -is commenced and also during the process of the work-:

- (a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- (b) No electric cable or apparatus, which is liable to be a source of danger other than a cable or apparatus used by -operators, shall -remain electrically charged:
- (c) All practical steps shall be taken to prevent danger to persons employed by the Employer, from risk of fire or explosion, or flooding. No floor, roof or other part of a building shall be so overloaded with debris or materials as to render it unsafe.

- (11) All necessary personal safety equipment as considered adequate by the Engineer shall be available for use of persons employed on the site and maintained in a condition suitable for immediate use; and the Consultant shall take adequate steps to ensure proper use of such equipment by those concerned.

- (a) Workers employed on mixing asphaltic materials, cement, lime mortars, concrete etc. shall be provided with protective footwear and protective goggles.
- (b) Those engaged in handling any material, which is injurious to the eyes, shall be provided with protective goggles.
- (c) Those engaged in welding works shall be provided with welder's protective eye-shield.
- (d) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

(e) DELETED

	<p>(f) The Consultant shall not employ men below the age of 18 years and women, on the work of painting with products containing lead in any form. Whenever men above the age of 18 years are employed on the work of lead painting, the following precautions shall be taken</p> <p>(g) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.</p> <p>(h) Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.</p> <p>(i) Overalls shall be supplied by the Consultant to workmen and adequate facilities shall be provided to enable workers to wash during and at the close of any day's work.</p> <p>(12) When work is performed near any place where there is risk of drowning all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt first aid treatment of all injuries likely to be sustained during the course of the work.</p> <p>(13) Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following:</p> <p>a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good working order, be regularly inspected and properly maintained.</p> <p>b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from defects</p> <p>c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 shall be in charge of any hoisting machine including scaffold equipment. Only trained men over the age of 21 shall be permitted to give signals to such plant and appliance operators.</p> <p>d) For every hoisting machine and every chain hook, shackle, swivel and pulley block used in hoisting, lowering or as means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with safe working load. In case of a hoisting machine or a variable safe working load, each safe working load and conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to in the paragraph above shall be loaded beyond safe working load except for the purpose of testing.</p> <p>e) In case of the Employer's machine, safe working load shall be notified by the Engineer or his Representative. As regards Consultant's machines, the Consultant shall notify safe working load of each machine to the Engineer or his Representative, whenever he</p>
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	<p>brings it to the site of work and get it verified by him.</p> <p>(14) Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards; hoisting appliances shall be provided with such means as will reduce the risk of accident during descent of load to the minimum. Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already utilized, insulating mats, working apparel such as gloves, sleeves and boots, as may be necessary, shall be provided. Workers shall not wear any rings, watches and carry keys or other materials which are good conductor of electricity.</p> <p>(15) (All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places of work.</p> <p>(16) These safety provisions shall be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work location. Persons responsible for ensuring compliance with the Safety Code shall be named therein by the Consultant.</p> <p>(17) To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Consultant shall be open to inspection by the Engineer or his Representative.</p> <p>(18) Notwithstanding anything contained in conditions (1) to (17) above, the Consultant shall at its own costs, remain liable to comply with the provisions of all acts, rules, regulations, and bylaws for the time being in force in India and applicable in this matter.</p> <p>(19) For work carried out in the vicinity of any wharf or quay, the Consultant shall abide by all the provisions of the Dock Workers (Safety, Health and Welfare) Scheme, 1961.</p> <p>(20) The Consultant shall at his own expense provide protective safety Equipment like gloves and footwear for all labour engaged on concrete mixing work and all other types of working involving the use of tar, cement, etc. to the satisfaction of the Engineer or his Representative, and on his failure to do so, the employer shall be entitled to provide the same and recover the cost from the Consultant.</p> <p>The Consultant shall be responsible for observance, by the sub-Consultants, of the foregoing provisions.</p> <p>(21) All construction labour at all-time shall use personal protective equipment like, safety shoes, helmets and reflective jackets in all activities at site. This shall be ensured without fail on each work site. Failing to comply with this, provision shall attract penalty of Rs. 500/- per occasion per staff.</p> <p>Notwithstanding with any other provision, the Consultant shall have to pay penalty for damage to Railway cable in terms of clause C 15 of the JPO as given in para 1.2 of Chapter 1. (Safety and Security) of Section 8 and shall also indemnify the Employer</p>
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	<p>against any losses, damages to property or life in terms of para 1.11 and 1.12 of the chapter 1. (Safety and Security) of Section 8).</p>
New Clause-4.27	<p>Quality Assurance</p> <p>The Consultant shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Engineer shall be entitled to audit any aspect of the system.</p> <p>Details of all procedures and compliance documents shall be submitted to the Engineer for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Consultant himself shall be apparent on the document itself.</p> <p>Compliance with the quality assurance system shall not relieve the Consultant of any of his duties, obligations or responsibilities under the Contract.</p> <p>Quality Control</p> <p>Within 28 days of the issue of the Letter of acceptance, the Consultant shall submit to the Engineer, for his consent, his proposed Site Quality Plan based on the Outline Quality Plan and the Employer's Requirements. The quality manual should address the quality system as required by ISO 9001-1991. Any supplement to the Site Quality Plan shall be submitted at least 14 days before commencement of the relevant work.</p> <p>Upon the Engineer notifying his consent to the Site Quality Plan, or any supplement thereto, the Consultant shall, adhere to the principles and procedures contained in such document, except where the Engineer gives his consent to any amended or varied version thereof. The Consultant shall cause any sub-Consultants to adhere to this Plan.</p> <p>The Consultant shall appoint a suitably qualified and experienced person, not otherwise engaged in the performance of the Contract, to act as manager of the quality assurance system and shall provide such other personnel and resources as required to ensure effective operation of the quality assurance system. The said manager shall carry out audits of the application of the quality assurance system, and ensure effective quality control and delivery of quality assurance.</p> <p>The Consultant shall provide all necessary access, assistance and facilities to enable the Engineer to carry out surveillance visits both on and off the Site to verify that the quality assurance system is being properly and fully implemented. No extra payment shall be made in this regard and the cost of the Work under this element shall be deemed to be included in the Contract Price.</p> <p>Quality control records and Documents</p> <p>The Consultant shall hand over to the Authority's Engineer a copy of all its quality control records and documents before the Completion Certificate is issued.</p> <p>Video recording</p> <p>DELETED</p>
New Clause-4.28	DELETED
New Clause-4.29	<p>Sufficiency of the Accepted Contract Amount</p> <p>The Consultant shall be deemed to:</p>

	<p>a) have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and</p> <p>b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in New-Clause 4.28/PCC [Site Data].</p> <p>Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Consultant's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.</p>
New Clause-4.30	DELETED
New Clause-4.31	DELETED
New Clause-4.32	DELETED
New Clause-4.33	DELETED
New Clause-4.34	DELETED
New Clause-4.35	DELETED
New Clause-4.36	<p>Protection of the Environment</p> <p>The Consultant shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.</p> <p>The Consultant shall ensure that emissions, surface discharges and effluent from the Consultant's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.</p>
New Clause-4.37	<p>Electricity, Water and Gas</p> <p>The Consultant shall be responsible for the provision of all power, water and other services he may require.</p>
New Clause-4.38	DELETED
New Clause-4.39	<p>Progress Reports</p> <p>Unless otherwise stated in the Special Conditions of Contract, monthly progress reports shall be prepared by the Consultant and submitted to the Engineer in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.</p> <p>Reporting shall continue until the Consultant has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.</p> <p>Each report shall include:</p> <p>a) Charts and detailed descriptions of progress, including each stage of design (if any), Consultant's Documents,</p> <p>b) Comparisons of actual and planned progress of all activities, with details of any events or</p>

	circumstances which may jeopardise the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.
New Clause-4.40	DELETED
New Clause-4.41	DELETED
New Clause-4.42	<p>Design – General Obligations:</p> <p>Drawings for OHE works:</p> <p>Preliminary Drawings such as ESP/L-Section showing general dimensions & details elaborating the scope of work (not based on detailed design) will be supplied along with the Tender documents.</p> <p>Design, Drawings and Specifications:</p> <p>The Consultant shall Design the Sectioning Diagram, General Power Supply Diagram, pegging plan, Layout plan, OHE profile drawings, Cross Section Drawing etc. required to perform their work and shall get the same and related working drawings approved by the Engineer. The Consultant would supply 2 sets of these drawings to the Engineer for the latter's use. The Consultant would supply 5 sets of As Erected drawings to the Engineer after final adjustment.</p> <p>Shop Drawings - DELETED</p> <p>Approval of Engineer of any such proposal / drawings shall not relieve the Consultant of his responsibility of sufficiency of such works. It shall be the responsibility of the Consultant to promptly bring to the notice of the Engineer any error or discrepancy in the Contract documents and obtains his orders thereon. Only stated dimensions are to be taken and not those obtained from scaling drawings. In case any feature of the work is not fully described and set forth in the Drawings and Specifications, the Consultant shall forthwith apply to the Engineer for further instructions, Drawings or Specifications.</p>
New Clause-4.43	DELETED
	5. PLANT, MATERIALS AND WORKMANSHIP.
New Clause-5.1	DELETED
New Clause-5.2	DELETED
New Clause-5.3	DELETED
New Clause-5.4	DELETED
New Clause-5.5	DELETED
New Clause-5.6	DELETED
New Clause-5.7	DELETED
	6. Defect Liability

New Clause-6.1	DELETED
New Clause 6.2	DELETED
New Clause 6	DELETED
New Clause 6.4	DELETED
New Clause-6.5	DELETED.
New Clause-6.6	DELETED
New Clause-6.7	DELETED
New Clause-6.8	<p>Consultant to search cause</p> <p>6.8.1 The Authority's Engineer may instruct the Consultant to examine the cause of any Defect in the Works or part thereof before the expiry direction of the Defects Liability Period.</p> <p>6.8.2 In the event any Defect identified under Clause 6.8.1 is attributable to the Consultant, the Consultant shall rectify such Defect within the period specified by the Authority's Engineer, and shall bear the cost of the examination and rectification of such Defect.</p> <p>6.8.3 In the event such Defect is not attributable to the Consultant, the Authority's Engineer shall, after due consultation with the Authority and the Consultant, determine the costs incurred by the Consultant on such examination and notify the same to the Consultant, with a copy to the Authority, and the Consultant shall be entitled to payment of such costs by the Authority.</p>
New Clause-6.9	<p>Performance Certificate</p> <p>Performance of the Consultant's obligations shall not be considered to have been completed until the Employer has issued the Performance Certificate to the Consultant, stating the date on which the Consultant completed his obligations under the Contract.</p> <p>The Employer shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Periods, or as soon thereafter as the Consultant has supplied all the Consultant's Documents and completed and tested all the Works, including remedying any defects.</p> <p>Only the Performance Certificate shall be deemed to constitute acceptance of the Works.</p>
New Clause-6.10	<p>Unfulfilled Obligations</p> <p>After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.</p> <p>Emergency defect rectification</p> <p>If any defect or damage is one requiring immediate attention from safety, environmental or</p>

	operational viewpoint, the Engineer has the authority to proceed with rectification in any manner suitable and deduct such sums from the Contract Price
New Clause-6.11	DELETED
New Clause-6.12	DELETED
	7.MEASUREMENT AND EVALUATION
New Clause 7.1	<p>Works to be Measured</p> <p>The Works shall be measured, and valued for payment, in accordance with this Clause.</p> <p>Whenever the Engineer requires any part of the Works to be measured, reasonable notice shall be given to the Consultant's Representative, who shall:</p> <ul style="list-style-type: none"> (a) promptly either attend or send another qualified representative to assist the Engineer in making the measurement, and (b) supply any particulars requested by the Engineer. <p>If the Consultant fails to attend or send a representative, the measurement made by (or on behalf of) the Engineer shall be accepted as accurate.</p> <p>Except as otherwise stated in the Contract, wherever any Railway Electrification works are to be measured from records, these shall be prepared by the Engineer. The Consultant shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Consultant does not attend, the records shall be accepted as accurate.</p> <p>If the Consultant examines and disagrees the records, and/or does not sign them as agreed, then the Consultant shall give notice to the Engineer of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Engineer shall review the records and either confirm or vary them. If the Consultant does not so give notice to the Engineer within 14 days after being requested to examine the records, they shall be accepted as accurate.</p>
New Clause 7.2	<p>Method of Measurement</p> <p>Except as otherwise stated in the Contract and notwithstanding local practice:</p> <ul style="list-style-type: none"> (a) measurement shall be made of the net actual quantity of each item of the Railway Electrification works and (b) the method of measurement shall be in accordance with the Price schedule or other applicable Schedules.
New Clause 7.3	<p>Omissions</p> <p>Whenever the omission of any work form's part (or all) of a Variation, the value of which has not been agreed, if:</p> <ul style="list-style-type: none"> a) the Consultant will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount; b) the omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and c) this cost is not deemed to be included in the evaluation of any substituted work;

	then the Consultant shall give notice to the Engineer accordingly, with supporting particulars. Upon receiving this notice, the Engineer shall proceed in accordance with New-Clause 3.5/PCC [Determinations] to agree or determine this cost, which shall be included in the Contract Price.
New Clause 8	<p>FORCE MAJEURE</p> <p>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 14 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 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 continuous period exceeding 84 days, either party may at its option terminate the contract by giving notice to the other party.</p> <p>Payment and Release in case of Optional Termination</p> <p>Upon such termination, the Engineer shall determine the value of the work done and issue a Payment Certificate which shall include :</p> <ol style="list-style-type: none"> a) The amounts payable for any work carried out for which a price is stated in the contract; b) The Cost of Plant and Materials ordered for the Works which have been delivered to the Consultant, or of which the Consultant is liable to accept delivery; this Plant and materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, the Consultant shall place the same at the Employer's disposal; c) Other Costs or liabilities supported by necessary documentary evidence which in the circumstances were reasonably and necessarily incurred by the Consultant in the expectation of completing the Works as per mutually agreed programme. d) the Cost of removal of Temporary Works and Consultant's Equipment from the Site and the return of these items to the Consultant's works in his country (or to any other destination at no greater cost).
New Clause-9	Defect liability period of 12 months will be applicable for design, drawings and software after commissioning of the project. DLP will be applicable to the design if same design/design with least changes is adopted by the construction contractor. However, the decision of the employer in this regard is final.
New Clause-10	<p>Integrated testing and system commissioning</p> <p>Integrated Testing: Tests on Completion shall also include Integrated Testing. The Consultant</p>

	<p>shall, following satisfactory completion of tests on his works, equipment, sub-systems or system, perform, at the direction of the Engineer, programme of tests to verify and confirm the compatibility and complete performance of his works, equipment, sub-systems or system with the works, equipment, sub-systems or system provided by others.</p> <p>Compilation of Test Results: The results of the Integrated Testing and Commissioning shall be compiled and evaluated by the Engineer and the Consultant</p> <p>Retesting: If the Works, or a part thereof, or a Section, fail to pass the Integrated Testing and Commissioning, the Engineer may order such failed tests to be repeated with the same terms and conditions. If such failure and retesting result from a default of the Consultant and cause the Employer to incur costs, the same shall be recoverable from the Consultant by the Employer, and may be deducted by the Employer from any amount due, or to become due, to the Consultant.</p> <p>Failure to Pass Test: If the Works, or a part thereof, or a Section, fail to pass Integrated Testing and Commissioning and the Consultant in consequence proposes to make any adjustment or modification to the Works or a part thereof, or a section, the Engineer may, with the approval of the Employer, instruct the Consultant to carry out such adjustment or modification, at his own cost and to satisfy the requirements of Integrated Testing and Commissioning within such time as the Employer / Engineer may deem to be reasonable.</p> <p>Statutory Requirements: The Consultant shall carry out all statutory tests and trials, under the supervision of the Engineer, necessary for obtaining sanction of the competent authority for opening the system for public carriage of passengers as mentioned in the Special Conditions of Contract.</p>
<p>New clause-11</p>	<p>Conflict of Interest:</p> <p>The Consultant shall carry out all statutory tests and trials, under the supervision of the Engineer, necessary for obtaining sanction of the competent authority for opening the system for public carriage of passengers as mentioned in the Special Conditions of Contract.</p> <p>Conflict of Interest The remuneration of the Tenderer shall constitute the Tenderer's sole remuneration in connection with this Contract or the Services and, the Tenderers shall not accept for their own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations hereunder, and the Tenderers shall use their best efforts to ensure that any Personnel either of them, similarly shall not receive any such additional remuneration Neither the Tenderer nor the Personnel of either of them shall engage, either directly or indirectly, in any of the following activities:</p> <p>(a) during the term of this Contract, any business or professional activities in India which would conflict with the activities assigned to them under this Contract</p> <p>The tenderer shall not be one of the following:</p> <p>(i) A firm which has been engaged by the Employer to provide consulting services for the preparation related to procurement for or implementation of this project.</p> <p>(ii) Any association/affiliation (inclusive of parent firms) of a firm or an organization mentioned in para (i) above.</p> <p>(iii) A Tenderer who lends, or temporarily seconds its personnel to firms or organizations</p>

	<p>which were engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.</p> <p>Jurisdiction of Court in case of dispute or differences arising on account of this tender: Any suit or application, arising out of any dispute or differences on account of this tender shall be filed in a competent court at Bangalore, Kamataka only and no other court or any other district of the country shall have any jurisdiction in the matter.</p>
New Clause-12	<p>Special/Acceleration Advance</p> <p>Employer at his sole discretion, may provide Interest bearing Special/Acceleration Advance based on the recommendation of the Engineer to expedite works or to bring forward the completion date(s) and on account of immediate additional mobilization to complete balance works as targeted. The maximum cumulative Special/Acceleration Advance shall be 10% of the Accepted contract amount, which shall be released in stages as and when deemed appropriate as decided by the Engineer/Employer. The advance released at a time shall not exceed 2.5% of the Accepted contract amount. The Special Acceleration Advance shall be interest bearing and secured by BG equivalent to 110% of the advance amount.</p> <p>Interest on Advance Payment: At the rate of SBI MCLR+2% interest per annum on reducing balances. The Interest rate is applicable from the date of submission of IPC/ advance request by Consultant.</p>
New Clause-13	Deleted
New Clause-14	Ruling Language- English
New Clause-15	Language for communications- English
New Clause-16	DELETED
New clause-17	<p>Employers' Bank details for Letter of Credit</p> <p>(a) Nodal Branch Canara Bank, MG Road, Bangalore 560001 IFSC Code – CNRB0002636 A/c No - 0430201012110</p> <p>(b) Issuance/ reimbursing branch for LC Shall be indicated later.</p>
New clause-18	<p>18.1 Representations and warranties of the Consultant</p> <p>The Consultant represents and warrants to the Authority that:</p> <p>a) it is duly organised and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to</p>

	<p>carry out the transactions contemplated hereby;</p> <p>b) it has taken all necessary corporate and other actions under Applicable Laws to authorise the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;</p> <p>c) this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;</p> <p>d) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability or responsibility hereunder;</p> <p>e) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;</p> <p>f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum and articles of association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;</p> <p>g) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;</p> <p>h) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;</p> <p>(i) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a material adverse effect on its ability to perform its obligations under this Agreement;</p> <p>(j) no representation or warranty by it contained herein or in any other document furnished by it to the Authority or to any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue or misleading statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;</p> <p>(k) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the contract or entering into this Agreement or for influencing or attempting to influence any officer or</p>
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	<p>employee of the Authority in connection therewith;</p> <p>(l) all information provided by the {selected bidder/ members of the Joint Venture} in response to the tender or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects; and</p> <p>(m) nothing contained in this Agreement shall create any contractual relationship or obligation between the Authority and any Sub-Consultants, designers, consultants or agents of the Consultant.</p> <p>18.2 Representations and warranties of the Employer.</p> <p>The Employer represents and warrants to the Consultant that:</p> <p>a) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement;</p> <p>b) it has taken all necessary actions to authorise the execution, delivery and performance of this Agreement;</p> <p>c) it has the financial standing and capacity to perform its obligations under this Agreement;</p> <p>d) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;</p> <p>e) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Authority's ability to perform its obligations under this Agreement;</p> <p>(f) it has complied with Applicable Laws in all material respects;</p> <p>(g) it has good and valid right to the Site.</p> <p>18.3 Disclosure</p> <p>In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.</p>
<p>New clause-19</p>	<p>Disclaimer</p> <p>19.1 The Consultant acknowledges that prior to the execution of this Agreement, the Consultant has, after a complete and careful examination, made an independent evaluation of the Tender, Scope of the Project, Specifications and Standards, Site, local conditions, physical qualities of ground, subsoil and geology, traffic volumes, suitability and availability of access routes to the Site and all information provided by the Authority or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards</p>

	<p>as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Save as provided in New Clause 2.0/PCC and New Clause 18.2/PCC, the Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Consultant confirms that it shall have no claim whatsoever against the Authority in this regard.</p> <p>19.2 The Consultant acknowledges and hereby accepts to have satisfied itself as to the correctness and sufficiency of the Contract Price.</p> <p>19.3 The Consultant acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 19.1/PCC above and hereby acknowledges and agrees that the Authority shall not be liable for the same in any manner whatsoever to the Consultant, or any person claiming through or under any of them, and shall not lead to any adjustment of Contract Price or Scheduled Completion Date.</p> <p>19.4 The Parties agree that any mistake or error in or relating to any of the matters set forth in Clause 19.1/PCC above shall not vitiate this Agreement, or render it voidable.</p> <p>19.5 In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Clause 19.1/PCC above, that Party shall immediately notify the other Party, specifying the mistake or error.</p> <p>19.6 Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Consultant; and the Authority shall not be liable in any manner for such risks or the consequences thereof.</p>
<p>New Clause-20</p>	<p>COMPLETION CERTIFICATE</p> <p>20.1 Tests on completion</p> <p>20.1.1 No later than 30 (thirty) days prior to the likely completion of the Railway Project, the Consultant shall prepare and submit to the Authority's Engineer the documents required for seeking approval of the Commissioner of Railway Safety in accordance with the provisions of the Railways Opening for Public Carriage of Passenger Rules, the Indian Railway Permanent Way Manual or the Indian Railways Manual of A.C. Traction, as the case may be, and notify the Authority's Engineer of its intent to subject the Railway Project to Tests. After ensuring and procuring that the documents required to be submitted to the Commissioner for Railway Safety meet the requirements of Applicable Laws, the Authority's Engineer shall, in consultation with the Consultant, determine the date and time of each of the Tests, and inform the Authority who may designate its representative to witness the Tests. The Consultant shall provide such assistance as the Authority's Engineer may reasonably require for conducting the Tests.</p> <p>20.1.2 All Tests shall be conducted in accordance with as per relevant Schedule at the cost and expense of the Consultant; provided, however, that the trial running on railway track shall be undertaken at the cost and expense of the Authority. The Authority's Engineer shall observe, monitor and review the results of the Tests to determine compliance of the Railway Project with Specifications and Standards and if it is reasonably anticipated or determined by the Authority's Engineer during the course of any Test that the performance of the Railway Project or Section or any part thereof, does not meet the</p>

Specifications and Standards, it shall have the right to suspend or delay such Test and require the Consultant to remedy and rectify any Defect or deficiency. Upon completion of each Test, the Authority's Engineer shall provide to the Consultant and the Authority copies of all Test data including detailed Test results. For the avoidance of doubt, the Parties expressly agree that the Authority's Engineer may require the Consultant to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Railway Project thereof with the Specifications and Standards.

20.2 **Provisional Certificate**

20.2.1 Upon completion of Tests, the Authority's Engineer shall satisfy itself that the Tests have been successful and the Railway Project is fit for opening to traffic. Upon such determination, the Authority's Engineer shall issue to the Consultant and the Authority a certificate substantially in the form set forth in relevant Schedule (the "Provisional Certificate"). The Authority's Engineer may issue a Provisional Certificate even if certain works forming part of the Railway Project are not yet completed and in such an event, the Provisional Certificate shall have appended thereto a list of outstanding items signed jointly by the Authority's Engineer and the Consultant (the "Punch List"). For the avoidance of doubt and by way of illustration, the Punch List may include [fencing, tree plantation, rest areas].

20.2.2 Upon issuance of the Provisional Certificate, the Authority's Engineer shall forward to the Authority (i) copies of all Test data including Test results, and (ii) the documents submitted by the Consultant for seeking approval of the Commissioner of Railway Safety in accordance with the provisions of the Railways Opening for Public Carriage of Passenger Rules, the Indian Railway Permanent Way Manual/ or the Indian Railways Manual of A.C. Traction, as the case may be, for obtaining authorisation from the Commissioner for Railway Safety.

20.2.3 DELETED

20.2.4 The Parties hereto expressly agree that the Authority's Engineer may, upon request of the Authority to this effect, issue a Provisional Certificate for part of the Railway Project and the provisions of above Clauses shall apply mutatis mutandis to such Provisional Certificate. The issuance of the provisional certificate will not absolve the Consultant of its obligations to complete the remaining part of Railway Project.

20.2.5 DELETED

20.3 **Completion of Punch List items**

All items in the Punch List shall be completed by the Consultant within 90 (ninety) days of the date of issuance of the Provisional Certificate and for any delay thereafter, other than for reasons solely attributable to the Authority or due to Force Majeure, the Authority shall be entitled to recover Damages from the Consultant to be calculated and paid for each day of delay until all items are completed, at the lower of (a) 0.1% (zero point one per cent) of the Performance Security, and (b) 0.2% (zero point two per cent) of the cost of completing such items as estimated by the Authority's Engineer. Subject to payment of such Damages, the Consultant shall be entitled to a further period not exceeding 120 (one hundred and twenty) days for completion of the Punch List items. For the avoidance of doubt, it is agreed that if completion of any item in the Punch List is

	<p>delayed for reasons attributable to the Authority or due to Force Majeure, the completion date thereof shall be determined by the Authority's Engineer in accordance with Good Industry Practice, and such completion date shall be deemed to be the date of issue of the Provisional Certificate for the purposes of Damages, if any, payable for such item under this Clause.</p> <p>20.4 Completion Certificate</p> <p>20.4.1 Upon completion of all items in the Punch List and issuance of authorisation by the Commissioner of Railway Safety, the Authority's Engineer shall issue forthwith to the Consultant and the Authority a completion certificate substantially in the form (the "Completion Certificate") separately for and in respect of each Provisional Certificate issued.</p> <p>20.4.2 DELETED</p> <p>20.5 DELETED</p>
New Clause -21	DELETED
New Clause -22	<p>LIABILITY AND INDEMNITY</p> <p>22.1 General indemnity</p> <p>The Consultant will indemnify, defend, save and hold harmless the Authority and its officers, servants, agents, Government Instrumentalities and Government owned and/or controlled entities/enterprises, (the "Authority Indemnified Persons") against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by the Consultant of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of this Agreement on the part of the Authority Indemnified Persons.</p> <p>22.2 Indemnity by the Consultant</p> <p>22.2.1 Without limiting the generality of Clause 22.1, the Consultant shall fully indemnify, hold harmless and defend the Authority and the Authority Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:</p> <ul style="list-style-type: none"> (a) failure of the Consultant to comply with Applicable Laws and Applicable Permits; (b) payment of taxes required to be made by the Consultant in respect of the income or other taxes of the Sub-Consultants, suppliers and representatives; or (c) non-payment of amounts due as a result of Materials or services furnished to the Consultant or any of its Sub-Consultants which are payable by the Consultant or any of its Sub-Consultants. <p>22.2.2 Without limiting the generality of the provisions of this LIABILITY AND INDEMNITY, the Consultant shall fully indemnify, hold harmless and defend the Authority Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the Authority Indemnified Persons may</p>

hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other Intellectual Property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Consultant or by the Sub-Consultants in performing the Consultant's obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Consultant shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Railway Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the Consultant shall promptly make every reasonable effort to secure for the Authority a licence, at no cost to the Authority, authorising continued use of the infringing work. If the Consultant is unable to secure such licence within a reasonable time, the Consultant shall, at its own expense, and without impairing the Specifications and Standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

22.3 Notice and contest of claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Agreement (the "Indemnified Party") it shall notify the other Party (the "Indemnifying Party") within 15 (fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any costs involved, to its reasonable satisfaction.

22.4 Defence of claims

- 22.4.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Agreement, the Indemnifying Party shall be entitled, at its option, to assume and control the defence of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through the counsel of its choice; provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defence. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, action, suit or proceeding without the prior written consent of the Indemnified Party, unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.

	<p>22.4.2 If the Indemnifying Party has exercised its rights under Clause 22.3, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).</p> <p>22.4.3 If the Indemnifying Party exercises its rights under Clause 22.3, the Indemnified Party shall nevertheless have the right to employ its own counsel, and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of the Indemnified Party, when and as incurred, unless:</p> <ul style="list-style-type: none"> (a) the employment of counsel by such party has been authorised in writing by the Indemnifying Party; or (b) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defence of such action; or (c) the Indemnifying Party shall not, in fact, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defence of such action and shall have been so notified by the Indemnified Party; or (d) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either: <ul style="list-style-type: none"> (i) that there may be specific defences available to it which are different from or additional to those available to the Indemnifying Party; or (ii) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement: <p>Provided that if Sub-clauses (b), (c) or (d) of this Clause 22.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defence of such claim, demand, action, suit or proceeding on behalf of the Indemnified Party, and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.</p> <p>22.5 No consequential claims</p> <p>Notwithstanding anything to the contrary contained in this new clause 22, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.</p> <p>22.6 Survival on Termination</p> <p>The provisions of this new clause 22 shall survive Termination.</p>
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APPENDIX 1

**SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN
BUILDING AND OTHER CONSTRUCTION WORK**

(The laws as current on the date of bid opening will apply)

- a) **Employees Compensation Act 1923:** The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) **Payment of Gratuity Act 1972:** Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) **Employees Provident Fund and Miscellaneous Provisions Act 1952 (since amended):** The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are :
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1951:** The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract Labour (Regulation & Abolition) Act 1970:** The Act provides for certain welfare measures to be provided by the Consultant to contract labour and in case the Consultant fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Consultant is required to take license from the designated Officer. The Act is applicable to the establishments or Consultant of Principal Employer if they employ 20 or more contract labour.
- f) **Minimum Wages Act 1948:** The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.
- g) **Payment of Wages Act 1936:** It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) **Equal Remuneration Act 1979:** The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

- i) **Payment of Bonus Act 1965:** The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.7000/-per month or the minimum wage as fixed by the appropriate government whichever is higher. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- j) **Industrial Disputes Act 1947:** The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) **Industrial Employment (Standing Orders) Act 1946:** It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- l) **Trade Unions Act 1926:** The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) **Child and Adolescent Labour (Prohibition & Regulation) Act 1986:** The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- n) **Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979:** The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home upto the establishment and back, etc.
- o) **The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:** All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

As per Central Government's Notification No.S.O.2899 dated 26.09.1996 under this act, the cess shall be levied @1% of cost of construction works which shall be deducted from each bill of the payment due to the Consultant.

- p) **Factories Act 1948:** The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.
- q) **The Employees State Insurance Act, 1948 (Act No. 34 of 1948) (Provisions as extended from time to time):**An Act to provide for certain benefits to employees in case of sickness, maternity and 'employment injury' and to make provision for certain other matters in relation thereto.

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K-RIDE

SECTION: 8

TERMS OF REFERENCE, SCOPE OF WORK AND GENERAL INFORMATION

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CHAPTER-1

GENERAL

1.0 Introduction

1.1.1 PROJECT BACKGROUND

- a. Bengaluru is the fifth largest metropolis in India and is one of the fastest growing cities in Asia. It is also the capital of Karnataka. It is globally recognized as IT capital of India and also as a well-developed industrial city. The city which was originally developed as a Garden City over the years, slowly transformed into an industrial and software hub of India. Emergence of IT sector has overshadowed other areas of development and has metamorphosed the city into a global hub. The establishment of the IT hubs on the outskirts has converted the city and its surroundings into Silicon Valley of India. It has also caused an urban sprawl around, to some extent lop sided towards south and east. It has become a commercial, administrative and military centre for the Region because of its salubrious climate and cosmopolitan nature of people. It was also known as pensioners' paradise with well-developed residential areas, roads with well grown trees, good commercial establishments, shopping malls etc.
- b. The urban infrastructure growth however, is unable to cope up with the expansion of the city resulting in traffic congestion and long commuting time for residents. To increase the share of public transport in Bengaluru, Government of Karnataka and Indian Railways or Ministry of Railways had commissioned many studies through RITES Ltd., for introduction of Suburban Railway Services in Bengaluru. The studies analysed the existing Railway network and suggested improvements / augmentation by way of implementation.
- c. However, to run Suburban Railway System in Bengaluru, separate tracks need to be planned, which may involve land acquisition. The land acquisition is generally a costly and time-consuming affair and hence, most of the earlier proposals remained non-starter. Railways have now decided to explore the possibility of introducing / enhancing the Suburban Railway Services in Bengaluru, with minimum land acquisition. Towards this end, Railways entrusted the work of carrying out the Feasibility of running Suburban Railway services along the existing Railway network of Bengaluru.

1.1.2 PROJECT HIGHLIGHTS

- a. BSRP is a flagship project being executed by K-RIDE, a joint venture of Govt of Karnataka and Ministry of Railways.
- b. The 4 corridors of BSRP with about 148 km of Railway line will act like a connecting bridge between Rural and Urban areas. For details, see the system map provided in the bid document.
- c. The K-RIDE infrastructure project is being built at a projected cost of ₹ 15,767 crore. It will provide a delightful travel experience for travellers across different sectors and streams. The trains will be air-conditioned (Metro-like with automated double-leaf sliding doors).
- d. The 57 suburban stations will be enabled with Metro-like facilities and promote smart card-based cashless travel for suburban Railway users.
- e. BSRP planned to setup two (2) nos. of depots at Akkupete (near Devanahalli) in North Bangalore spreading in about 49.42 Acres area and at Soladevanahalli (Near Chikkabanavara) in South-West Bangalore in an area of about 50 Acres. K-RIDE plans to construct about 77 stabling and 16 inspection & work shop lines to cater rolling stock for all the 4 corridors.
- f. System Description of Bangalore Suburban Rail Projects The Rail Systems are based on:

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i. Continuous Automatic Train Control (CATC)

This is based on CBTC which consists - Automatic Train Protection (ATP), Automatic Train Operation (ATO) and Automatic Train Supervision (ATS) sub systems. The train borne Automatic Train Control system will consist of Automatic train Operation (ATO) and Automatic train Protection (ATP). This will work on fixed block principle.

ii. Automatic Train Protection (ATP)

The primary function of the train control system. This sub system will be inherently capable of achieving the following objectives in a fail-safe manner. Line side signals will be planned at diverging routes (i.e., at points & crossings), which shall serve as backup signalling in case of failure of ATP system. However, in such cases, train speed will automatically be restricted to 25 km/h. The cab borne equipment will be of modular sub-assemblies for each function for easy maintenance and replacement. The ATP assemblies will be fitted in the vehicle integrated with other equipment of the rolling stock.

iii. Automatic Train Operation (ATO)

The system will operate the trains automatically from station to station within the safety envelope of ATP and open the train doors on the correct side. In conjunction with ATP/ATS, ATO can control the dwell time at stations and manage the train running in accordance with headway/ time table.

iv. Automatic Train Supervision (ATS)

A train supervision system will be installed to facilitate the monitoring of train operation and also remote control of the station. The train supervision will log each train movement and display it on the workstation with each Traffic Controller at CC and on the workstation placed in the Station Control Room (SCR) with each Station controller. The centralized system will be installed in Control Centre (CC). The CC will have a projection display panel showing a panoramic view of the status of tracks, points, signals and the vehicles operating in the relevant section/ whole system providing the following main functionalities:

1. Automatic Route Setting
2. Automatic Train Regulation
3. Continuous Tracking of Train Position
4. Display Panel & Workstation Interface
5. Link to Passenger Information Display System for online information
6. Computation of train Schedule and Timetable
7. Issue special commands to train such as train hold, skip station etc.

g. Rolling Stock

To meet the traffic demand, 3.2 m wide & 21.7 m length AC rolling stock is recommended for running suburban rail services in Bengaluru.

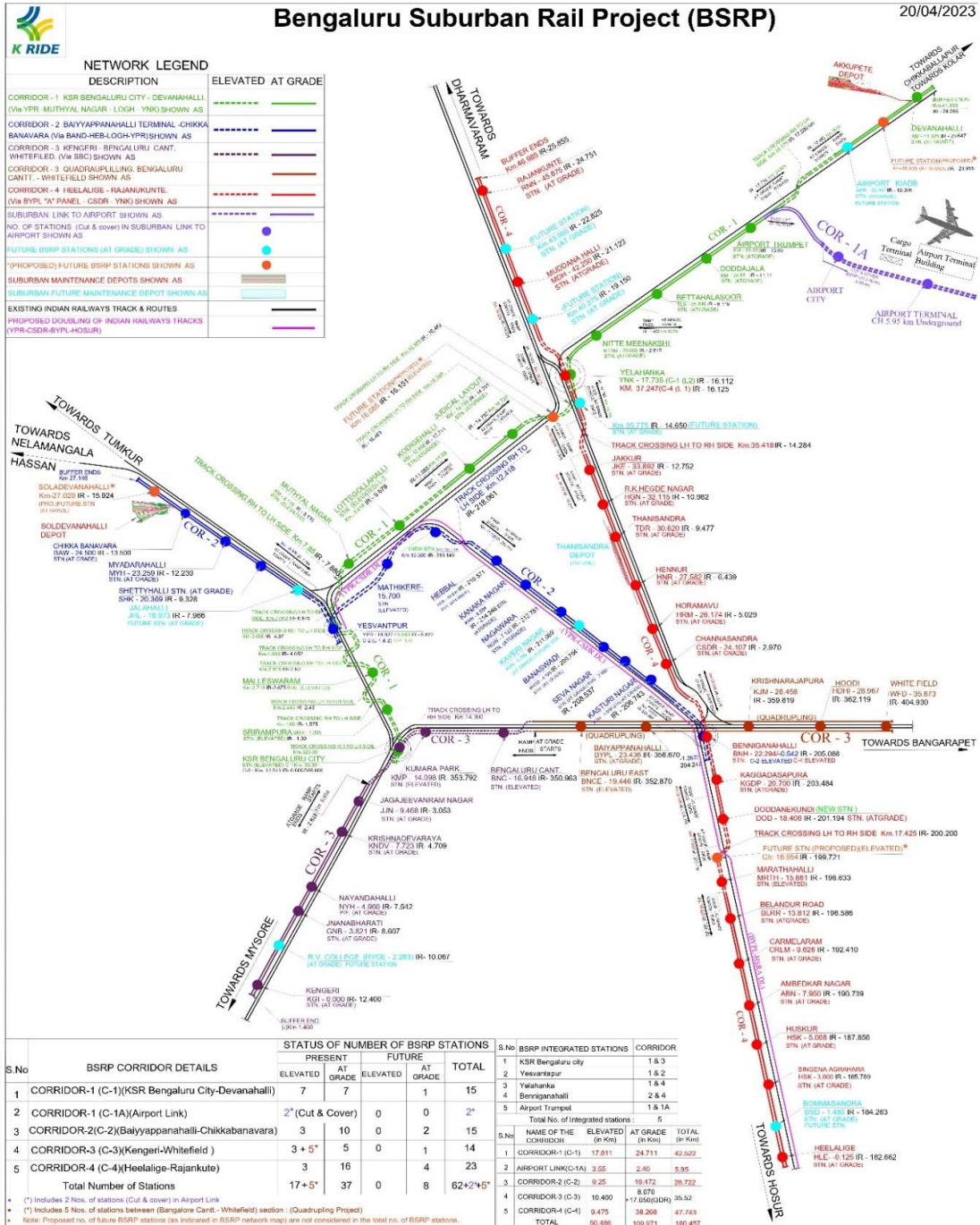
The Design speed is 90 kmph and operational speed shall be 80 kmph (except at stations). The operating speed at stations shall be 50 kmph. The operating speed in depots shall be 25 kmph.

h. Train power supply shall be fed by 25KV- A.C. OHE System

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1.1.3 (Any other relevant parameters of the proposed system can be referred from SOD of BSRP in website kride.in)

BSRP network map showing the location of Depots is attached below for reference:



1.2 Broad System Specifications

S. No	Item	Details
1	No of Tracks	Two Nos (UP & DN) (Additional tracks at Depots and stations)
2	Track Gauge	1676 mm (Broad gauge)
3	Axle Load	17 tonne
4	Design Speed	90 kmph
5	Type of track	At Elevated Via Duct– Ballast less track At Grade & Depot line- Ballasted track on concrete sleepers
6	Rolling stock	AC coaches (Stainless Steel / Aluminium) Width – 3.2m length – 23 m
7	Traction System	OHE (25kV AC Traction)

1.3 Tentative receiving substations

Proposed Grid Substation (GSS)	Proposed Receiving Substation (RSS)	Corridor
Mattikere 220 kV	Mattikere RSS	C-2
TBD	TBD	C-1
TBD	TBD	C-3
TBD	TBD	C-4

- 1.4 Stabling lines are at terminal stations and at rolling stock depot at Devanahalli and Soladevanahalli and other locations wherever required.
- 1.5 Trains will be air-conditioned modern rolling stock of electric multiple unit (EMU) type with VVVF 3 phase drive with regenerative braking.
- 1.6 25kV AC traction system has been planned with flexible Overhead Equipment (OHE) on elevated and At-Grade sections and Rigid Overhead Catenary System (ROCS) at Under-ground Tunnel Sections.
- 1.6.1 Underground section: 'Closed' type tunnel ventilation system is used in UG stations. The station public areas are air-conditioned while the plant rooms are provided with supply/exhaust system. Tunnel ventilation is primarily achieved by the movement of vehicles inside the tunnel under normal working conditions. Tunnel ventilation fans installed at each end of the stations are used to provide supplementary ventilation at times of high temperatures, and under congested traffic or emergency

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conditions. Booster fans have also been used on appropriate locations Under emergency conditions or in case of a tunnel fire, the tunnel ventilation system is used for smoke extraction by operating tunnel ventilation fans in push pull mode. During emergency fire condition within a station, the station air handling system is operated for smoke removal.

1.7 Operation Control Centre

The Operation Control Centre (OCC) for the all corridors shall be intimated on later stage.

1.8 KRIDE intends to engage a competent and experienced Design Consultant for Detailed Design Consultancy of Receiving Sub Stations cum 25 kV AC Traction Substations and Auxiliary Main Substations, Extra High Voltage & High Voltage Cabling, Auxiliary Network and Substations, 25 KV Flexible Overhead Equipment and SCADA System, Operation Control Centre for Complete Corridor and Proof check of Design of 25kV Rigid OHE and Associated Works and supply & training for design software, design calculations, preparation of drawings, BOQ and Technical documents of bids for Corridor-1,2,3 & 4 of BSRP project including depots at Soldevanahalli and Devanahalli.

The Consultant shall provide the Consultancy Services, to the standards and in the manner, frequency, quantity and times specified in accordance with the Conditions of Contract, except for variations which have been agreed to in writing by the Employer/Employer's Representative. DDC shall perform services relating to the Project.

DDC shall exercise reasonable skill, care and diligence in the performance of his obligations under the Agreement and in accordance with the prevailing standards of the profession. The DDC shall provide professional, objective and impartial advice and at all times hold the Employer's interests paramount.

Where the Services include the co-ordination between the DDC and other consultants and Contractors employed on the Project, the DDC shall do such co-ordination. The DDC shall obtain, interfacing requirements and submit to the Employer/Employer's Representative for his information and approval of all details, drawings, arising from such coordination with others. Such co-ordination will take place throughout the contract period.

1.9 Relevant Documents

The Employer has prepared a Detailed Project Report (DPR), Design Basis Report and Schedule of Dimensions (SoD) for the BSRP corridors, broad planning parameters are defined for the route alignment and stations. The consultant is required to follow the DPR, DBR & SoD w.r.t. electrical power supply (traction and non-traction) & installations and also to submit suggestions, corrections and recommendations to the engineer which will be incorporated with the employer's approval. DDC must adhere latest instructions of IR/BSRP or any other authority in course of execution on contract

In addition to this, The Consultant is required to prepare detailed design/drawings suitable to the site conditions and operation requirement as well as the Design in reference to the DPR, DBR & SoD.

1.10 Extent of Design Services

Brief Description of Work includes detailed design of Power Supply, Traction, SCADA,

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RSS/AMS/TSS, Auxiliary supply network, adoption Common Digital Environment (CDE) etc, along with seamless integration with existing /Proposed modes of transport.

- i) General review of alignment and preparations of detailed designs, conceptual plans, technical specifications, schedule of materials/BOQ for Power Supply, Traction and SCADA system and all required drawings as defined in scope of work.
- ii) The DDC shall perform the Services set out in this Agreement.
- iii) The DDC shall deliver sufficient designs and documents required to Employer/Employer's Representative for inviting Bids for Power Supply, Traction and SCADA system of BSRP corridors, as per the number of packages decided by KRIDE.
- iv) Review of PST Contractor's submittals for Power supply and Traction and SCADA system as per scope of work including all related submissions, value Engineering, and all other items of Scope of Work till Revenue Operation Date (RoD)/ or upto the completion of defect liability period whichever is later.
- v) DDC shall design 25 kV Flexible Overhead Equipment suitable for IR on the section of IR KM 211.325 to 216.200 in corridor-2, modifying same OHE suitable for BSRP afterwards.

1.11 **These Services generally include, but are not limited to:**

The scope of DDC covers the Cost-Effective Design of Power Supply, Traction and SCADA System, RSS/TSS/AMS/ASS and design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR KM 211.325 to 216.200 in corridor-2, modifying same OHE suitable for BSRP afterwards.

- a) Prepare BOQs, technical specifications, cost estimates for Power Supply, Traction and SCADA System, RSS/TSS/AMS/ASS for tendering by Employer/Employer's Representative and modify the cost estimate as necessary till the contract is awarded. The BOQs, technical specifications, cost estimate of Power Supply, Traction and SCADA work shall be in line with design and drawings for the works. If there are any deviation(s), approval for the same shall be taken from the Employer/Employer's Representative before inclusion.
- b) Co-ordinate and integrate designs and details with contractors and consultants relevant to PST contract, employed by the Employer.
- c) Incorporate and co-ordinate changes in its design due to interfacing with other DDC/ Contractors/ Employer/Employer's Representative which will be provided as per agreed schedule.
- d) Incorporate changes in design resulting from the Employer/Employer's Representative's design reviews;
- e) Plan, design, detail, control, co-ordinate, and execute the design phase of the Works for production of drawings, documents and reports to meet the key schedule dates included in the Agreement and as directed by the Employer/Employer's Representative from time to time;
- f) Attend meetings connected with the Work whenever required as decided by Employer/Employer's Representative other than the monthly progress review meeting

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which will be held in the 1st week of every month as mentioned in key dates.

- g) DDC should keep in mind that they should provide best options, methodologies; strategies by way of value engineered and optimized design suited for best interest of the Employer. Any new methodology proposed should be analyzed properly in terms of time, cost, suitability, affordability, availability of the same locally and the same shall be got approved from Employer/Employer's Representative before proceeding further for Detailed Design and Drawings.
- h) The DDC shall solely be responsible for manpower resource planning to accommodate variations in schedule during the estimated design period, and such variations shall not constitute a claim for extended design services;
- i) All above designs shall be performed following the latest International/National codes and Employer/Employer's Representative requirements. Also, DDC will take into account acoustic and ergonomic consideration as per best practices in their design, but will not be required to furnish any detailed studies, calculations, etc. in this regard.

The Employer will not entertain any cost implications and time impact claims during design and construction phase under any circumstances arising out of below works which is not defined as "change in scope" in this contract.

- j) Design alterations/modifications arising out of interface co-ordination till the preparation and issuance of "Good For Construction" (GFC) drawings during pre- award of construction contracts. Design alterations/modifications arising out of interfacing and co-ordination with contractors and DDCs.

1.12 **Standards and Codes**

- a) Designs and drawings shall comply with all applicable Indian rules, regulations, standards and codes. Apart from this international standards and codes for best practices shall be adopted. DDC shall provide access to these codes during design review process or whenever is required till Revenue Operation Date (RoD).
- b) DDC shall use the approved base guidelines, Detailed Project Report (DPR), SOD of the Employer, relevant codes and standards to propose Design Basis Reports and Design and Planning Criteria and any other design specifications for approval by the Employer/Employer's Representative as the basis for developing the full design, technical specifications, Tender Drawings, Cost Estimates and BOQs for Power Supply, Traction, SCADA System, RSS/TSS /AMS/ASS.

The codes and standards to be adopted but not limited to are as follows:-

- (i) BSRP codes and standards like SoD (Schedule of Dimensions), DPR (Detailed Project Report), DBR (Design Basis Report) etc.
- (ii) Indian Railway Standards
- (iii) Indian Standards
- (iv) International Standards

Reference to any specifications shall be taken as reference to the latest version of that

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specification. Some of the standards but not limited to are given below

The design and execution/construction of permanent works shall comply with codes of practice and standards current at the time of submission of bid documents. Regulations made and requirements issued by the Employer/Employer's Representative and Indian Government and by relevant utility companies shall be followed.

Alternative or additional codes, standards and specifications proposed by the DDC shall be internationally recognized codes and shall be equivalent to or better than, Indian standards issued by the Bureau of Indian standards, subject to being, in the opinion of the Employer's Representative/Engineer, suitable for incorporation into the specification.

- c) Unless otherwise stated, the Power Supply, Traction and SCADA System designs and executions shall comply with all applicable local regulations issued by the agencies listed below:
- Indian Electricity Rules
 - Indian Electricity Act
 - Karnataka Electricity Regulatory Commission Recommendations
 - National Building Code
 - Central Pollution Control Board, State Pollution Control Board
 - Chief Electrical Inspector for BSRP.
 - Commissioner for Metro Rail Safety (CMRS)
 - Electrical Inspector for Indian Railways
- d) Any requirements imposed by local agencies not listed above shall be incorporated into the designs. Local codes, regulations and standards shall take precedence where their standards or requirements are more onerous than other international standards.
- e) DDC propose to use alternative Standards or Codes of Practice, they shall submit two copies of these with justification for their use to the Employer for review and acceptance **within 2 weeks from the Issue of Letter of acceptance.**

1.13 **Electrical Load**

DDC shall interface with E&M DDC for electrical load of Property Development area at each ASS for finalization capacity of Transformers.

1.14 **Tender Documentation**

DDC shall prepare the BOQ based Tender Documents for Power Supply, Traction, SCADA System, RSS/AMS/ASS/TSS. All designs and documentation produced by the DDC shall provide sufficient information and detail so that the bidders can quote reasonably. Tender Drawings, Technical Specifications, BOQ, Cost Estimate and other information produced by the DDC or revisions of such documents, shall be submitted to The Employer/Employer's Representative, well in advance for review and further issuance of a comprehensive package for floating of tender. The DDC shall ensure that GFC drawings and documents related to

SECTION-8: TERMS OF REFERENCE, SCOPE OF WORK AND GENERAL INFORMATION execution are produced in a timely manner such that the PST Contractor is able to plan and execute its works in accordance with the contract.

1.15 Amendments to Tender Documents (Pre-contract)

The DDC shall provide additional design and other information not included in the Tender Documents (Pre-contract) as may be required by the Employer/Employer's Representative. This shall include, but not be limited to:

- Amendments as appropriate to the Bills of Quantities;
- Draft written replies to Bidders queries where relating to the DDC's design;
- Technical clarification for technical proposal of the bidders whenever required.

1.16 Good for Construction Drawings

The DDC shall submit to the Employer/Employer's Representative, a complete set of Good for construction (GFC) drawings for that contract duly signed by Team Leader along with complete set of CAD files in USB Drive/Electronic means. Revisions of design and issuance of revised drawings due to site constraints or modifications arising out of interface requirement etc. or during execution of works shall be the responsibility of DDC without any cost implications.

1.17 Liaison Work

The DDC shall assist Employer/Employer's Representative by providing reports and drawings for approval and clearances from concerned local authorities.

1.17.1 Interaction with The Employer/ Stakeholders

- During entire period of services, the Consultant shall assist Employer/ Employer's representative and provide any clarification regarding methods being followed and carry out modification as suggested by the employer / employee representative.
- The Employer and other Government officers may visit the site at any time, individually or collectively to acquaint themselves with the site. Consultant representative shall be present to clarify, if required.

1.18 Confidentiality of estimates and design budgets

All estimates shall be treated as strictly confidential and shall be submitted by the DDC in sealed envelopes separately from other documents that it is required to provide. Any malpractices and leakage of confidential information of any nature will be viewed seriously and amount to breach of contract.

1.19 Deficiencies of services

- i) Deficiencies on part of the Consultant should be made good by the consultant without any cost and time implications to The Employer. Deficiencies may include but not limited to:
 - a) Not performing the Services as per the Contract for Consultant's Services and undue delay in submission of designs & reports.
 - b) Not acting impartially or acting in collusion with the contractor failure to give proper

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and timely advice to the Employer/Employer's representative or the contractor to
enable correction during execution Lack of proper coordination with the
Employer/Employer's Representative and the contractor to ensure smooth
implementation of the Project

- c) Permitting sub-consulting of any works without authorization by the Employer /
Employer's Representative.

K-RIDE

CHAPTER 2

2.0 Details of Design Services

2.1 Design Phase and Construction/Execution Phase

DDC shall submit detailed feasibility report cum techno economical comparative studies, supported with Simulation studies for following options

- i. 25kV AC Traction with BT & without BT for design speed of 90 KMPH all corridors
- ii. DDC shall recommend Techno Economical Traction System for BSRP corridors.
- iii. The DDC shall propose locations & number of RSS/TSS /AMS/ASS

The scope of works shall include but not limited to:

- System description
- Preliminary Design of OHE, Traction, PSI, SCADA, RSS, TSS & ASS and Simulation Studies
- Detailed Design OHE, Traction, PSI, SCADA, RSS, TSS & ASS and pending Simulation Studies
- Bill of Quantities (BOQ) which will also include Cost of comprehensive maintenance (Routine, Periodical, Breakdown including consumables and Spares) of RSS, Power Supply, OHE, and SCADA for the period of 10 years after completion of Defect Liability Period
- Cost Estimate
- Preparation of Tender documents including Tender Drawings
- The Good for Construction Drawings.
- RSS/TSS/AMS/ASS Construction methodology for GIS/Control Room, Boundary Wall, equipment foundations, baffle wall, cable trench, road, drainage etc.
- Tentative Works Program of the Project including Key dates.

Soft copies of design calculations Excel etc, Drawings in ACAD/MicroStation & PDF shall be submitted

2.2 Interface requirement and required site meetings.

2.3 Validation of Contractor' Design documents

2.4 Review and issuance of design conformity certificate of As-built drawings.

2.5 The DDC shall provide design and drawings of utilities required for RSS/TSS/AMS/ASS etc. to include but not limited to:

- Sewerage
- Provisions for future installation of all utilities
- Fresh water supply
- Electrical ducts

- Fire protection and detection systems
- Integration with Renewable Energy System

2.6 **Tasks for DDC for Power Supply, Traction and SCADA System**

DDC shall perform all tasks for 25 kV AC OHE AC Traction for Design speed 90 KmPH for all the corridors not limited to:

2.6.1 **Task 1**

Report on Power Supply arrangement – Traction Power, HV Load Flow study and other Simulation Studies:

DDC shall prepare the 2 or 3 alternative schemes of feeding Auxiliary supply network. Best scheme shall be selected based on the recommendations of DDC. Auxiliary network Single Line diagram, which is having optimized redundancy and able to cater the load in case failure of One RSS, failure of part of Ring Main Cable, Failure of one ASS and other failure scenarios. Scheme shall be simple way to extend the feed in case of failure. Auxiliary network Scheme shall keep improved reliability and availability of the system.

For 25 KV Traction system, DDC shall also prepare the conceptual optimized LOP, wiring diagram, Sectioning diagram.

The Power requirement of the station area and Property development will be provided by the DDC for station E&M works. Power requirement depots at Devanahalli and Soladevanahalli shall be provided by the DDC for depots.

The scope of work under this task would involve:

2.6.1.1 **Load Flow Study –`**

- Basic purpose of the study is to calculate the Power supply requirement for four corridors, stations and depots, under normal & Outage conditions.
- Calculate the Voltage drop at the farthest end of loop in Normal case and in case of extension of loop during outage scenario i.e., failure of one RSS/TSS /AMS/ASS
- Loading in the Auxiliary Cabling networks during normal and outage case to finalize the size of the cable.
- DDC to submit detailed calculations in soft copy and hard copies as well.

2.6.1.2 **Traction Simulation Study – DDC shall develop the 25 kV Sectioning diagram for the accepted Traction system**

- Power for Traction: This shall be worked out by DDC by the Traction Simulation Study using validated software e.g., Esmeralda (M/s SNCF), SIMNET, e-Trax (ETap), OpenPower Net and FABEL (M/s ENOTRAC), RAILSIM, or equivalent. This shall take into consideration of regenerative braking.
- A traction power simulation study shall be carried out using proven software tools capable of modelling the 25 kV traction power supply system while taking into consideration the utility

source impedance, Overhead Contact System (OCS), traction return current system characteristics and EMI & EMC effect due to parallel IR OHE system, metro traction power feeding system and Signal & Telecom equipment.

- The proposed software shall also be capable of accurately modelling tractive effort versus speed characteristics, electric braking effort versus speed characteristics, and train current/efficiency versus speed characteristics at various line voltages ranging between 17.5 kV and 29 kV, while taking into consideration the minimum voltage for guaranteed performance, the minimum voltage for degraded performance, and the maximum voltage for regenerative braking.
- Input data for the simulation study shall include track alignment curves and gradients, civil speed limits, station locations, station dwell times, operational headway, TSS locations, Traction SWS locations, Rolling Stock physical characteristics including car weight and passenger loading, Rolling Stock electrical characteristics including tractive/electrical braking effort versus speed curves at different line voltages, traction/braking current versus speed curves, maximum acceleration and braking rates, train auxiliary power requirements, train resistance formula, utility system source impedance at RSS locations, traction power requirements in the depot, size and length of 25 kV feeder cables and traction return cables, Rigid OCS impedance per Km, Flexible OCS impedance per Km, Running Rails impedance per Km, Overhead Protective Conductor (OPC) and Tunnel Earth Conductor (TEC) impedance per Km, location of running rail cross bonds, and running rail to earth resistance.
- The DDC shall submit a detailed description of his proposed simulation software along with the methodology to be used. The Contractor is also required to submit a certificate confirming that the software has been validated by comparing its results to actual field measurements on a similar 25 kV traction electrification system.
- Simulation is to be done for Normal as well as abnormal scenarios i.e., Failure of one Traction substation.
- Simulation to be carried out for different headways and time of starting of train services and train composition (3/6/9 cars) in a particular corridor, to ascertain the amount of regenerative braking power and energy generated in the system and also utilized, to reach to state of "Optimum Energy Consumption Mode" of the system.
- Study and calculation methods and control mechanism are to be developed to achieve the above state of "Optimum Energy Consumption Mode"
- The DDC shall carry out the Traction Simulation Study to determine the best suitable location and number of TSSs, location of the Neutral section, the current flow in the TSSs, Sizing of the Traction transformers, auxiliary power transformers, contact wire, catenary, cables etc. meeting all the requirement of IEC 60850. U_{mean} Train Voltage shall not be less than as defined in EN 50388.
- Calculate the Rail Potential as per EN 60122-1, Conductor Temperature as per EN 50149, Current flow in OPC, Rail, BEC, Return Conductor, BT.
- All the above cases shall be carried during Normal and Outage condition i.e., failure of 1

TSS with Headway 05 minute as prescribed under AW 3 loading, 3 car/6 Car/9 Car configuration.

- DDC shall also calculate the specific energy consumption, energy consumed, and energy regenerated and line receptivity. DDC shall advise the methodology for effecting the regenerative energy in a Net-Metering system
- All graphs of Torque (Tractive / Braking), power V/s Chainage & Speed, Voltage profile, Acceleration, Acceleration time to reach to maximum speed Current, Timetable, Resistance, Grade, etc. shall be furnished.
- Journey time calculation considering all curves, Gradient and speed restrictions, dwell time shall be calculated.
- In case of Failure TSS (Degraded performance), increased headway i.e., reduced train services shall be calculated.
- If certain changes occurred in the input data and it became necessary compared to those considered these changes, DDC will repeat 'Simulation' study if required, based on the modified input data.

2.6.1.3 Traction and Auxiliary network short circuit study – It is required to calculate the short circuit current at various voltage level and verify the short circuit rating of various equipment like Transformers, cables and other equipment etc.

2.6.1.4 Insulation Coordination Study

It is required to calculate the rating of Protective device used and coordinate with the different equipment to be protected against lightning and switching surges. It is to be done with reputed and validated software.

2.6.1.5 EMI/ EMC Study

2.6.1.6 Power factor Study

2.6.1.7 Harmonic Study

2.6.1.8 Line Resonance study

2.6.1.9 Earthing & Bonding study

- (a) Detailed design of earthing arrangement of the pier, pier cap and Viaduct, cable trenches, walk way and any other structure likely to be earthed as per latest codes.

2.6.1.10 Protection Relay coordination Study

2.6.1.11 Pantograph Dynamic simulation design speed of 90 KMPH. (It shall prove that at all speed, dynamic interaction of the current collector and contact line has to ensure that interruption to power transmission do not occur under normal conditions for the design speed of 90 KMPH. Its main objective is

- To calculate the uplift of the Contact wire at the support
- The criteria of Current collection quality as per EN 50318 or latest

2.6.1.12 Earth mat Calculation using software and manual calculation

2.6.1.13 Direct Stroke Lighting Protection Simulation

2.6.1.14 Lighting Simulation Calculations

2.6.1.15 Drawings

The Drawings to be provided by DDC shall include but not limited to:

- a) Overall, Auxiliary Power Supply System Single Line Diagram
- b) Traction Sectioning Diagram for Mainline, depot and Stabling lines for 25 kV Traction
- c) SCADA System Schematic Diagram
- d) RSS Single Line Diagram
- e) AMS Single Line Diagram
- f) ASS Single Line Diagram of Each Station
- g) SP, FP and SSP Single Line Diagrams
- h) Relay and Metering Diagrams for RSS, AMS, ASS, TSS, SP, FP and SSP
- i) Power and control schematics for RSS, AMS, ASS, TSS, SP, FP and SSP
- j) Equipment layout drawings at all RSS, AMS, TSS, ASS, SP, FP and SSP
- k) Cable layout drawings for RSS, AMS, and optical fiber cables from RSS to GSS
- l) Cable layout drawings for TSS, ASS, SP, FP and SSP from AMS to main line ASS & from TSS to Feeding post
- m) Earth mat layout drawings at RSS/AMS/TSS/ASS
- n) Step potential and touch potential shall be measured at main line (Elevated & At Grade) and RSS/TSS/AMS/ASS.
- o) All Cut out detail at each voltage level for RSS, ASS, Viaduct, etc., for Routing the Power, control Cables, switch and socket, etc.
- p) Structure Earthing and Bonding drawings of Piers, Viaduct, Station, Portal, Tunnel, Underground stations, Ramp, Special steel Structures, etc.

The power supply arrangement proposed would give due consideration to power reliability. The scope of DDC in interacting with power supply authority is limited to technical aspects only.

DDC will interface with designers and contractors of civil, structure, architecture, track, MEP, S&T, ECS & TVS etc. and exchange all details as are necessary, so that all the necessary interface issues are addressed in the design and drawings.

A separate detailed techno-economical report for design speed of 90 KMPH for the corridors be submitted by DDC validated by proof checker on the basis of reports of Simulation studies/ relevant calculations/System/Equipment requirements.

2.6.2 Task 2**2.6.2.1 Detail design of 25kV AC OHE System**

- i. Detailed design of **25kV AC** OHE System including but not limited to:
 - a) Sectioning Diagram of all the corridors including depots.
 - b) OCS Conductor Tension and Tension length Calculation.
 - c) Maximum Span calculation.
 - d) Overlap Span calculation.
 - e) OCS loading and Mast & portal sizing calculations, Special Steel Structure for at grade, elevated and Depot.
 - f) Turnout & cross overs schematic arrangement.
 - g) Neutral section Design
 - h) Modular cantilever system and fittings.
 - i) OCS regulation design.
 - j) Drop arm load calculations
 - k) OHE mast foundation and Anchor foundation design for At grade, Depot & Feeding post
 - l) OCS Base Plate and U Bolt Design for Masts, Portals and Anchor design at Elevated section
 - m) Dropper schedule calculation
 - n) Technical Specification of Flexible OCS Items
 - o) Technical; Specifications of 25 kV switching Equipment for At grade, Elevated and depot including GTP
 - p) Preparation of Pegging plan & list of holding down Bolts.
 - q) OHE Layout plans
 - r) Cross Section drawings
 - s) General Arrangement drawings
 - t) Structure Erection drawings.
 - u) Earthing & Bonding plan.
 - v) Power block procedures
 - w) Validate the design submitted by the contractor
 - x) Proof checking the design of ROCS
 - y) Station working rule diagrams
 - z) Station Working Instructions
 - aa) Over line clearance study
 - bb) Minimum clearances

2.6.2.2 Detailed design of SCADA System including but not limited to:

- a) Traction Power Control system in OCC, BCC.
- b) SCADA Architecture OCC, BCC
- c) Communication Network for SCADA
- d) SAS Architecture for RSS
- e) Communication Network for SAS
- f) Equipment layout for OCC, BCC and RSS
- g) Tentative GTP of SCADA, SAS, and Relays, Servers, etc.

2.6.2.3 Detailed design of RSS/ AMS/TSS/ASS System including but not limited to:

- a) Equipment Layout of RSS/TSS/AMS/ASS
- b) Earthing Calculation and layout of above
- c) Typical Cross Sections drawings of EHT cable from GSS-RSS
- d) EHT Cable X-Bonding Arrangement
- e) Typical Single Line Diagram for ACDB
- f) SLD of DCDB
- g) DSLP (Direct stroke Lightning Protection) & Building Lightning Protection
- h) Indoor Lighting Layout
- i) Fire Alarm and Detection at RSS (FACP)
- j) Buried Rail Arrangement Drawing
- k) Indoor/Outdoor Cable Trench Layout and Section Details
- l) RSS Equipment Earthing Details-Typical Dwg.
- m) CT's Structures 25 kV 33kV & Other Steel Structures
- n) Ventilation System Plan + HVAC+AHU
- o) Outdoor Lighting Drawing, Dialux Cal.
- p) Interfacing Document (GSS-PSA)
- q) Feasibility Study of use of Cable for 25 kV Feeder

2.6.3 Task 3**2.6.3.1 Earthing and Bonding**

- a) The DDC shall prepare detailed earthing and bonding plan for the corridors to ensure safety of equipment and human beings. For collection of data and drawings regarding structures requiring earthing, reinforcement bars and tracks, the DDC shall interface with concerned designer/contractor.
- b) Design of earthing and bonding system for OHE, RSS, TSS, AMS, feeding post and ASS at the stations.

- c) Design calculations shall be submitted in soft i.e., excel sheet
- d) Earthing drawings of following but not limited to:
 - RSS GIS/control room Grid earthing
 - RSS /TSS/AMS & ASS equipment earthing
 - Feeding post, SP, SSP, SS etc.
 - Viaduct including steel bridges/ Tunnel/Ramp, station earthing etc.
 - OHE earthing arrangement for at grade, elevated & depot.
- e) Design of earthing system for RSS and ASS & TSS at the stations, including the Earthing panels for connecting the running rails to earth, earthing panels and plan for structures gentries and foundations of these installations.
- f) Erection Drawings for Earthing system for RSS, ASS, TSS, FP, SP, SSP, Stations, AMS, DEPOTS, Viaduct including steel bridges/ Tunnel/Ramp, station etc.
- g) Bonding of the rails and interface with S&T contractors regarding bonding in respect to track circuiting.

2.6.4 Task 4

2.6.4.1 Plan for EMI and EMC Management

- a) Study as per standards, for limiting the induction effect due to Auxiliary 3-phase Power supply running along the viaduct and the tunnel for power supply through cables on the adjoining signal and telecommunication circuits and recommend the mitigation measures.
- b) 25kV AC OHE System harmonic study for interference with telecommunication and signaling and control and protection circuits. The study and mitigation measures design will include the above harmonic induced voltages.
- c) EMC-EMI effect of IR 25 kV AC OHE system on BSRP 25 kV AC OHE system and vice versa where ever applicable.
- d) EMC-EMI effect of EHV power line crossing on BSRP 25 kV AC OHE system
- e) EMC-EMI effect of BSRP 25 kV AC OHE system on BMRCL 750 V DC system vice versa where ever applicable.
- f) EMC-EMI effect of BSRP 25 kV AC OHE systems of different corridors (ROR) where ever applicable.
- g) To have interface with signal and telecommunication contractors, in respect of system design with mitigation measures against the EMC-EMI effects.
- h) The details regarding the telecom cables, other cables, telephone exchange etc. on the viaduct and the tunnel, shall be obtained. Based on these and other input details, the electromagnetic compatibility study will be performed by DDC, with the help of already validated available software. Full and complete explanation will be submitted by DDC along with the results of EMC study and the mitigation measures proposed. The EMI/EMC

management shall be studied according to relevant latest EN/IEC standards.

2.6.5 Task 5

2.6.5.1 Detailed Design of Substation (RSS, TSS, AMS & ASS) and Equipment Layout Plan and Equipment specifications

To prepare following detailed drawings but not limited to:

- i. Equipment layout drawing.
- ii. Single Line diagram
- iii. RSS Structural drawings
- iv. RSS Architectural drawings
- v. RSS MEP drawings
- vi. RSS equipment foundations, boundary wall, cable trench, Earthing, road, drainage etc., drawings.
- vii. EHV & HV cable laying drawings
- viii. Specification including but not limited to: - specifications of all the equipment, cables, components used in the substations & switching Stations.
- ix. Interlocking schemes, protection schemes, electrical schematic drawings, layout drawings, pertaining to receiving substations (RSS), Traction Substations (TSS), Auxiliary Main Substations (AMS), Auxiliary Substations (ASS), Fencing wall Layout as per the land/room area availability, site conditions, track layouts keeping in view the various clearances to be observed.
- x. The detailed design should be supported by calculations with reasoning and simulations.

2.6.6 Task 6

2.6.6.1 Surge & Lightning Protection System

- i. Selection of lightning arresters, isolators, bus bar arrangement, circuit breakers, CT's, PT's, metering panels and other equipment at each RSS, AMS, TSS, ASS and Switching stations. The selection of ratings and other related parameters should be supported by calculations with reasoning and simulations.
- ii. Surge & Lightning Protection Scheme of the RSS/AMS/TSS, ASS, Switching stations, OHE system and Auxiliary supply Network etc.

2.6.7 Task 7

2.6.7.1 Protection & Relay Coordination for Power System

- i. Protection co-ordination with PSA end and the detailed protection scheme to be adopted in all RSS/TSS/AMS and ASS network. The digital protection system should be duly compatible with SCADA system for operation, control, and data management of protection system from OCC & BCC through SCADA.
- ii. In addition, review and finalize the detailed technical and performance specification of Traction transformer, main auxiliary power transformer and auxiliary distribution

transformers.

- iii. The work shall also include co-ordination of the protection system of the RSS with that provided by the Power Supply authority for incoming/outgoing high voltage power cables at RSS. It would also cover protection system of internal power supply network of BSRP. The work will, also include design of the protection scheme of the feeder from source to the BSRP RSS. The digital protection system should be duly compatible with SCADA system for operation, control, and data management of protection system from BSRP's OCC & BCC through SCADA.
- iv. Short circuit current at different voltage levels to be considered along with other applicable factors for protection system.

2.6.8 Task 8

Cable Management System

Design and Plan the cable management system; power and control cable run layout in the RSS/TSS/AMS and ASS premises, control room, cable trenches, supporting and clamping arrangement, cable termination etc. including that for positive and negative current path cable management system.

2.6.9 Task 9

2.6.9.1 Auxiliary Power Supply System

- i. Preparation of Drawings and specifications related to internal Auxiliary power supply network. As per study in tasks mentioned above, it is required to set up the internal power supply network by BSRP for reliability, voltage regulation, feasibility of supply sources and flexibility considerations. DDC will do the detail design work which would also include finalization of single line diagrams with rating of equipment, cross section & specifications of cables, their laying on viaduct, at grade and tunnel. The specifications, drawings & calculations (particularly those related to derating factors) required for executing this network are also included in the scope of work.
- ii. Prepare the layout of various ASS equipment layout, interlocking schemes for HT and LT protection (at RSS/TSS/AMS/ASS) duly compatible with remote operated SCADA system, control and distribution panel employing indoor circuit breakers, other switchgear and bus bar arrangements.
- iii. Prepare the equipment layout & interlocking schemes for all voltage levels to be used in RSS/TSS/AMS and ASS, protection etc.

2.6.10 Task 10

2.6.10.1 Design, Drawing & Specification of CRP, SAS & SCADA system

- i. DDC shall design the SCADA system in detail to operate all the corridors. The scope of work includes all equipment, RTUs/BCPUs, servers, workstations, visual control panels for the control room and for the RSS/AMS/TSS and ASS. The DDC shall interface with the telecommunication contractor/Consultant to apply the same communication protocol and provision of space and power supply for installation of communication interface equipment

to be provided in Telecom Equipment Room at the stations and the OCC & BCC, as required for SCADA communication from OCC & BCC, including the communication channel medium, capacity required, interface equipment. This task also includes the determination of the functionalities to apply for the operation.

- ii. DDC will design Emergency Trip System (ETS) system and its cable management system for all the corridors and depots. The ETS system should be duly integrated functionally with SCADA system locally as well as from OCC & BCC.
- iii. DDC shall interface with Signal & Telecommunication contractors for provision in design for power supply requirements, communication interface and master clock connectivity of SCADA system in OCC & BCC and SCADA equipment room. DDC shall also interface with DDC (E&M)/E&M Contractors at stations and OCC & BCC and depots for design of cable management system to incorporate the requirement of cable trays for SCADA, ETS system and its communication cables.

2.6.11 Task 11

2.6.11.1 Technical Specifications, BOQ and Cost Estimation for PST work Tender including RSS

Prepare BOQs, technical specifications and drawings, construction cost estimate for the auxiliary Power Supply, Traction power supply and SCADA System for all the corridors for complete work including all spares, tools & O&M manuals, trainings etc. DDC shall propose an Interface Matrix to be followed by construction contractor for the system installation.

2.6.12 Task 12

2.6.12.1 Good for Construction design & drawing

Plan, detail design, co-ordinate and execute the design phase of the contract of production of drawings, documents, and reports to meet the key schedule dates included in the agreement and as directed by the Employer/Employer's Representative.

DDC will attend the pre-bid meetings (if called for) and assist Employer/Employer's representative for making pre-bid replies to queries of bidders regarding bidding document for contract of Power Supply, Traction and SCADA System.

2.6.13 Task 13

2.6.13.1 Construction Stage design & drawing support and coordination

- i. Make available their service as and when required during the construction contract to modify the construction designs and drawings as necessary to incorporate site conditions and unforeseen conditions, to attend meetings/interface meetings connected with work at site or wherever required.
- ii. The DDC will be required to check, verify and submit their comments on all Design documents, drawings, calculations, equipment proposals, civil structural, architectural, civil foundations, etc. submitted by the contractor pertaining to all works in RSS/AMS/TSS, ASS, Depot, FP, SP SSP, SS etc. EHV and HV cabling from Substations of Power supply authority to RSS of BSRP etc. and submit their comments to Employer/Employer's

Representative, along with suggestions for acceptable design.

Similarly, for CRP, SAS & SCADA, The DDC will be required to check, verify and submit their comments on all Design documents, drawings, calculations, equipment proposals, etc. submitted by the contractor pertaining to all works in RSS/TSS/AMS/ASS & cabling from RSS of BSRP to Feeding Post, ASS of BSRP etc. and submit their comments to Employer/Employer's Representative along with suggestions for acceptable design.

- iii. The DDC will be required to make their services available to make additional details available, verify/modify drawing and issue clarifications whenever required during the construction phase. This would involve attending meeting whenever required. The DDC will evaluate and approve the as built drawing prepared by the System contractor.

2.6.13.2 SAFETY CERTIFICATION OF THE NETWORK BY ISA and CMRS

As per flow of ISA certification, DDC shall submit design and drawings for review of Independent Safety Assessor (ISA) to be engaged by Employer. After issuing the system safety certificate by ISA, the application along with support documents shall be submitted to Commissioner for Metro Railway Safety (CMRS). The Consultant shall note that the CMRS will inspect the Works for the purpose of determining whether the BSRP complies, in terms of operational and infra structural safety, in accordance with the Laws of India. The Consultant shall note that CMRS approval is mandatory for commissioning the system. Notwithstanding other provisions of the Contract, the Consultant shall prepare all design specifications/drawings and documents required to Demonstrate that infrastructure facilities limited to their scope of work are compliant with standards, codes and prevalent industry practices. The required certification related for the works including safety certificates for the works design by DDC shall be furnished as requisition by the Employer/Employer's Representative. The DDC upon notice by Employer/Employer's Representative shall assist the representatives of CMRS in carrying out their inspection duties and also comply with their instructions regarding rectifying any defects and making good any deficiencies in the drawings.

2.6.14 Task 14

2.6.14.1 Services to be performed by the DDC prior to the award of contract to system contractor

i. Available information

The DDC shall study all the available information and drawings issued or made available to it in the scope of services, carry out all necessary analysis and request any further information or data which is necessary for its design development from the Employer/Employer's Representative which will be provided if available. Any data, information, standards not available with the Employer/Employer's Representative shall have to be collected by the DDC at their own cost.

ii. Additional information

The DDC shall, as required, carry out field survey and soil investigations including Soil Resistivity tests. The cost of these services shall be included in the Lump sum cost set forth in the contract agreement.

iii. Relevant Statuary Authority's Approvals, as applicable

- If any new type of equipment is proposed to be used, its safety worthiness will have to be evaluated and sanction of relevant statutory authority will have to be obtained. Detailed investigation and testing will have to be done in this connection.
- The DDC shall prepare requisite design reports, calculations, drawings, test criteria, test procedures etc. as are necessary to obtain the Statuary Authority's approval. The DDC should be in a position to provide necessary support (have experts with adequate qualification, knowledge and experience) to assist Employer/Employer's Representative for effective interaction with Statuary authorities viz. Ministries of State/Union Government and their bodies etc.

iv. Detailed Design

- The DDC shall prepare detailed designs based on the requirements, design criteria and best international engineering practices. Any critical difficulty identified shall be immediately drawn to the attention of Employer/Employer's representative, but notwithstanding that, the DDC shall remain totally committed to the overall integrity of the design, if necessary, actively seeking advice, information and clarification so as to avoid abortive work.

The DDC's design shall take into account the installation (implementation and commissioning) requirements of the system wide information. The DDC shall make provision in its design programme for the inclusion of these requirements at a later date as these may not be finally determined until after the award of the system wide contracts. The DDC shall incorporate the requirements of the system wide contractors into its design as appropriate and as they become available. DDC will be required to suitably interface with designer/contractor of various systems for their proper interface/interconnection with the Elevated/at grade/Underground portion and mainline to depots.

- Green Building Implementation Report for RSS, complying with as per IGBC norms (highest rating) (Ref- Appendix 1) enclosed in this chapter.

APPENDIX-I

All planning, designing & construction shall be done as per Indian Green Building Council (IGBC) norms. The DDC shall adopt all relevant specifications, methodology so that the proposed structures for Power Supply and Traction System obtain highest IGBC ratings. This rating system is based on key requirements inside and outside of any structure that are required. The DDC will include complete facilitation for achieving highest IGBC rating, which will broadly include following:

- Sustainable sites
- Water Efficiency
- Energy Efficiency
- Material Conservation
- Indoor Environment and Comfort

i. Scope of Work and Methodology

The Consultant is required to provide services in such a way that the proposed work is compliant with relevant & latest IGBC norms & guidelines. The Consultant has to provide following services for the project as per the latest & relevant IGBC rating / guidelines.

- Site Selection & Planning
- Water conservation
- Energy Conservation
- Material Conservation
- Indoor Environment & Comfort
- Energy Analysis and Day lighting simulation
- Commissioning of Equipment
- Energy Monitoring

ii. IGBC Certification Facilitation

DDC will engage a Green Building consultant of requisite expertise with the approval of Employer/Employer's Representative at DDC's own cost. The Green Building consultant will work with the design team, PST contractor and other consultants to coordinate and facilitate highest IGBC certification. This will include:

- RSS/AMS/TSS/ASS registration for highest IGBC rating
- Coordinate and facilitate of IGBC submittal
- Communication with IGBC for queries related to the project
- Coordinate final IGBC submittal
- Respond to IGBC queries
- Obtain highest IGBC certification

iii. **The detailed scope for work under IGBC facilitation is as follows:**

a. **Prepare a Preliminary IGBC Feasibility Report**

Preliminary IGBC Report will include credit analysis and target rating level. The Consultant will create and update a project matrix that describes the specific tasks to be implemented by various members of the design team and compile documentation pertinent to IGBC.

b. **IGBC Design Facilitation and Documentation Scope**

Assist the design team in obtaining the highest possible rating as per the Employer/Employer's Representative's requirements and Architect's design. Review calculations and provide technical support for selected IGBC points under credits for:

- Sustainable Selection and Planning (SSP)
- Water Efficiency (WE)
- Energy Efficiency (EE)
- Materials Conservation (MC)
- Indoor environment and Comfort (EC)
- Innovation in Design & Construction (IDC)

Provide guidelines for specifications related to critical environmental criteria for the product types selected (e.g., VOC Limits, prohibited compounds, minimum levels of recycled content etc.) and on submittal requirements. Prepare the tender document to ensure the tender technical specification meets the highest IGBC requirement.

Prepare and provide all necessary templates for PST contractor, so as to meet IGBC requirements.

Facilitate project team in preparing the documentation as stipulated by IGBC. The documentation process will require collaboration and cooperation from the design and construction teams.

The DDC will filter, cross validate, verify consistency, add value and consolidate to make the document suitable for submission to IGBC. Scrutinize the documents before submission to IGBC. Provide inputs on previous credit interpretation requests.

The Consultant would hand-hold the team right from registration of the project to achievement of the IGBC rating on all aspects related to rating.

c. **Energy Analysis**

The proposed premises will be analysed with respect to electrical load keeping IGBC rating as a baseline and suggest the suitable energy conservation measures for improving the energy performance.

Chapter – 3

3.0 Outline Design Criteria

3.1 Design Criteria

The key design criteria that the DDC shall adhere to are addressed in the following paragraphs:

It should be noted that any design criterion is subject to change, subsequent to review, in the interest of enhancing the System-wide performance, inter-operability, cost and safety. The DDC may propose improvements in the designs based on the Aesthetics, working experience or financial savings.

3.2 Climatic data

The DDC is required to obtain the data which includes but not limited to following Data, from the relevant Government agencies of Bengaluru/Karnataka for design purpose:

1.	Temperature	<ul style="list-style-type: none"> ➤ Minimum Temperature (ambient)- ➤ Maximum design temperature (ambient)- ➤ Mean temperature adopted-
2	Rainfall	<ul style="list-style-type: none"> ➤ Minimum, Maximum, Average Rainfall ➤ Duration of rainfall ➤ Any other relevant information required for finalizing the design
3.	Humidity	<ul style="list-style-type: none"> ➤ Maximum relative humidity- ➤ Normal relative humidity- ➤ Minimum relative humidity-
4.	Wind pressure	<ul style="list-style-type: none"> ➤ Maximum wind pressure adopted for design- as per IS 875-3:2015(Latest version)
5.	Thunderstorm	If the region is subject to thunderstorm. Isoceraunic average level of thunderstorms per year as per IS2309 or latest may be considered.
6.	Nature of atmosphere	Levels of <ul style="list-style-type: none"> ➤ SPM- ➤ SO₂- ➤ NO₂- ➤ RSPM- The expected pollution levels in future are likely to be higher.
7.	Earthquake	<ul style="list-style-type: none"> ➤ Designs as per Applicable Zone.

3.3 Design philosophy

3.3.1 Traction design for BSRP system with design speed of 90 KMPH shall be based on the following principles.

- i. Materials and design shall be proven by service experience. This shall not preclude the use of improved technology where this may be regarded as a single incremental advance from a proven base and shall be applied as appropriate to improve quality and reduce maintenance expenses.
- ii. Critical materials shall be readily available from more than one source. As far as possible use of Indigenous product should be encouraged.
- iii. Dimensions of all materials and equipment shall be specified in the System International (SI) units. Standards equipment and components available as an industry standard only in imperial units shall remain specified in imperial units with metric equivalents stated.
- iv. The selection of materials and the RSS/TSS/AMS/ASS, OHE and SCADA system design shall facilitate the routine maintenance of the respective systems and replacement of components on the assumption that the BSRP will operate 19 hours per day, every day of the year.
- v. The operating requirements for speed, frequency, comfort, and reliability demand tight tolerances and high levels of workmanship and quality during construction, facilitated by an effective construction management programme.

3.4 Train Operation Plan

For Train Operational plan, please refer DPR of BSRP or as provided by Employer / Employer's representative.

3.5 Traction power system performance requirement

3.5.1 The Traction Power System shall have adequate capacity to meet the performance requirements specified hereunder:

- i. Normal Operating Conditions

The traction power system is to be designed for the ultimate 9-car train operation at load, headway and alignment as per DPR for BSRP Corridor. Employer/Employer's Representative will provide all the input data for the same. Also, the alignment and station drawing (latest version) shall be provided.
- ii. Emergency operating conditions

For the complete loss of one RSS, the System shall be able to provide 100% of the peak train services at the headway and train composition given above. Employer/Employer's Representative will provide required input data for the same.

3.6 Power Systems

While the simulation study for Power supply requirement is to be done for final / designed headway, alignment and load etc., the power required at the time of Commissioning stage

headway and loads is also to be calculated. Employer/Employer's Representative will provide the input data for the same.

DDC shall be required to develop and propose the methods and tests to validate the results of simulation after the commissioning.

3.7 Overhead line voltage

The Traction system shall be designed and constructed to operate in such a way so as to ensure that the Overhead Line System voltage complies with the following requirements:

- i. Nominal voltage of OHE: 25 kV
- ii. Maximum Permanent voltage of OHE: DDC has to suggest
- iii. Minimum Permanent voltage of OHE: DDC has to suggest
- iv. Minimum Non-permanent voltage of OHE: DDC has to suggest
- v. Maximum Non-permanent voltage for OHE: DDC has to suggest

3.8 Auxiliary Power Supply Voltage

The voltage of auxiliary power supply voltage network shall be recommended by the DDC either 11kV or 33 kV. The supply network should have maximum reliability for suburban train operation. The auxiliary power supply system shall operate in such a way to ensure that system voltage shall comply with the following requirements:

1.	Normal system voltage	TBD by DDC
2.	Maximum system voltage	TBD by DDC
3.	Minimum voltage under normal feeding	TBD by DDC -5%
4.	Minimum voltage under loss of any one supply	TBD by DDC -10%

3.9 Track gauge

Broad Gauge (1676 mm) for BSRP Corridors.

3.10 Schedule of Dimensions (SOD)

BSRP SOD for BSRP corridors shall be made available to the DDC after award of work. Any changes in the SOD will also be communicated to the DDC time to time.

3.11 DESIGN PARAMETERS

3.11.1 Overhead Equipment (OHE)

- Flexible Overhead Catenary System should be used in mainline and Tramway type OHE may be used in the depot area.
- Normally Tramway type OHE may be used in the depot area, provision of Retractable type rigid OHE is envisaged for use in depot inspection bay lines to facilitate crane working for maintenance of air conditioners/roof equipment of the train sets.
- DDC shall submit the Techno-economic analysis of the following items based on reliability,

availability, maintainability, Safety(RAMS) & life cycle cost etc.

- i. OHE Conductor: DDC to examine and submit the suitable size and material of contact and catenary wires.
- ii. OHE Cantilever: DDC to compare, examine and recommend best suitable type of cantilever arrangement among Single Insulator Cantilever (SIC)/ Modular (Cardan and Axle) Aluminium based on reliability, maintainability etc. The recommended type of cantilever arrangement should be installed & in revenue operation in metro railway system.
- iii. Section Insulator/Neutral Section/Overlap: DDC to compare, examine and recommend the suitable type and material of Section Insulator/Neutral Section/Overlap. The recommended type of should be installed and in revenue operation in metro railway system.
- iv. Contact Wire Height: The minimum contact wire heights are shown in Table below:

Item	Min Height
Regulated OHE	As per BSRP SoD
ROCS	
Depot lines	

- v. Stagger: Spans and staggers shall be carefully arranged to ensure that the contact wire will never be displaced by more than 200 mm on straight track and 300 mm on curve from the center-line of the pantograph at any point in-span, under the worst operating conditions of the OHE System, the rolling stock and the pantograph.

In calculating the maximum displacement of the contact wire for the stagger, the following shall be taken into account:

- a. Temperature effect (i.e., the effect of stagger changes due to temperature variation);
 - b. Static and dynamic effect of track tolerances (if they are not included in pantograph sway); and
 - c. Erection tolerance.
- vi. OHE Load: The DDC has to study, calculate and submit the various loads of different types of traction installations/OHE structures (types of masts, SP, SSP, AT etc.) on civil structures.
 - vii. Span Length: The DDC has to calculate the maximum span on the Tangent track and various curvetrack. DDC has to also submit the maximum difference of adjacent span. Optimization of OHE span shall be carried out.

- viii. OHE Masts: DDC shall submit the techno economical comparison and propose the suitable masts based on reliability, availability, maintainability, life cycle, cost, aesthetics etc. The recommended type of system should be installed which is in revenue operation in metro railway system.
- ix. Tension and Tension Length: The Contact and catenary tension values shall be designed & reviewed based on design speed.
Optimization of tension length shall be carried out and calculation for tension and speed graph/table shall be submitted by DDC. Individual tension lengths shall be designed for crossovers wherever possible.
- x. Contact Wire Sag: The auto-tensioned simple overhead line system shall be such that the nominal height of the contact wire at mid-span is lower than that at the supports to improve the current collection quality. The amount of this pre-sag on a straight and curved track shall be decided by the DDC based on system calculations with reasoning or experimental data. Calculations of dropper schedule shall be submitted by DDC.
- xi. Maximum Gradient of Contact Wire: The height of the contact wire above the rail level shall normally be the same at each support. If due to local conditions (such as the transition between main line and depot/Underground), a variation in height is necessary, this shall be achieved with as small a gradient as practicable.
The maximum permissible gradients and relative gradient of the contact wire above the rail level shall not exceed Technical Specifications for Interoperability (TSI) limits for main line and Depot.
- xii. Clearances: The minimum electrical and mechanical clearances shown in the SOD shall not be infringed under the worst operating condition of the overhead line equipment, rolling stock and pantograph.
- xiii. Insulators: Proven type composite insulator with minimum creepage distance of 1600mm or as per latest standards shall be proposed along with the GTP.
- xiv. Clearance at Power Line Crossings: The minimum vertical clearances and lateral clearances between the conductors of utility's power line and all the conductors of the OHE shall be as per CEA regulations/relevant latest standards.
- xv. Electrical Sectioning
- a. OHE shall be divided into electrically isolated sections by provision of interrupters/isolators at insulated overlaps and with section-insulator at turnouts/crossovers. Sectioning shall be provided to permit isolation of OHE in small sections for maintenance or to isolate damaged OHE in case of breakdown/accident and to permit diversion of train from up line to down line and vice-versa.
 - b. The car-shed depot shall be isolated and fed through circuit breaker from feeding post. This will be done so as not to affect the main line section in case of transient/car fault tripping in depot.

- c. The sectioning shall be such that in case of failure of OHE on one track, the faulty section can be isolated quickly and the train (EMU) lying in the healthy section on the same track can either be brought to station or can be taken on the other track through emergency cross-over depending upon the operational requirement. Where practicable, insulated overlaps shall be provided instead of section insulators, for the sake of better dynamic performance.
- d. The neutral section shall be designed by DDC based on above data. Separate feeder cable shall be run from nearby RSS to the depot along-with return cables.
- e. Following items shall be studied and explored for inclusion in bid, and comparison studies to be submitted by DDC. Suitable suggestions of design, make and suppliers of Indian/ international to be submitted by DDC: -
 - Isolators, Interrupters, Circuit Breaker, Load Break Switches, CT at Switching posts (SP, SSP, SS, FP).
 - Provision of Lightning Arrestors on OHE posts to be examined
 - PT / Capacitive Sensor on OHE posts to be examined. Provision of Blast proof PT arrangements to be explored.
 - Jumpering arrangement and use of PG clamps/fittings etc.
 - Neutral section
 - Feeder lines using 25 kV cables

Note: The recommended type of should be installed and in revenue operation in metro railway system for a minimum three years.

xvi. Earthing and Bonding

i. Overhead Line Equipment Earthing System

DDC shall design a suitable and effective earthing and bonding system for the entire traction power feeding OHE system. The present arrangement and requirements specified for the earthing and bonding facilities shall be studied in detail by the DDC and amended. In addition to requirement laid down in IS-3043 and IEEE-80, EN50122 or latest, earthing and bonding shall be provided in accordance with norms laid down in following documents: -

- a. ITU-T (International Telecommunication Union) limits on induced Voltages (60V under normal conditions and 430 Volts under fault conditions).
- b. EN50122 limits on Rail Voltages and touch potential.

ii. General Bonding

The bonding shall ensure safety of passenger, equipment, adjacent building, structures and passage of return current back to substation.

iii. Traction Return Rail Bonding

On the main line, single or both rails of both the tracks shall be utilized as the traction current return rails. DDC shall suggest bonding at following locations:

- a. Special bonding at expansion joints.
- b. Impedance bond/ ITL/ MET locations.
- c. Intertrack bonds. Etc.
- d. Others (Wherever Applicable)

3.12 Power Supply System.

3.12.1 General

- The requirement of traction power at each substation / section shall be calculated based on the frequency of train services during peak hours with maximum no. of passengers, permissible voltage drop at the farthest end under emergency feed conditions in case of failure of one traction substation and without any curtailment of commuter services, power consumption by train auxiliaries, losses in OHE, local loads at the substations, sectioning and sub-sectioning posts and by the trains moving in the car depot yard. Accordingly, the sizing of equipment and location of feeding post is to be proposed by DDC, keeping in view the standardization of equipment.
- Similarly, the auxiliary power requirement shall be calculated based on the station-wise loads of utilities, lights, fans, lifts and escalators & other essential loads and loads of depots-car sheds / workshops etc. Property Development loads shall also be taken into account. The permissible voltage drop / regulation at the farthest end, in this case, is to be considered taking into account the failure of one main auxiliary substation at a time. Accordingly, the sizing of equipment is to be proposed by DDC, keeping in view the standardization of equipment. (Note: Load (MEP) requirement of stations and depots shall be submitted by respective DDC contractors. The inputs to be considered for design of power supply system)
- Optimization of ASS layout in coordination with station E&M DDC and depot DDC shall be carried out. DDC may explore the concept of compact ASS in elevated stations based upon the merits of techno economic analysis.
- Thus, the total power requirement for the traction & auxiliary loads shall determine the capacity of main receiving substations (RSS). To meet the eventuality of outage of a traction power or auxiliary power transformer at RSS/AMS, another transformer shall be provided to act as 100% Standby.
- The power supply at RSS/TSS/AMS shall be received from power supply authority's network either at 220kV or 132 kV or 110 KV or 66 KV. The short-circuit / fault levels of grids at different voltages will be arranged by DDC.
- DDC shall verify these data before starting the RSS specification and BOQ work.
- The overhead system is designed for sparkless current collection at all speeds, but a limited degree of sparking may occur and the equipment shall be capable of withstanding the resultant transient effects.

- The operation of I.G.B.T. (or other switching device) converter units produce range of harmonics into the 25KV supply voltage and the equipment shall be capable of withstanding with these harmonics.
- Due to the exposed nature of the system and the prevalence of lightning, frequent short circuits of varying severity are likely to occur and the equipment must be capable of withstanding the effects of such short circuits up to the maximum value of fault current.
- The DDC shall design all necessary surge arrestors to adequately protect the equipment against lightning strikes/surges.
- Use of surge arrestor and their rating in 25 kV AIS/GIS in underground shall also be envisaged. DDC Shall compare and suggest provision of phase to phase and phase to ground surge arrestors for Auxiliary Transformers to be included in Transformer specifications.

3.12.2 Safety

All equipment shall be adequately earthed, insulated, screened or enclosed as may be appropriate to ensure the protection of the equipment and safety of those concerned in its operation and maintenance and also to other staff or members of the public. The equipment shall comply with the requirements of all relevant statutory acts, rules, regulations and orders. The earthing design shall be as per IEEE 80, IS 3043, EN 50122 or latest.

3.12.3 Design Parameters of Sub-stations

Comparison of AIS and GIS type of Substation shall be submitted by DDC. Based on comparison DDC should recommend the type of Substation to be adopted in BSRP project. For Substations (RSS, TSS, AMS, ASS) the design parameters may be used as yardstick for Design Checking.

3.12.3.1 Civil Design of RSS/AMS/TSS/ASS

DDC shall design Civil works of Power Supply and Traction System including RSS/TSS/AMS/ASS, Feeding post, Risers etc. DDC shall prepare the drawings and documents for Civil work of RSS building and switchyard equipment's. Following documents and drawings shall be prepared (Architectural, Structural, Finishing etc.) by DDC but not limited to:

- i. Equipment Layout
- ii. Topography Survey
- iii. Soil Investigation Report
- iv. Soil resistivity report.
- v. Boundary Wall
- vi. Design Document for substation Building
- vii. Architectural Details of Substation Building
- viii. Control Room Building Foundation Level
- ix. Control Room Building Plinth Level
- x. Outdoor Cable Trench
- xi. Indoor Control room building Cable Trench

- xii. Septic tank and sewage disposal/Sewage Treatment Plant
- xiii. Plumbing & Water Distribution
- xiv. Equipment Foundation
- xv. Active Power Filter Equipment Room
- xvi. Guard Room
- xvii. Steel Structure of Equipment and Cable Trench
- xviii. Drainage System
- xix. Rain Water Harvesting System

And all other drawings and documents related to civil structure and architecture work of RSS Building.

3.12.3.2 Substation Layout

One of the primary requirements of a good substation layout is that it should be Aesthetic and economical as possible and the layout should not lead to breakdown in power supply due to faults within the substation, as such faults are more serious than those occurring on the lines away from the substations. While designing the equipment physical layouts, it shall be borne in mind that transformer bays are visible from control room and that sufficient space is available for ease of operation, carrying out service maintenance, transportation and the replacement of faulty equipment, no effect on adjoining equipment in case of any problem to other equipment, efficient performance of equipment and over all their aesthetic values. Location of land and site limitations shall also be one of the important considerations in deciding the type of equipment/layout of the substations.

Gas insulated switchgear (GIS) type substation is envisaged.

3.12.3.3 Busbar Arrangement

Single bus bar with bus sectioning or double bus bar with bus- coupler may be used. Certain amount of sectionalization shall also be provided in a substation so as to ensure that in the event of fault, a large power source does not get disconnected. Apart from these, exposure of a substation to atmospheric hazards such as lightning, and industrial pollution etc. and future expansion shall be considered for the type of busbar system.

The design of busbar arrangement at RSS shall be out door type either rigid or strain type. Preferably rigid type busbar shall be designed. The size of busbar pipes, connections, material, and its support on pedestal insulators shall be decided on the load/ fault current to be handled, system voltage and corona loss effect etc. The height of busbar and connections from ground level, minimum clearances with equipment shall be as per CEA regulations/ relevant standards.

3.12.3.4 Circuit Breakers and Interrupters

The selection of circuit breakers and interrupters, laying down their technical and performance specification shall be done by DDC on the considerations of type of duty they shall be subjected to perform, periodicity of maintenance, operational requirements, reliability and cost of the equipment. Circuit Breakers for 220 kV or 132 kV or 66 kV, 33 kV for auxiliary and 25 kV (single-phase) for traction are envisaged AIS/GIS type. Comparison of AIS and GIS type shall be

submitted by DDC.

3.12.3.5 Lightning Protection Equipment

- To shield the substation against direct lightning strokes either overhead earth wires or spikes method shall be adopted on economic consideration. Spikes and earth wire shall be designed suitably so as to provide coverage to the entire substation equipment. Normally, an angle of shield of about 45° for the area between ground wires and 30° for other areas shall be considered adequate for the design of lightning protection system. For designing lightning protection, Razevig method of shielded Zone/IS 3043/relevant standards may be used.
- Substation equipment's shall also be protected against travelling waves due to lightning strokes on the line entering the substation by providing Lightning Protection Equipment (LA). The technical rating and performance specification of LA shall be made on the consideration of power frequency over voltages, switching over voltages, lightning voltage and other parameters. Insulation co-ordination shall be done with LA as the focal point.

3.12.3.6 Structures

- DDC shall evolve the design depending upon the choice of the busbar arrangement (strain type or rigid type) and possibility of using few numbers of heavy structures or the large number of smaller structures.
- Material of the structure commonly used in India shall be steel with hot dip galvanized so as to protect them against corrosion. In the polluted area, galvanizing may be suitably increased as per relevant standards.

3.12.3.7 Instrument Transformers

- Voltage transformers (VT) of the metal-enclosed encapsulated type shall be preferred but the DDC shall consider the design of other types of VT's also. The primary & secondary windings shall be protected by fuses & they shall have appropriate ratio for their application. Selection of VT's shall be made considering above all factors including their location, Impulse Level etc. The recommended type should be installed and in revenue operation in metro railway system for a minimum three years.
- All the current transformers (CT) shall have a short time current rating of not less than the equivalent fault current of the fault MVA on the system. They shall have appropriate turn ratio, accuracy class and burden in line with functions they are used for. For differential protection of transformers and their protection / measurement / indication functions class of accuracy & burden shall be decided & laid down by the DDC while preparing the detail technical specification. The recommended type should be installed and in revenue operation in metro railway system for a minimum three years.

3.12.3.8 Main Power and Distribution Transformers

- The main power supply transformers shall be oil filled transformers either 220kV or 132kV or 66 kV / 33 kV (OR as recommended by DDC) and 220kV or 132 kV or 66 kV / 25 kV (Single Phase) while the 33 kV / 11kV/415 V distribution transformers for ASS shall be cast

resin dry type with all the associated accessories. The transformer shall comply relevant IEC and relevant standards and shall incorporate the latest proven design and manufacture for the type of transformers required as currently employed in the industry.

- The category of voltage variation shall be of constant flux variable voltage type in accordance with IEC 76.
- The DDC shall work out the capacity and optimization of each type of transformer based on the load they shall be subjected to handle. The transformer shall be suitable in all respects to work continuously at the specified rating under the climatic condition prevailing in India. The transformer shall be capable of operating at their rated power irrespective of the direction of power flow.
- The transformer shall be designed for continuous operation at its rated power without exceeding the temperature rise limits for the windings and oil as specified.
- The traction transformers used on Indian Railways are designed to meet the following overload ratings; the traction transformer proposed by the DDC shall meet these minimum requirements in that cyclic order:
 - i. 150% loading for 15 minutes
 - ii. 200% loading for 05 minutes
- DDC to review and validate the GTP, specifications and proposals of all other equipment of OHE, ASS, RSS, TSS and SCADA viz cables, CB, CT, PT, LA, Bus bar, isolators etc. in view of the overload characteristics of transformers and suggest and advice Employer / Employer's Representative, contractor for correct size of equipment.
- The temperature of the transformer winding, oil & maximum hot spot temperature shall not exceed the specified limits.
- The transformer shall be capable of withstanding the mechanical and thermal effects associated with short circuit currents in accordance with the requirements of IEC-76/IS-2026 or latest when operating on any tapping position.
- The harmonic voltages of the transformers, particularly the third & fifth harmonics, shall be kept to a low level to minimize possible interference to communication circuits.
- The transformers shall be designed with radiators with low noise level, which shall not be more than as specified in the relevant IEC standard.
- The transformers shall be equipped with on load tap changer (OLTC) for +10% to -15% variation in supply voltages.

3.12.3.9 Protective Equipment

- Protective equipment shall be designed to disconnect faulty circuits with speed and certainty, without interference with the healthy circuits. Protection shall be immune from transient phenomenon to avoid incorrect operation of the circuit breakers during faults or disturbances on the system.

- The relays shall be so arranged that their replacement can be effected quickly and with the minimum amount of labour. The contacts of the relays shall be capable of making and breaking the maximum current which can occur in the circuit which they have to control and shall not be affected by mechanical shock or vibration, or by external magnetic fields consistent with the place or method of mounting.
- Fast acting numerical relays shall be used with Compatibility to SCADA systems. Modern numerical relay specification should be part of the DDC tender. DDC to elaborate the relay specification for every protection.

3.12.3.10 SAS (Substation Automation System)

- The Substation Automation System (SAS) shall be designed to control and monitor all the sub-station equipment from operational control centre (OCC) as well as from local control center.
- DDC shall prepare SAS Architecture for RSS/TSS/AMS in which SAS with Local SCADA shall be connected to OCCs on IEC-104 protocol through Gateways & Dark Fibre. Gateways shall be different hardware from SAS. Gateways and SAS communicates parallelly with all the IEDs (Intelligent Electronic Devices) and Energy Meters of RSS through network switches on IEC-61850 ring. Normally RSS equipment can be controlled from OCCs, but in case of communication failure between RSS & OCCs, RSS equipment shall be controlled through Local SCADA of SAS. DDC shall prepare I/O list of SAS for all RSS.
- Power supply shall be provided to SAS through 2.5 KVA (or of suitable size) redundant UPS System connected with Substation's Main Battery Banks.

3.12.4 Substation auxiliary facilities

3.12.4.1 Fire protection facilities

DDC shall design a proper fire protection system of substation for quick and efficient isolation, limitation & extinguishing of fire so as to avoid damage to costly equipment and reduce chances of serious dislocation of power supply and ensure safety of personnel. The first step in this direction is design of substation layout itself with adequate spacing, fire isolation walls between oil filled equipment, soak / drain pits, approach for quenching etc. as per National Building Code and NFPA.

3.12.4.2 Substation building layout

The substation building layout shall be designed with following in view –

- This should be designed to provide for a separate control room, installation of indoor equipment & facilities for general service such as record room, office accommodation for the operating staff, battery room carrier room, toilets etc.
- The control room shall be of liberal dimensions so as to permit uncrimped functional arrangements of control board with adequate space for additional panels, which may be required in future.
- Adequate provision for neat and orderly running of cables, placement of switchgear within

control room in a separate room shall be specified.

3.12.4.3 Auxiliary supply

The design of auxiliary power supply system shall have following features:

- i. Design of arrangements for AC supplies single & three phase for internal use in the substation for several function such as illumination, battery charging, transformer cooling system, oil filtration plant, transformer tap changer drives, air compressors, breakers & disconnect switch meters, fire protection system, space heaters in cubicles & marshalling kiosks, air-conditioning/ventilation equipment's.
- ii. Reliability of AC supply should be the prime criteria while designing the system standby arrangement.
- iii. Design of D.C. auxiliary power supply system shall consider the requirement for closing and tripping of circuit breakers, emergency lighting, control board indications etc.
- iv. Storage battery arrangement with double set of battery charging rectifier shall be considered with voltage as 110 volts. The battery should be capable of supplying – momentary current required for operation of switch gear, continuous load of indicating lamps, holding coils for relays, contractors etc. and emergency lighting load.

3.12.4.4 Interlocks

- i. To ensure the safety of equipment & operating personnel & to prevent unauthorised and inadvertent operation of equipment, interlocks of mechanical type, key type, electrical type, electro-mechanical type and software based shall be designed.
- ii. Normally, the interlock between isolators to isolators, isolator to circuit breaker & circuit breaker to circuit breaker shall be designed depending upon the safety and operational requirements.

3.13 Cabling system

- 220kV / 132kV/ 66kV Cable shall be used for input supply from Grid Substation to RSS of BSRP. Cable feeders shall be provided for auxiliary power transmission from RSS to various Stations, 25kV and traction return cables will be required for feeding traction power from RSS to OHE.
- There would be requirement of 415V LT Cables, Control Cables and Communication Cable in the Project.
- The cabling System shall meet the requirements of IEC and IS standards. Flame retardant low smoke zero halogen (FRLSOH) and low smoke zero halogen (FRLS) type cables shall be proposed with XLPE insulation and metallic sheath/ armoring as applicable for underground and elevated sections respectively. A colour code scheme shall be used for different cables for ease of identifications.
- Cables for auxiliary power supply are laid in cable brackets/troughs on viaduct. Study on requirement of sheath voltage limiter (SVLs) & study of bonding in 33 kV & 25kV cable sheath shall be carried out (33 kV cable for both elevated and underground sections, and 25 kV

cable for elevated sections). (Note: 33 kV is indicative, however, the voltage level shall be as recommended by DDC which is best suitable for BSRP)

- 33 kV, 25 kV 3.3 kV, Power and C&M cables are proposed to be laid on cable brackets/hangers on the parapet walls of viaduct. DDC shall be required to design the cable laying arrangement of viaduct including cable clamps, cleats, cushioning etc. and accordingly suggest and interface with DDC and civil contractor. The specifications of 33kV/25 kV and other cables to be designed accordingly keeping into consideration of outdoor atmospheric conditions including UV rays.
- Cable length and size for 33 kV feeder for Transformer to be standardized considering VCB switching transients.
- The DDC to study and recommend cable laying system in at-grade sections for cable feeders from RSS to stations as BSRP has at-grade and elevated sections both.

3.14 SCADA System

- The DDC shall prepare design, technical and performance specifications for the supervisory control and data acquisition system for monitoring, Control and tele-metering of the entire Power Supply & Traction system.
- Computer based Modern SCADA system shall be installed at the operation control center (OCC) and back-up control center (BCC). Many BCU and Gateway scattered along the BSRP corridor shall be connected to the OCCs through Dark Fiber.
- The basic functions of SCADA system shall be the switching operation of the equipment at the RSS cum Traction Sub Station (TSS) as well as auxiliary power supply stations (ASS) and switching stations e.g., FP/SSP/SP (controlled stations) also to monitor the status of equipment and to collect, store and analyze information and data relating to traction and auxiliary power supply. The system shall monitor, record, perform the reporting of network control and exercise the management functions of measurements & statistical data.

3.14.1 Technical Requirements of SCADA System.

- The proposed SCADA system shall be generally compatible in respect of speed, protocol, control & monitoring Philosophy etc. widely used all over the RRTS/Metro network.
- DDC shall prepare SCADA system architecture based on latest technology so that it should enhance response time, fault detection of panel and building control for restoration of system with minimal human interface.
- Both OCCs will work as Back-up control centre to each other through Dark Fiber. Intelligent Gateways connected with BCU (Bay Controller Unit)/BCPU (Bay Controller and Protection Unit) through IEC 61850 Fiber loop will be located at various controlled stations (such as Substations, Switching Stations, Auxiliary Substations, Depots etc.) along the alignment. All the Gateways of Substations, Stations & Depots etc. will communicate with both OCCs directly, through a redundant communication network of Dark Fiber on IEC-104 protocol. It will be possible to control and monitor the various equipment of these locations from the OCCs. In addition, all required data will be collected from these controlled stations and

transmitted to the OCCs. DDC shall prepare I/O list for SCADA system accordingly. DDC shall prepare control transfer scheme of SCADA system.

- DDC shall prepare scheme of ETS (Emergency Tripping System) / BLS (Blue Light Station) for underground sections.

3.15 **Interlocking Philosophy**

DDC shall prepare Interlocking philosophy for Power supply and Traction system. All interlocking shall be designed with fail proof interlocks. 220kV/132kV/66 kV, 33kV and 25 kV system shall be designed with Electrical interlocks, Mechanical Interlocks and Electro-Mechanical interlocks.

3.16 **Protection Philosophy**

DDC shall prepare Protection philosophy for entire power supply and traction system.

3.17 **Seismometer and Anemometer**

DDC shall prepare scheme of Seismometer and Anemometer for the entire corridor.

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CHAPTER -4

4.0 System Description

DDC shall submit the System Description of Power Supply and Traction System for BSRP corridor consisting:

4.1 Traction System:

- i. OHE Main features
- ii. Design Requirements
- iii. System Requirements
- iv. OHE General Arrangements for Elevated, At Grade, Underground and Depot Section.
- v. System Design
 - a. Electrical dimensioning of the OHE
 - b. Dynamic design
 - c. Mechanical design
 - d. Foundations and anchoring plates
 - e. Masts, portals and drop arms
 - f. Cantilevers
 - g. Span length
 - h. Tensioning devices. Tension length
 - i. Geometric parameters
 - j. Turnouts and crossovers
 - k. Design of overlaps
 - l. Neutral sections
 - m. Feeding and sectioning
 - n. Earthing and bonding and EMI/EMC
 - o. OHE signs
 - p. Construction tolerances
 - q. Depots and IBL's
 - r. Components
- vi. Appendixes. Calculation and Technical Notes
- vii. Basic Design Drawings
 - a. OHE General Arrangements
 - b. Foundations and supports
 - c. Masts, Drop arms, Portals and Structures
 - d. Cantilevers
 - e. Tensioning Devices
 - f. Section Insulators, Interrupters and Surge arrestors
 - g. Protection and Return Circuit. Booster transformers.
 - h. Earthing & Bonding
 - i. Electrification signs

- j. Components
- k. Cut-out details on Civil Structure for Entry/exit of Cables
- viii. Employment schedule and charts
 - a. Volume charts and equivalent chart for foundation of OHE structures.
 - b. Employment schedule of foundations if any or other arrangement for OHE and all other type of substation structures for various direct loads and bending moments.
 - c. Employment schedule for all other foundations for various depths of parent soil from the datum level (Depot & at Grade section).
 - d. Employment schedule for masts/structures.
 - e. Droppers schedule.
 - f. Sag tension charts for cross feeders for various spans and tensions.
 - g. The DDC shall co-ordinate its design with the relevant agencies and interfacing DDC's and contractors.
 - h. The Employer/Employer's representative shall provide the DDC with the relevant data for the initial track alignment. The DDC shall verify/adjust the alignment data as necessary and prepare the plan and profile sheets as required for the Tender Documents.

4.2 **Power Supply System (RSS/AMS/TSS/ASS)**

- a. RSS/ASS/TSS/AMS Main features
- b. Design Requirements
- c. System Requirements
- d. General Arrangements.
- e. System Design
 - 1. Electrical dimensioning
 - 2. Foundations
 - 3. Gantries, portals.
 - 4. HV and LV Cabling
 - 5. Geometric parameters
 - 6. Earthing and bonding for Substation and Cabling system
 - 7. Construction tolerances
 - 8. Components
- f. Appendixes. Calculation and Technical Notes
- g. Basic Design Drawings
 - 1. RSS/TSS/ASS/AMS General Arrangements and Layouts.
 - 2. Foundations
 - 3. Insulators, Lightning Arresters and Surge arrestors
 - 4. Circuit breakers and Disconnectors.
 - 5. Cabling System
 - 6. Protection System.
 - 7. Earthing & Bonding

8. Cable Tray and Earthing Strip
9. Electrification signs
10. Pieces and Components

To prepare the detailed equipment layout and other drawings & specification pertaining to ASS as per the land availability, site conditions, and track layouts keeping in view the various clearances to be observed, and checking of same for RSS.

4.3 **Fire Detection and Suppression**

Designs of Fire detection and suppression system in all Auxiliary substation Building structures including, Portable Extinguishers, Gas Based Flooding System.

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CHAPTER 5

5.0 Tendering and procurement of contracts

5.1 Services to be performed by the DDC prior to the award of construction contracts: procurement of contracts

5.1.1 Construction Programme and contract packaging

The DDC shall submit for approval to Employer/ Employer's Representative, proposed construction programme based upon its methods of construction and work sequences. The programme shall include interface activities with system-wide and other contractors and operational dates. The programme shall be submitted to the Employer/Employer's Representative for review. The DDC construction implementation schedule demonstrating that the design can be constructed within the schedule guidelines of the Contract Documents and indicate the earliest available dates for completion of the Works.

5.1.2 Construction Cost Estimates

- The DDC shall prepare and submit for approval of Employer/Employer's Representative in preparation of, the construction cost estimate for OHE, RSS/AMS/TSS, ASS, SCADA, OCC and allied works, etc. These estimates shall be based on the schedule of rates (SOR) of related work or existing rates available in the employer's office/market rate (if rate not available). If there are any points of disagreement or inconsistency/omissions in the estimate, all modifications of the cost estimate before contract award shall be in the DDC's Scope of Service.
- The DDC shall prepare and submit for approval of Employer/Employer's Representative in preparation of, the construction cost estimate for required modifications of existing IR OHE Systems and allied works, etc. infringing with respect to BSRP corridors alignment.
- The estimates shall show the unit rates and quantities adopted and shall give details where required of how the unit rates were developed. The estimates shall be broken down into separately identifiable sections of Works. The DDC shall input cost estimate data in soft & hard copies.
- The Employer/ Employer's Representative shall review specifications, design, drawings and Bill of Quantities from the prepared drawings. The DDC shall revise the Bill of Quantities as required by the Employer/ Employer's Representative and modify the Cost Estimate accordingly.

5.1.3 Confidentiality of Estimates and Design Budgets

All estimates shall be treated as strictly confidential and shall be submitted by the DDC in sealed envelopes separately from other documents that it is required to provide. Any malpractices and leakage of confidential information of any nature will be viewed seriously.

5.1.4 Tender Documents

- DDC should assist the Employer in packaging of contracts for best value for money bidding,

and prepare final draft of tender documents. DDC needs to prepare necessary technical documents for tendering including BOQ, GTP, detailed specifications, cost estimates, schedule of payment, key milestones dates, and incorporate corrections as and when necessary, before the contract is awarded.

- DDC will prepare the final draft in soft copy & hard copy including BOQ, Tender drawings, Technical specifications, tender schedules & forms, SCC etc. and send for review and instruct necessary correction to furnish the final draft to Employer/ Employer's Representative for uploading of tender documents. The DDC contract team should be present in the employers office as and when required for smooth Liaisoning with the employers officials for floating of tenders.
- The Consultant shall assist the Employer/Employer's representative in furnishing technical explanations and clarifications to the Bidders on specific queries of the Bidders during the Pre-Bid meeting. Consultant shall assist the Employer/Employer's representative in preparation of **addendum/corrigendum if required.**
- The consultant should perform with profound confidentiality and trust with the Employer/Employer's Representative. They are prohibited to disclose any information whatsoever without consent from The Employer. The Consultant shall not enter into discussions with the Bidders on any matter concerning the rates/prices to be quoted by the Bidders.

5.1.5 DDC shall submit the Detailed Design for BSRP corridors consisting of the following:

- i. The DDC shall submit the detail design of OHE as used in Metros/High speed Railways for elevated, At grade, underground sections & depot.
- ii. The DDC shall also give the details of fitting components required for flexible OHE (with BT/RC & without BT/RC)
- iii. The DDC shall submit the detail design for Auxiliary Power distribution system for all corridors.
- iv. The DDC shall submit the detail design for SCADA System to be integrated with OCC and BCC.
- v. The DDC shall submit detail design of RSS/TSS/AMS/ASS and switching locations SSP/SP/FP etc.
- vi. Detail design of Earthing and Bonding, equipment & components specifications & drawings etc.

5.1.6 DDC shall submit the BOQ for BSRP corridors consisting

- i. 25 KV AC Traction System for depot, Elevated, Underground and at-grade sections
- ii. RSS/AMS/TSS/ASS including Substation Automation System.

This would involve working out power requirement (both traction & auxiliary) for BSRP Corridor. The power required for property development is also to be worked out. The power supply systems will be designed by using outdoors transformer using GIS switchgear

system.

- iii. Auxiliary Power distribution system for complete section.
- iv. SCADA System including OCC and BCC.

Based on Detailed Design documents and BOQ, DDC shall prepare the Bid documents for Power supply and Traction and SCADA System for all the four corridors.

K-RIDE

CHAPTER -6

6.0 Preparation of Details Design Documents and Drawing

6.1 General

Plan, detail design control, co-ordinate and execute the design phase of the contract of production of drawings, documents and reports to meet the key Schedule dates included in the Agreement and as directed by the Employer/Employer's Representative.

- i. Preparation of 25 kV AC Sectioning Diagram both 25kV and Auxiliary network covering complete mainlines (At grade, Elevated & Underground) and depots & finalization of locations of OHE posts (SP/SSP/SS/FP) giving due consideration to site conditions.
- ii. Preparation of Power Supply diagram for whole Auxiliary network for full corridor including, elevated, underground, at grade and Depot, involving ASS wise SLD, layouts, design calculations.
- iii. Detailed design of structure foundations for OHE, BT, FP, SP and SSP and the arrangement of electrical connection from BT/FP/SP/SSP to OHE matching with the skyline of city shall be furnished by DDC.
- iv. Preparation of Power Supply diagram for RSS/AMS/TSS/ASS for Tender documents.
- v. The design of Power Supply and Traction system should take into account the vibration, expected on OHE, cantilever and equipment, switchgear, etc.

6.2 Preparation of earthing and bonding plan.

- i. The DDC shall prepare detailed earthing and bonding plan for all the corridors to ensure safety of equipment and human beings. For collection of data and drawings regarding structures requiring earthing, reinforcement bars and tracks, track- circuiting and signaling plans, the DDC shall interface with concerned contractor. The details relevant to boundary between elevated and at-grade portion will however be fully included.

6.3 Preparation of documents for substations

- i. To prepare the detailed equipment layout and other drawings pertaining to RSS/TSS/AMS/ASS as per land availability site condition and track layout keeping in the view the various clearances to be observed.
- ii. DDC to compare and suggest the provision of Phase to Phase and Phase to ground Surge Arrestors for Station Auxiliary transformers to be included in Transformer Specifications.
- iii. Selection and sizing of Power and Control cables, lightning arresters, isolators, bus bar arrangement, circuit breakers, CT's, PT's, metering panels and other equipment at each OHE post and ASS and checking of same for RSS.
- iv. Designing of earthing system for Switching post and RSS/TSS/AMS/ASS and plan for structures, gantries and foundations of these installations.
- v. Designing of protection and interlocking scheme for each RSS/TSS/AMS/ASS.

- vi. Protection co-ordination with KPTCL/BESCOM/BBMP and the detailed protection scheme to be adopted in all RSS/TSS/AMS and ASS including those required for feeders and auxiliary network. In addition, review and finalize the detailed technical and performance specifications of main traction power transformer, main auxiliary power transformer and auxiliary distribution transformers for stations.

Design and prepare overall protection philosophy, protection settings, relay timings to ensure proper protection coordination from Grid substation, RSS/TSS/AMS/ASS, OHE equipment power supply and auxiliary network. The protection scheme should take into account all parameters including relay settings at GSS, supply cables from Grid, the impedances of OHE and cables. This also includes Relay settings calculations for RSS/AMS/TSS and ASS.

The work shall cover design checking of the incoming 220 kV or 132 or 110 or 66 kV power cable terminations as well as any outgoing power cable termination in the RSS. The work shall also include co-ordination of the protection scheme of the RSS with that provided by the Power Supply authority for incoming/outgoing 220 kV or 132 or 110 or 66 kV power cables at RSS. It would also cover protection system of internal power supply network of BSRP. The work will, also include design of the protection scheme of the feeder from source to the BSRP RSS.

Protective covers/ shrouds on terminals, etc. are to be designed/identified Cable length and size for Auxiliary network feeder for transformer to be selected considering VCB switching transients.

Plan Power and control cable run layout in the RSS and ASS premises, control room, cable trenches, supporting and clamping arrangement, cable termination etc.

6.4 **Preparation of Drawings and specifications related to internal Auxiliary network.**

- i. As per Comparative study, the employer may be required to set up their own internal power supply network for reliability, voltage regulation, feasibility of supply sources and flexibility considerations. This would include finalization of single line diagrams, cross section & specifications of cables, their laying on the viaduct/at grade/tunnel. The specifications, drawings & calculations (particularly those related to derating factors) required for executing this network are also included in the scope of work.
- ii. Prepare the layout of various indoor type auxiliary substations equipment layout, preparation of layout of control and distribution panel employing indoor circuit breakers, other switchgear and bus bar arrangements. DDC scope of work excludes the work of design of distribution and control for station load and depot load (design of distribution system at 415 V level).
- iii. Designing of protection and interlocking scheme for internal Auxiliary power supply network.

6.5 **Preparation drawing & specification of SCADA system**

Design, drawing & specification of SCADA system giving due consideration to requirements of

uniformly & integration with SCADA Systems.

6.6 **Preparation specification of traction system**

Prepare BOQs for the systems approved by Employer/Employer's Representative, technical specifications and drawings, construction cost estimate, interface documents for the associated elevated/at grade/underground construction contract for OHE, RSS/AMS/TSS, ASS, SCADA, OCC and BCCs including all spares etc.

The specifications shall be prepared based on the latest applicable standards, and all the tests including special tests shall also be included in the test schedule as per the latest standards.

6.7 **Services to be rendered during construction contract**

- i. Make available their service as and when required during the construction contract available to modify existing designs of drawings as necessary to incorporate site conditions and unforeseen conditions, to attend meetings connected with work whenever required.
- ii. The DDC will be required to make their services available to make additional details available, modify drawing and issue clarifications whenever required during the construction phase. This would involve attending meeting at design office at Bengaluru whenever required. The DDC shall review the as built drawings prepared by the System contractors and submit for consideration of Employer/Employer's Representative.
- iii. The attendance of key staff of DDC at Bengaluru during stage 2 of project (Excluding attendance required for design review/clarification/interface meeting/review meeting and services mentioned in scope of work etc.).

6.1 The power cable layout and its design shall be audited for its compliance of relevant standards and deficiency if any shall be pointed out in contractor's proposal before the time of execution.

6.8 **Services to be performed by the DDC prior to the award of construction contracts.**

6.8.1 **Available information**

The DDC shall study and take guidance from all the available information including those made available during design e.g., DPRs/SODs/DBRs of BSRP and drawings issued or made available to it in the scope of services to carry out all necessary analysis, and request any further information or data which is necessary for its design development from the Employer/Employer's representative which will be provided if available. Any data, information, standards not available with the Employer/Employer's Representative shall have to be collected by the DDC at their own cost.

6.8.2 **Additional information**

The DDC shall, if so required carry out field survey and soil investigations wherever required. The cost of these services shall be included in the Lump sum set forth in the Agreement.

6.8.3 **Approvals of Broad Technology Parameters, as applicable**

- If any new type of Overhead mast, Structure or equipment is proposed to be used, its safety worthiness will have to be evaluated and sanction of Competent Authority will have

to be obtained. Detailed investigation and testing will have to be done in this connection.

- The DDC shall prepare requisite design reports, calculations, drawings, test criteria, test procedures etc. as are necessary to obtain the Authority's approval. The DDC should be in a position to provide necessary support (have experts with adequate qualification, knowledge and experience) to assist Employer/Employer's Representative for effective interaction with Agencies (ISA), Indian authorities viz. Chief Electrical Inspector to Government (CEIG), and Commissioner of Metro Rail Safety (CMRS).

6.9 Interface with systems and commitment

The DDC shall prepare detailed designs. Any critical difficulty identified shall be immediately brought to the attention of Employer/Employer's Representative, but not withstanding that, the DDC shall remain totally committed to the overall integrity of the design, if necessary, actively seeking advice, information and clarification so as to avoid abortive work.

The DDC's design shall take into account the installation requirements of the system wide information. The DDC shall prepare detailed designs based on the principles for program for the inclusion of these requirements at a later date as these may not be finally determined until after the award of the system wide contracts. The DDC shall incorporate the requirements of the system wide contractors into its design as appropriate and as they become available. DDC will be required to suitably interface with designer/contractor of various systems for their proper interface/interconnection with the Elevated, At grade portion (with specific reference to FOCS, RSS/TSS/AMS, Auxiliary Supply System, earthing & bonding systems etc). Further OCC, BCCs and SCADA system design has to take into account the requirements of RSS, 25kV switching station and RSS/TSS/AMS/ASS.

6.9.1 List of drawings

The detail by DDC of various drawings which would be required to be submitted areas under: The soil testing report for the foundation design for the depot will also be done by the DDC. (The list is not exhaustive and if necessary additional drawings may also be prepared by the DDC without any additional cost.)

6.9.1.1 TRACK ELECTRIFICATION FOR MAIN LINE & DEPOT

- i. Pegging Plan
- ii. OHE layout drawing
- iii. OHE profile Drawings.
- iv. Cross section drawing
- v. Structure Erection Drawing
- vi. Feeder drawing
- vii. Dropper Schedule
- viii. X-Y chart of ATDs
- ix. OHE foundations

- x. Sectioning Diagram
- xi. Earthing and Bonding
- xii. EHT/FOB/ROB profile drawings
- xiii. Section working rules.
- xiv. HDD/Cable crossing / Cable route plan for all BSRP and external utilities

6.9.1.2 RSS/AMS/TSS, POWER SUPPLY DISTRIBUTION, ASS, SWITCHING STATIONS AND BOOSTER TRANSFORMERS

- i. Location plan and schematic diagram
- ii. Layout drawings of RSS/AMS/TSS, ASS & Switching stations
- iii. Power and control cable run layout diagram
- iv. Structural assemble and structures drawings
- v. Foundation layout drawings
- vi. Control room panel layout diagram
- vii. Control, protection scheme and metering arrangement drawing
- viii. Access route drawing
- ix. Earthing and bonding drawing
- x. Fencing layout

6.9.1.3 SCADA SYSTEM

- i. General arrangement drawing
- ii. Power supply Schematic and wiring layout diagram
- iii. Control wiring and equipment interface diagram
- iv. List of Preparation drawing & specification of SCADA system other special drawings.

6.9.1.4 OTHER GENERAL LAYOUT DRAWINGS

- i. Fencing layout
- ii. Bonding/Earthing layout

6.9.1.5 Miscellaneous drawings

- i. Employment Schedule and charts
- ii. Layout drawing of OHE & PSI maintenance depot

6.9.1.6 OHE drawings

The DDC shall review and furnish following typical drawings for traction overhead equipment, power supply distribution system including switching posts.

- i. Uninsulated overlap

- ii. Insulated overlap
- iii. Termination arrangement
- iv. Neutral section arrangement
- v. FP/SP/SSP/SS feeding arrangement to OHE
 - a. Through bare conductor
 - b. Through cable
 - c. Jumpering arrangement of various equipments of sub stations.
- vi. Cable laying profile diagram at grade and viaduct
- vii. Transformer neutral earthing arrangement with buried rail.
- viii. Any other drawing required for proper execution of work

6.9.2 Track electrification drawing

6.9.2.1 Pegging Plans

The pegging plans indicating the location of OHE structures, arrangement of overhead equipment and other general particulars are to be prepared.

6.9.2.2 OHE layout diagram

The OHE layout plan incorporating following information to be submitted:

- i. The run of wires in different thickness or colour in special cases and terminations.
- ii. The run of wires for future wiring indicated to the contractor, in dotted lines
- iii. Exact position of all cut out-in-insulators, including section insulators
- iv. Direction and value of stagger at each traction structure location
- v. Clearance of live conductors to structures in the vicinity including bridges, signals, gantries etc.
- vi. Layout of feeders
- vii. Jumper connections and connections to switches and switching stations
- viii. Location and numbers of switches
- ix. Conductor Schedule and Type of Mast
- x. Schematic sectioning diagram drawn to a convenient scale showing section insulator number of switches, elementary sections and connections to switching stations.
- xi. Tables giving references of approved profile drawings, feeder layout plans and other relevant drawings.
- xii. Material Assessment.

6.9.2.3 OHE profile drawings

After completion of the overhead equipment layout plans, the contractor shall prepare an

overhead equipment profile drawing showing the actual height of the contact wire under each over line structure the gradient and height of the contact wire on either of structure and the encumbrances at structures until normal height of contact wire and encumbrances are restored.

6.9.2.4 Cross section drawings

Cross Section drawings for each structure showing guy rods, if any, indicating the cross section of formation / viaduct, height and nature of bank, whether new or old, nature of soil, type of foundation block, structure proposed, reverse deflection of the structure and all necessary particular for erection of the foundation.

6.9.2.5 Structure erection drawing

The DDC shall review the structure erection drawings indicating track layout, cantilever arrangement, height of contact wire, catenary wire, stagger, setting distance of masts etc.

6.9.2.6 Feeder drawings

On the basis of these general alignment drawings, the DDC shall prepare and submit the longitudinal profile drawing for the feeders running from BSRP RSS-Cum-TSS, SP, SSP and BT stations to OHE showing the details of structures, jumpering arrangement and the clearances of live conductors from ground. After approval of these drawings, the DDC shall submit drawings for the foundations and structures proposed to be used at locations of supporting structures.

6.9.2.7 Dropper Schedule

The DDC shall submit dropper schedule for various span lengths and encumbrances covering overlaps, neutral sections, turnouts, crossovers, FOB/ROBs profiling and any other typical locations.

6.9.3 ASS, Power supply Distribution, switching stations and Boostertransformers drawing

Location Plan and Schematic diagram:

- i. The DDC shall prepare the location plans and schematic connection diagram for, all the switching stations, booster transformers and auxiliary substations of the stations and depots incorporating following details:
- ii. OHE/Track layout in the vicinity of the receiving cum traction substation, switching stations and BT location.
- iii. Location/orientation of feeding post, other switching posts inside the RSS, other switching posts BT and arrangement of cross and longitudinal feeders to be anchored, if any, including jumper connection with the OHE and busbar of switching posts.
- iv. The incoming power cable termination in the RSS and the arrangement of outgoing of auxiliary power network cables, 25kV power cables.
- v. Location of auxiliary substation w.r.t the station building and other land- marks including cable entry and exit.
- vi. Scheme of connection of the interrupters and other equipment.
- vii. Fencing out line at ASS, switching posts and BT locations.

- viii. Auxiliary substation, Switching station layout drawings.
- ix. The DDC shall prepare the Layout plans and single line diagram for, all RSS / TSS / AMS / ASS.
- x. Layout drawing for RSS / TSS / AMS, ASS and switching stations indicating the arrangement of various equipment, busbar arrangement, cable run layout, location and position of the pedestal insulators on different structures, high level/low level gantries and other steel framework and fencing. The drawing shall also indicate the space requirement and clearances for each equipment, structures and control room within the earmarked land area for the substation and switching posts. The drawing shall also give a schematic connection diagram and an isometric view of busbars and their connections.
- xi. The drawings shall include sectional elevation views at various cross sections of the switching posts to cover plan and sectional views at the level of transmission line conductor/cable termination, busbar/high level gantries at traction feeding post; Insulators/Isolators beams, CT, VT and LA's beams as applicable. Drawing shall include the schedule of all equipment required along with drawing references of details of these equipment.
- xii. Power and control cables run layout diagram, including cross section drawing. These drawings shall indicate the power and control cables **run ASS and switching stations premises and power cables run layout along the section**. The layout drawing for cable run along the section would include cross section drawing for each typical location showing erection arrangement, spacing and also space for S&T and other system wide cable. The drawing shall indicate the details of cable trenches/cable-ducts/basement trays/conduits/trough/under platform voids/cable hangers and other cable supports. The cable joints and end/terminations shall be shown in the drawing apart from indicating interconnection of cables between various equipment and SCADA cubicles, control panels along with schematic arrangements and physical disposition of equipment, colour coding/ code numbering and index scheme adopted for terminals. The drawings shall also indicate the cable size grade of insulation (also voltage grade for which cable is meant) and quantity of each cable. Cable route shall also show the important landmarks and cable route indicators. The DDC shall submit separate drawing of each ASS, switching stations and along the corridor. DDC shall prepare the power and control cables **from source substation of Power supply authority to BSRP Receiving substations,**

The DDC shall prepare detail design of EHT/HT (220kV, 132 or 110 or 66 kV, or any other voltage level) cables as submitted by the other contractor keeping into consideration of cross bonding, wherever required, and also check the design of cross bonding scheme accordingly.

Structural assembly drawings for switching posts and BTs indicating the steel structures for mounting individual equipment, high level steel structures and other steel frame works/ assembly shall be prepared. The drawings shall also have a schedule of component members along with reference of various members. The weight of component members shall be indicated in the separate weight and drilling schedule.

6.9.4 Foundation layout drawings

Foundation layout and cross section drawings for each ASS, OHE switching Posts, OHE mast & Anchor and BT locations shall be prepared indicating the layout of all the foundations in plan, transverse cross-section of various foundations through center line of structures and all equipments. The Drawing shall show the details of foundation of various structures, gantries, equipment mounting structures, circuit breakers, interrupters, transformers etc. cable trenches and fencing uprights. All foundations shall be marked serially on the drawing and listed in a schedule on the drawing indicating the volume of concrete for each foundation blocks.

6.9.5 Control room panel layout diagram

The diagram shall indicate the physical layout of various control and protection panels e.g., transformer protection panel, circuit breaker and interrupter control panel, SCADA panel, 415 V LT distribution control panel, traction feeding post panel, AC/DC power supply distribution board, incoming and outgoing power supply control panels, battery sets and chargers and any other such equipment's / boards / panels inside the substations and other switching posts building / control room. The drawing shall mention the size (length, width and height) of panels, location, distances from the walls / trenches and other such measurements details. For indoor substations (like ASS of station), location of the transformer and HT/LT cabling route shall also be indicated. Size of ASS room to be optimized after considering all equipment sizing and space optimization.

6.9.6 Control, Protection scheme and metering arrangement drawing.

Drawings for control, protection scheme in all the RSS/TSS/AMS and ASS and metering arrangement of Power supply system shall be prepared in detail to facilitate award of construction contract.

6.9.7 SCADA drawing**6.9.7.1 General arrangement drawing**

Drawing for general layout arrangement of various SCADA equipment to be kept in the Operations Control Centre (OCC) and the Back up Control Centre (BCC). This shall indicate the size and location of various equipment viz. master computer, interface/server equipment between master and Gateways, work stations, printers, MDB communication facilities, power supply equipment like UPS, battery, battery charger and other relevant details.

6.9.7.2 Power supply schematic and wiring layout diagram

This drawing shall indicate schematic arrangement of power supply system feeding to ASS and other switching stations. It shall also show alternate power supply scheme from UPS / battery, wiring / cable layouts/routes, distribution boards and other such details to facilitate easy detection of fault and corrective action. I/O schedule and corresponding cable schedule of SCADA for ASS, OHE, switching stations, SP, FP etc.

6.9.7.3 Control wiring and equipment interface diagram

This drawing shall indicate the schematic details of master equipment, Gateways and Mimic Diagram Board indicating therein all the equipment-to-equipment interface connections.

6.9.8 List of other special drawings

The DDC shall prepare a list of other important relevant drawings of SCADA equipment like hardware configuration, component level wiring, connection diagram, SCADA systems and other minute drawings to be submitted by the construction contractor later on.

6.9.9 Fencing layout plan

Fencing layout drawing for each switching station, BT station, Auxiliary sub-station indicating the layout of the entire fencing and anticlimbing device in part shall be prepared. Each up-right, fencing panel and fixture on the up-right shall be indicated on the drawing by its reference number. A schedule of components viz. up-rights, panels, fixtures and barbed wire shall be included in the drawings indicating the drawing references of components. An individual drawing shall be made for each type of panel, fencing post and fixture for mounting the anti-climbing device. The drawing of each fencing post shall indicate the unit weight of the fencing post. The design of the fencing should also match with the station building architecture.

6.9.10 Earthing layout plans

Earthing layout drawings for OHE systems on elevated decks (pile, pier, viaduct, station, ramp, canopy, handrail, plinth and other civil structures) and at grade, each complete ASS and Switching station at main line and depot indicating the layout of full earthing system/earthing mat in plan shall be made. Earthing and bonding plan of Main line and Depot to be submitted. The drawings shall show the location of earth electrodes and earth pits and mark the runs of earthing strips and connections, to each equipment and structures, fencing post, fencing panel and control panel. All components shall be marked with their reference numbers. For future details of the runs of conductors and connections, separate drawings, which may be common to all switching stations, may be made and references to these drawings marked on the layout. A schedule of components shall be made out in the drawings giving drawing references of components. The SCADA earthing system shall be separate and not connected to power supply earthing network. DDC shall check the earthing calculations & layout drawings for RSS.

6.9.11 Miscellaneous drawing

Miscellaneous drawings applicable to all ASS, OHE posts, BT station, SCADA system and switching stations shall be prepared. These drawings shall include drawings or sketches made for study of clearances, scheme of interlocks, number plates of various equipments, caution and instruction boards, outriggers for busbar support and non-standard bus bar connectors.

6.9.12 Layout drawings of OHE, PSI Maintenance Depots and Tower car Shed.

General layout drawing of overhead equipment maintenance depot, power supply maintenance depot and Tower Car Shed shall be prepared indicating the room sizes and other relevant details. Combined OHE maintenance and power supply maintenance is envisaged. The layout diagram shall also indicate the location of various plant and machinery work, test benches to be installed, training room and planning office in the depot. The location of store bins meant for keeping ferrous and non-ferrous items, power supply distribution switch gears and their spares shall also be indicated. Suitable location of tower car stabling shall be suggested by DDC.

6.9.13 System wise Requirements

- For system wise requirements preliminary information in the form of preliminary Civil Engineering chainage shall be given to the DDC. The DDC has to make liaison with the system wide DDC/Contractors to get additional information.
- During the detailed design phase and continuing through the construction phase the DDC shall coordinate with the Employer/Employer's Representative, and other system wide DDC's to obtain system wide requirements such as station layouts, signaling location, cross over locations, via duct arrangement. The DDC shall attend layout and station building compatibility review meeting during design stage.
- During design and continuing through the construction phase, the DDC shall revise completed or partially completed drawings to incorporate the additional system wide requirements.
- Additional layout details and system wide requirements requested by systems and Civil Engineering Contractors during design/construction shall be incorporated into the drawings.

6.9.14 Interface with other system wide design consultants/contractors/utilities.

The DDC shall co-ordinate all design work with various system wide consultants/ contractors/ utilities including but not limited to:

- i. Interface with via duct construction DDC/Contractor for informing the location and design of OHE structures and foundations.
- ii. Interface with depot DDC and track work contractors for finalizing location and size of OHE structures in depot and working out details of sectioning arrangement inside the depot and making arrangement of retractable OHE at inspection pits.
- iii. Interface with station building DDC/contractors so as to finalize details of structure foundations and method of supporting the OHE at stations and for suitably locating the BT, SP and SSPs.
- iv. Interface with other system wide DDC / Contractors viz. signalling and telecommunications, rolling stock and other system wide contractors.
- v. Employer / Employer's Representative / System for interfacing with FOCS / ROCS contractor.

6.9.15 Construction Cost Estimates

The DDC shall prepare and submit to the Employer/Employer's Representative, construction cost estimate for complete RSS /TSS/AMS, ASS, cable network, SCADA system, switching stations, PSI depot, Tower car Shed and OHE for depot and main line separately. This estimate shall be based on quantity take-off from prepared drawings but where no drawings exist the quantities shall be determined by using similar job information and typical relationship of quantities. All modifications of the cost estimate before contract award shall be in the DDC's Scope of Services.

The estimate shall show the unit rates and quantities adopted and shall give details of how the unit rates were developed. The estimate shall be broken down into separately identifiable sections of works as directed by the Employer/Employer's Representative. The DDC shall input cost estimate data into USB Drive/Electronic Means and submit these discs in accordance with Section pertaining to Submission of Documents herein.

The Employer/Employer's Representative shall review design drawings and prepare a Bill of Quantities separately to verify the DDC's take-off from the prepared drawings. The DDC shall revise the Bill of Quantities as required by the Employer/Employer's Representative and modify the Cost Estimate accordingly.

6.9.16 Documents and Drawings

The tender documents for the contract shall be finalized by the Employer/Employer's Representative. Responsibility for preparing draft for these documents in electronic format shall be that of the DDC based on documents issued by the Employer's Representative. The DDC shall prepare the Bills of Quantities, GCC, SCC, PCC, ITT, IFT and detailed technical specifications, drawings including the Scope of Work. The DDC shall prepare any other documents as required as per the KTPP act.

6.9.17 Amendments to Documents

The DDC shall provide such further pertinent information not included in the Tender Documents as may be required by the Employer/Employer's Representative. This shall include, but not be limited to: Amendments to documents and drawings arising from Bidder's questions.

6.9.18 Construction Drawings

The DDC shall submit to the Employer/Employer's Representative, prior to the award of each construction contract, a complete set of "For Construction" contract drawings for that contract that has been produced as a coordinated package. The DDC shall also furnish a complete sets of CAD file on USB Drive/Electronic means for contract drawings.

6.10 Services to be performed by the DDC during construction/execution

The DDC would be required to extend services and shall deploy Staff as required by employer during the construction/execution stage.

6.10.1 Contract Drawings

Additional contract drawings or revisions to the contract drawings previously issued for construction shall be prepared by the DDC and submitted to the Employer/Employer's Representative. Where changes to the contract drawings are required, the DDC shall be responsible for preparing all data related to the detailed design onto drawings to be issued to the Contractor. The Employer/Employer's Representative will then issue the drawings to the contractor for construction of the Works.

6.10.2 System wise Information

The DDC shall incorporate full and final information relating to system wide equipment and services into suitable drawings. The timing for issue of these drawings will be determined by the

Employer/Employer's Representative dependent upon the award of the system wide Contracts. Final system wide requirements defined by system wide contractors shall be incorporated into the drawings for construction. The DDC shall prepare and issue intermediate submissions of the drawings as necessary to meet the construction schedule.

6.10.3 Site Meetings

DDC shall attend site meetings as and when required by Employer / Employer's Representative.

6.10.4 Site Visits

As required by the Employer/Employer's Representative, the DDC shall visit the site to provide his expert opinion on the performance, quality, progress etc. of the Works and report whether the work is progressing generally as designed. The result of such visits shall be reported to the Employer/Employer's Representative immediately, if urgent actions are required.

6.10.5 As-Built-Drawings of the works

The DDC shall review the as-built drawings submitted by the contractors to the Employer/Employer's Representative on a continuous basis prior to the issuance of the Certificate of Completion for the contract. The DDC shall prepare relevant calculations reconciled with as-built conditions, and information necessary for the maintenance of the works.

6.10.6 Co-ordination with Construction/Execution Contractor & Designer

During the construction/execution phase, the DDC shall be responsible for expeditious implementation of the evolved designs and sorting out any design interface problems with the contractors and other contractors working on the section including the depot.

Special care shall have to be exercised for timely implementation and necessary interfaces for commissioning receiving cum traction substation to enable availability of traction power supply for rolling stock commissioning trials and trial runs on the section prior to commercial opening of the section.

6.11 Organization of the detailed design consultant

6.11.1 General

The DDC shall establish an efficient organization for carrying out all services according to program requirements. The organization shall provide effective management of the tasks of the contract including those that must be carried out concurrently by separate disciplines and teams. The organization shall also ensure that all information that becomes available during the design period is directed to the appropriate design teams and effective checking procedures are continuously maintained to ensure that required standards are met.

Upon its appointment, the DDC shall promptly commence setting up its organization to the satisfaction of the Employer/Employer's Representative, which shall be same as mentioned in Bid Document.

6.11.2 Performance

Notwithstanding any review of its organization structure, staff or manning schedules, the DDC shall remain wholly responsible for providing the services. If, in the opinion of the Employer/Employer's Representative, the progress or performance of the DDC's work is seen to be at any time inadequate to meet those requirements, the DDC shall take the necessary steps to improve them on being so notified. If within a reasonable period the DDC has not improved its progress of performance, the Employer/Employer's Representative may by written notice require it to take additional measures, including changes in its organization, at no additional cost to Employer. Such notice shall be in no way deemed to constitute a waiver of Employer's rights to terminate the agreements by reason of the DDC's breach of contract. Failure by the Employer/Employer's Representative to issue such a notice shall not relieve the DDC of its obligation to achieve the required rate of progress and quality of work.

6.12 Standard of services**6.12.1 General**

The DDC shall be responsible for correctness and technical merit of its design, calculations, drawings and all other documentation prepared by it in carrying out the services.

The DDC shall ensure that qualified and experienced staff are employed in sufficient number and that accurate, consistent, clear and easily read drawings and documents are produced in time. The DDC shall comply with the provisions and procedures covering standards and codes, drawings and calculations.

6.12.2 Standard and Codes

The standards and codes referred to in the design criteria, drawing, and documents issued by the Employer/Employer's Representative to the DDC shall be used in its design and, where appropriate, shall be quoted on drawings and other documents by it. Normally the DDC shall use the Standard given in its design requirements in preference to other national standards except when higher standard or better quality is required. Should the DDC propose to adapt other standards or codes for its designs, it shall submit to the Employer/Employer's Representative copies thereof, together with a statement as to the cost implication of adoption and substantiation that substitution is necessary. The DDC shall also demonstrate that other standards are equivalent or superior to those they intend to replace and it shall obtain the written approval of the Employer/Employer's Representative prior to adoption.

6.12.3 Extent of Information

All designs and documentation produced by the DDC shall provide sufficient information and detail for Bidders to determine accurately the extent of the works, submit firm prices and during construction, execute and maintain the works.

Tender and Contract Drawings, specifications and other information produced by the DDC for construction, or revisions of such documents, shall be submitted to the Employer/Employer's Representative, in sufficient time for review and further issuance of a comprehensive package to the contractor. The DDC shall ensure that these documents are produced in a timely manner such

that the construction contractor is able to plan and execute its works in accordance with the contract, including the construction program.

Drawing for construction shall be in such details as not to require further design or detailing to be carried out by the construction contractor. The drawings to be prepared by DDC shall show or include of any unusual features of construction.

6.12.4 Calculations

Calculations shall be prepared according to the best professional standards and compiled into sets that relate to particular aspects of design. Each set of calculations of OHE, Power Supply (both traction and auxiliary) and Remote control (SCADA) system design shall include, but not be limited to a method statement including:

- i. Power & Voltage at farthest ends for each TSS & AMS at normal & extended feed conditions are within acceptable limits for trains and Auxiliary system. Alternatively output of calculations from validated computer software will also be acceptable.
- ii. A brief description of the OHE and structure design.
- iii. Size of equipment foundation.
- iv. Size of cables, traction conductors, earthing conductors / busbars.
This would give due consideration in laying method, derating factors, voltage drops & other such factors before working down the final result.
- v. Capacity of transformers, circuit breaker, interrupters, disconnecting switches booster transformers, Instrument transformers and other equipments.
Due consideration should be given to the load cycle based on the Train operation, and the transformers to be designed for maximum efficiency accordingly. All other associated equipments & items are also to be designed accordingly.
- vi. Power factor correction equipment in substations.
- vii. A brief statement/description of the method of analysis used.
- viii. Worst operating conditions to be considered
- ix. A brief statement/description of the method of design.
- x. Details of the computer programme used
- xi. A key to symbols used and
- xii. A design summary
- xiii. Any other relevant calculation pertaining to design work.

Each set of calculations shall be bound and shall include a cover sheet and index. A statement certified by the DDC'S authorized representative that the accepted checking procedures, as defined in Section 5, have been carried out in full shall be attached to each set of calculations submitted to the Employer/Employer's Representative.

Original calculations shall be submitted to the Employer/Employer's Representative for proof

checking. Each sheet shall be signed in accordance with the requirements of Section 5. Original calculations shall be returned and retained by the DDC and shall be reproduced at such times as may be required by the Employer/Employer's Representative. The original calculations shall then be handed to the Employer/Employer's Representative on completion of the services.

6.12.5 Drawings prepared by DDC

- Preliminary, Tender and Contract Drawings shall be prepared and issued by the DDC in accordance with the current load requirements issued to it by the Employer's Representative (refer to Section 7 for submission of documents)
- All drawings shall be prepared in A-1 size and shall be produced by CAD graphic system compatible with the BSRP system and as approved by the Employer's Representative. Drawings are defined as:

Preliminary drawings are drawings prepared by the DDC prior to their acceptance by the Employer's Representative as Tender or Contract Drawings.

- Tender Drawings are drawings prepared by the DDC and approved by the Employer/Employer's Representative which, with other relevant documentation, contain all the information necessary for tendering purposes; and
- Contract Drawings are drawings that have been prepared by the DDC from Tender drawings that have been approved by Employer/Employer's Representative and which, together with other relevant documentation, will form the Construction Contract.
- DDC shall submit to the Employer/Employer's Representative as part of a progress register, a list showing drawing numbers, titles, scales and the progress status of all drawings planned for inclusion in the documents for obtaining tenders. The format of the progress register shall be as directed by the Employer/Employer's Representative. The DDC shall update the register as required. All drawings shall be checked for compliance with design specifications and for accuracy by the DDC's.
- Design staff and shall also be subjected to the checking procedures as detailed in Section 5 hereof.

6.12.6 Drawings prepared by Contractors

The drawings excluded from the DDC's scope above are to be prepared by the contractor. DDC shall however assist the Employer/Employer's Representative in their scrutiny/comments. DDC shall also review and verify the drawings of contractors.

6.12.7 Documents

Documents shall be prepared by the DDC in accordance with the requirements issued by the Employer/Employer's Representative. Documents produced by the DDC shall be listed as part of the Progress Register.

6.12.8 Computer Programs

The DDC shall submit details and verification of all computer programs it intends for use to the

Employer/Employer's Representative for acceptance prior to use in making calculations. These shall include the computer program manuals, input and output printout of a typical example and previous records of its use by the DDC.

6.13 **Standard of services**

6.13.1 **Design Calculations**

Each page of design calculations, including any amendments thereto, shall be endorsed as checked and approved prior to issuing to the Employer/Employer's Representative by being initialed and dated by both the originator and the proof checker.

6.13.2 **Drawings and Documents**

Each document and drawing, including any revisions thereto, shall be endorsed as checked and approved prior to issue to the Employer/Employer's Representative by being initialed and dated by both originator and proof checker. In addition to compliance with the requirements of the documentation each drawing, where appropriate, shall be checked to ensure compliance with the DDC's certified design calculations.

6.13.3 **Certification**

Certificate signed by the Project Manager of the DDC or his accredited representative stating that all drawings and documents have been checked and approved in accordance with the agreement, shall accompany all documents and drawings issued by the DDC to the Employer/Employer's Representative for acceptance.

6.13.4 **Quality Assurance Plan**

The Quality Assurance Plan (QAP) shall be submitted by the DDC to the Employer/Employer's Representative for approval before any work is submitted by the DDC for approval by the Employer/Employer's Representative.

- Organizational structure.
- Design control-including study and design input/analysis;
- Checking of documents
- Documents control;
- Sub-consultant control;
- Internal quality audit; and
- Corrective action;

The DDC shall also identify the requirements of Quality Level List in the QAP for the contract.

6.13.5 **Responsibility**

Notwithstanding acceptance by the Employer/Employer's Representative, the DDC shall remain responsible for the quality of the documents.

CHAPTER 7

7.0 **Services to be performed by the DDC during and construction phase**

7.1 **Good for construction drawings**

- Design and drawings submitted to Employer/Employer's representative prior to award of work shall be updated to Good-for-Construction drawings (GFCs) incorporating changes (if any). Where changes to the contract drawings are required on account of site constraints, coordination and interface requirements, the DDC shall be responsible for preparing all data related to the detailed design onto drawings to be issued to the Contractor. The Employer/Employer's Representative will then issue the drawings to the contractor for construction of the Works. Any design modification during construction shall be provided by DDC.
- The Consultant shall endorse the submissions required under the Contract that all effects of the design comprising the submission on the design of adjacent or other parts of the works have been fully taken into account in the design of these parts.
- The GFC drawings for OHE, RSS, TSS, AMS, ASS, SCADA, OCC, BCC and all other system related to power supply and Traction system should be issued separately.
- DDC shall issue design modifications of the existing drawings (within 7 days upon request from the Employer and Employer's Representative) and supply a new / supplementary drawing duly approved by the proof-checker, wherever required and give instructions thereof to the contractor.
- DDC shall provide design support during the construction to review the work for compliance with the design and to carry out design changes required during construction. Review and endorse working drawings/Shop/ fabrication drawings and other Temporary structure design and drawings submitted by the contractor to the DDC for approval. Report changes including analysis to assess if there is any adverse impact of such changes.
- Working drawings/ Shop drawings prepared by the contractor shall be endorsed/ approved by the Consultant as being in accordance with the Construction Reference Drawings/ Good for construction drawings.

7.2 **Construction Methods and Temporary Works**

The DDC shall review; update and issue the revised drawings based on site condition, material samples, mock-ups of civil, architectural finishes items of the construction contractor without any cost implications. Furthermore, the DDC shall assess, and report to the Employer/Employer's Representative the construction contractor's proposed construction methods and temporary works design with respect to their effect on the permanent works and give their views to improve the method etc. submitted by the contractor.

7.3 **Site Visits of Construction Sites:**

The DDC shall visit the site as per requirements to provide his expert opinion on the design

related issues of the Works and to report to Employer/Employer's Representative, their observations and issue the revised drawings if required with necessary modifications and certificates. The result of such visits shall be reported to the Employer/Employer's Representative immediately, if urgent actions are required.

7.4 **Site Meetings**

DDC shall attend site meetings as and when required by the Employer/ Employer's representative, during the design stage and construction/execution stage.

7.5 **Progress Review Meetings**

The DDC will attend progress review meetings along with Team Leader with concerned supporting staff and required to produce:

- i. An updated copy of the computerised project schedule and a design chart showing scheduled and actual start and finish dates and estimated percentage completion for each major design activity;
- ii. An updated copy of the progress registers showing the titles and status of all drawings and documents (with drawing index sheet as per Performa agreed by Employer/ Employer's Representative).

7.6 **As-Built Drawings of the Works**

"As-Built Drawings": means those drawings produced by the Contractor and endorsed by it as true records of construction of the Works.

- i. DDC shall review as-built drawings submitted by the contractors with respect to CRD/GFC/ Latest design Modifications on a continuous basis prior to the issuance of the Certificate of Completion by Employer/Employer's Representative for the construction contract.
- ii. While reviewing the as-built drawings prepared by contractor and where there is deviation from CRD/GFC drawings prepared by DDC, the DDC shall check the integrity of the system and suggest any remedial measures (if required).

7.7 **The Consultant shall also review design related aspects if any pertaining to the following reports submitted by the contractor:**

- i. Construction Method statements
- ii. Construction sequence and Supervision Manual
- iii. Operation and Maintenance Manual
- iv. Special Reports / Engineering Reports/Environmental Compliance Reports
- v. Contractor's Quality and safety reports
- vi. Corrective action to be taken whenever necessary.

7.8 **Final Completion Report**

The DDC shall prepare a comprehensive final Completion Report for each of the construction

contract, which reaches a stage of substantial completion during the period of the services. These reports, which must be submitted immediately after the taking over of each section wise, shall summarize the design modifications, design challenges, method of construction, the construction supervision performed, problems encountered, solutions undertaken and recommendations for future projects of similar nature to be undertaken by the employer. The DDC shall then summarize and consolidate in a single Final completion Report, the key information from the monthly reports and submit to the Employer/Employer's Representative.

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CHAPTER 8

8.0 Design submission and checking & reviewing procedures

8.1 Standard of services

- i. The DDC shall be responsible for the correctness and technical merit of its designs, calculations, drawings and all other documentation prepared by them in carrying out the services.
- ii. The DDC shall ensure that qualified and experienced staffs are employed in sufficient number and that accurate, consistent, clear and easily legible drawing and documents are produced on time.
- iii. The DDC shall comply with the provisions and procedures covering standards and codes, drawings and calculations. The DDC shall also comply with the checking procedures as stated below.
- iv. The DDC shall submit the designs, drawings and documents in an orderly, sequential and progressive manner as a whole in line with latest updated (once in 07 days) and approved design rolling programme and schedule.
- v. The Design Requirement Plan(s) shall define the DDC policy for the design of the contracted works and shall, without limitation, define:
 - a. The organization of the DDC staff.
 - b. The specific allocations of responsibility and authority given to identified design staff with particular reference to the review and verification of design drawings and calculations by the DDC.
 - c. The specific methods of design to identify any relevant Method Statements and develop those Method Statements to a degree of detail sufficient to permit the Employer to understand;

8.2 Design submission and reviews

8.2.1 Inception report

The DDC on mobilization would submit an inception report indicating the details of manpower deployment and strategy for delivering the work as per required time frame and comparative study as required:

A detailed methodology and action plan will also to be submitted. "Key Dates" may be referred in this regard.

8.2.2 Design Submission

The DDC shall prepare and present calculations and drawings describing the design which shall at a minimum include

- i. Report on power supply arrangement
- ii. Simulation study covered
- iii. Sectioning diagram for main line & depot
- iv. Auxiliary supply schematic. This would include design of the run and installation of auxiliary

power cables along the corridor.

- v. The detailed design calculations
- vi. OHE pegging plan, OHE layout drawing & OHE profile drawings.
- vii. OHE configuration in via duct, at grade, stations and depots.
- viii. Arrangement of OHE termination at anchor points
- ix. Structure Erection Drawings
- x. Earthing & bonding arrangement
- xi. Switching station layout and their connection to OHE
- xii. BT layout if placed in gantry on via duct or at platform end or under deck to located BT and switching stations at one end of the platform.
- xiii. Auxiliary power substations (ASS) at each station
- xiv. Design of the overall protection scheme for Traction, and auxiliary network.
- xv. Design of SCADA system.

8.2.3 Progress Review Meeting

DDC shall attend such meetings whenever required by employer's representatives.

8.2.3.1 Intermediate submission

When the design, including preliminary drawings, Bill of Quantities and specifications, is substantially developed by DDC to define the works including locations, shapes and size, it shall be submitted to the Employer's/ Employer's Representative for review. After review, these shall be advanced adequately for submission by to the Competent Authority.

- Documents for review of ISA.
- Design calculations incorporating corrections/modifications, as required.
- Technical specification in sufficient detail of material and workmanship to permit bidders to bid for the work.
- Drawings detailed to define the works and others as are necessary.
- Bill of Qualities for all the works in sufficient accuracy (with take-off sheets) to be able to proceed to Tender.
- An updated draft Design Report which shall include studies undertaken by the DDC.
- An outline Construction Program with consideration of alternative construction methods. If appropriate.
- Initial construction cost estimates, with their basis including references of last accepted rates, budgetary costs etc. including construction cost estimates.
- Any other documents that may have been requested by the Employer's Representative.

8.2.3.2 Intermediate Review Procedure

The Employer's Representative will complete the review of intermediate submission by DDC, and furnish the DDC with his review comments either in writing or on marked up drawings. Within 7 days of receiving the comments, the DDC shall meet with the Employer's Representative to discuss the review comments such that further actions can be determined for the DDC to proceed with its services in a timely and efficient manner. Within seven (7) days of this meeting the DDC shall deliver to the Employer's Representative copies of the minutes of the meeting together with its responses to all comments.

8.2.3.3 Submission of Documents for review of Authorities (As applicable)

The DDC shall submit all the technical documents necessary for Employer/ Employer's representative to request approval from the Authorities of the BSRP. Documents shall include but not limited to:

- Appropriate design reports
- Design assumptions
- Calculations
- Drawings
- Test Procedures
- Required test results

8.2.4 Final Review Submission

When the design and drawings and other details required are substantially complete, the DDC shall submit the documents for the Final Review to Employer's Representative. The quality of this submission shall be such that the entire work can be executed using these documents & all items indicated in scope of service of DDC are covered. The final proposal of DDC after duly modifying/ updating all the documents submitted at this stage. Documents submitted for final review by Employer's representatives shall include but not limited to:

- i. Design calculations which are indexed and checked.
- ii. Drawings sufficiently detailed to define the works, complete and checked
- iii. All design report including specific actions which are necessary to complete the design
- iv. A detailed implementation Schedule detailing the various interfaces during construction stages with other contractors
- v. A detailed description of the assumed construction methods
- vi. Bill of quantities with quantity take of sheets
- vii. Construction cost estimates with their basis
- viii. All Particular (Technical) specifications and other details required for tender invitation
- ix. General specifications, General & Special conditions of contract. These will be prepared jointly with the employer's representatives.

8.2.5 Final Review Procedure

The Employer's Representative will complete the Final Review of all details submitted within approximately twenty (20) working days, and furnish the DDC with his review comments either in writing or on marked up drawings. Within seven (7) days of receiving the comments, the DDC shall meet with the Employer's Representative to discuss the review comments such that further actions can be determined for the DDC to proceed with its services in a timely and efficient manner. Within seven (7) days of this meeting, the DDC shall deliver to the Employer's Representative copies of the minutes of the meeting together with its responses to all comments.

8.2.6 Submission of Final Design

These design documents shall be those comprising the Final Review Submission after incorporating the comments of the Employer's Representative. These documents are final design documents, acceptable for issue as part of the Tender Documents for the construction contract. This shall include complete tender documents for floating of tender besides other details.

8.2.7 Delivery of Documents

After the Employer's Representative has accepted the submission of the final designs, the DDC shall deliver in electronic format on USB DRIVE/ELECTRONIC MEANS all Documents prepared by it to the Employer's Representative. Original full size Tender Drawings shall be ready for reproduction. The original documents, typed but not bound, shall have been proof read, reviewed, approved and certified, and be ready for reproduction. The DDC shall furnish a complete set of CAD drawings in USB DRIVE/ELECTRONIC MEANS to the Employer Representative, prepared in accordance with requirements within 30 days of the submittal of the original drawings. CAD drawings File Control log, which describes the contents of each of the CAD drawings USB DRIVE/ELECTRONIC MEANS, shall also be furnished.

8.2.8 Delivery of Documents to construction contractor

The DDC shall issue the documents to the Employer's Representative for issuance to the contractor "For construction". This shall also include all "Good for construction" drawing containing all details required by the construction contractor for execution of the work.

8.2.9 SUBMISSION OF DOCUMENTS

The DDC shall deliver the drawings and documents as listed to the Employer's Representative and packaged as directed by the Employer's Representative.

- i. Quality Assurance Plan Copies of the Quality Assurance Plan
- ii. Intermediate Review Submission: This submission shall be made in one set.
- iii. Final Review Submission: This submission shall be made in two sets.
- iv. Submission of final design & Tender documents: This submission shall be in five sets. This shall also be accompanied by soft copies of all documents & drawings required to be issued for construction tender.
- v. Submission of documents: This submission shall be in three sets of hard copies. In

addition one set of reproducible drawings and two sets of soft copies shall also be supplied.

- vi. Delivery of documents for construct contractor: This shall include 4 sets of all the details required to be issued to construction contractor. The Good for Construction drawing will however be submitted in 5 sets.

8.3 CHECKING PROCEDURES

The DDC shall establish a Quality Assurance Plan (QAP) and a system of internal audit and approval of all designs, including calculations, drawings and other documents prepared and issued to the Employer/Employer's Representative for acceptance. The purpose of the checking shall be to ensure accuracy and consistency, as well as compliance with current requirements, standards, codes and the requirements of the contract. Internal checks shall be carried out by personnel who have experience and competence as far as possible equal or superior to the originator, but who have not been involved in producing the original design. All the design drawings and calculations shall be checked & then to be submitted to Employer/Employer's Representative.

Design review checklist must include all calculations, drawings and other requirements for the review of design of complete system. The list shall be verified and validated by the independent design checker and the same submitted for notice of no objection prior to precede the preliminary design.

8.3.1 Proof- checking of the design/drawings submitted by the consultant

The DDC with the approval of employer shall engage a separate competent agency (Proof checker) which should be IIT/IISC for the proof checking of the designs/drawings prepared by the Consultant. The Consultant is required to submit the design/drawings to the above proof checker with a copy to The Employer. The Consultant is required to discuss the design/drawings with the Proof checker and shall take necessary action to incorporate the comments of the proof checking agency, modify the design/detailing wherever required or give reasonable explanation to defend their design, generally to the satisfaction of Proof Checker and The Employer. The following procedure shall be followed in general:

- i. In the first instance, the Consultant shall submit the design/drawings/documents to the proof checking consultant.
- ii. The proof checking consultant shall examine the above designs/drawings/documents, if required hold discussions with the Consultant for any clarifications etc. and offer comments, if any on these documents.
- iii. The Consultant shall resubmit these documents to proof checking consultant, incorporating the comments of proof checking consultant, if any.
- iv. The proof checking consultant shall again examine these documents and forward these documents to The Employer/employer's representative with their recommendations regarding the approval of the documents by The Employer for its final approval.
- v. Prior to the approval, the Consultant may be called by The Employer for discussions on the design/drawings certified by the proof checker and in such case the consultant shall

depute the Team leader with relevant experts for holding discussions with The Employer

8.4 **Endorsement of Design Calculations**

- All calculations, including any amendments thereto, shall be endorsed as checked and approved prior to issuing to the Employer/Employer's Representative, being initialed and dated by both the originator, and the proof checker/s. All the signatures on the cover sheet of authorised personnel including the proof checker shall be original handwritten signature.
- Calculations shall be prepared according to the best professional standards and practices compiled into sets that relate to particular aspects of design
 - i. A brief description of the Power supply and Traction System
 - ii. A brief statement description of the method of design
 - iii. Details of the computer program used
 - iv. A key to symbols used
 - v. A design summary.
 - vi. Calculations for OHE, RSS/TSS/AMS/ASS and associated systems shall include, but not limited to:
- Calculation of connected load, maximum demand and short circuit level at each node. Calculation of Load for OHE Structure.
- HV and LV Cable sizing including voltage drops; Lightning protection system including number
- Calculation of connected load & maximum demand for normal and emergency supplies.

8.5 **Quality Assurance Plan**

QAP shall be submitted to Employer/Employer's Representative for approval. The QAP shall identify the personnel, procedures, instructions, records and forms necessary to implement the plan with the following minimum requirements:

- i. Certification process of drawings and documents for issue;
- ii. Organizational structure;
- iii. Design control - including study and design input/analysis;
- iv. Checking of documents;
- v. Document control;
- vi. Subcontractor control;
- vii. Internal quality audit; and
- viii. Corrective action.

The DDC shall also identify the requirement of Quality Level and incorporate a Quality Level List in the QAP for each construction contract.

The procedures to be applied to manage and control the quality of the design work, with particular reference to the following:

- i. The design and performance requirements which shall be defined in terms of basic data and design assumptions made; relevant codes, standards and regulatory requirements; safety, security and environmental requirements; and commissioning requirements;
- ii. The design methods. Software applications to be used in the design, both proprietary and public domain, shall be identified and any requirements for physical and mathematical model testing;
- iii. The preparation, checking, issue, distribution, indexing and filing reports, calculations, drawings and specifications along with the means of their revisions;
- iv. The formal design review, authorization and approval of design documentation;
- v. The design verification and validation;
- vi. The design checks by the Design Checker; and
- vii. List of examples of the forms and formats to be used to record the activities under the Design Plan shall be attached at the end of each section or a reference included to existing standard procedures.

8.6 **Quality Audits/Monitoring**

Quality Audits and monitoring of the DDC's QAP will be conducted by Employer/ Employer's Representative at intervals commensurate with the DDC's activities.

8.7 **Responsibility**

The DDC shall remain responsible for the quality of the documents.

CHAPTER 9**9.0 Organization of The Detailed Design Consultant**

- i. The Consultant shall establish an efficient organization for carrying out all services according to programme requirements. The Consultant shall furnish the CV's of all the key personnel working on this project for approval of Employer/Employer's Representative.
- ii. The organization shall provide effective management of the tasks of the contract including those that must be carried out concurrently by separate disciplines and teams. The organization shall also ensure that all information that becomes available during the design period is directed to the appropriate design teams and effective checking procedures are continuously maintained to ensure that required standards are met. Proper coordination between the different disciplinary of consultant shall be maintained. All the design and drawings will be certified by all the expert of concerned disciplinarians/ Key-Personnel.
- iii. Consultant shall have their full-fledged dedicated office for this work in Bengaluru at its own cost to the satisfaction of The Employer.
- iv. Employer/Employer's Representative may regularly inspect/audit/oversee the working of the Consultant.
- v. All key personnel should not leave the project without prior approval of the Employer/ Employer's representative.
- vi. The Consultant shall be required to form a multi-disciplinary team for this assignment. The Consultant's Team shall be manned by an adequate number of experts with relevant experience in the execution of similar detailed design and supervision assignments.
- vii. A list of personnel to be provided by the Consultant along with suggested staff man-months in "Appendix – A" of (Section – 8) of BID Documents. However, the actual deployment of Key Personnel shall be for completion of work as stipulated in scope of work and payment shall be made on lump sum basis as per Schedule-A of BOQ. No claim on account of variation in deployment of Key Personnel for completion of work shall be entertained.
- viii. A list of qualifications and experience requirements for Professional Staff to be deployed by the bidder is attached in Section-2 of Bid documents.
- ix. The information furnished in as per clause 13.7 & 13.8 above is provided for the purposes of evaluation of the Technical Proposal. Any additional staff proposed may be recorded in the technical proposal. The applicants are advised to frame the Technical Proposal for assessment in respect of marks to be given as part of evaluation criteria.
- x. The Consultant shall maintain an Attendance Register (man-hours also). The Consultant shall furnish a certificate that all the personnel as envisaged in the Contract Agreement have been actually deployed in the Project at the time of submission of every bill to the employer.

CHAPTER 10

10.0 Duties and Responsibilities of Consultant

- i. The consultant shall initiate the design works, in consultation with Employer/ Employer's representative, and actively pursue and involve itself in all investigations and enquiries, consultations, studies, and compliance with pertinent information and data, convening of and attendance at design meetings, and in any other activities as are or may be necessary for producing the detailed design, drawings and documents to the specified requirements.
- ii. The consultant shall carry out the services in accordance with best industry practices, in compliance with the provisions of the Agreement. Consultant at its own expense shall make any or all changes necessary to ensure that their design, drawings and documents conform to the intent and purpose set out in the Agreement.
- iii. The consultant as a professional and experienced consultant providing full consultancy services, shall accept full responsibility for the correctness and technical merit of the services performed.
- iv. The consultant shall assist Employer/ Employer's representative in obtaining the necessary design and regulatory approvals from the appropriate authorities.
- v. The broad scope of services is classified in terms of activities. All the incidental services related with pre-construction phase, construction and post construction phase including additional related details, approvals, completion/ occupancy certificates etc. shall be deemed to be included in the scope of services of the consultant. No extra payment shall be made for such incidental services.
- vi. The Consultant is held totally responsible for the drawings issued for works. If any mistakes or omissions are found during the execution, the Consultant will be held responsible and will clarify these mistakes or omissions, such clarifications shall not be considered as additional services requested by employer. Any approval of the drawings by the Employer shall not hold the Employer responsible for any lapses or mistakes and the Consultant shall be totally responsible for the same.
- vii. The Consultant shall ensure that the Designer continues to be represented in Bengaluru at all times by staff whose seniority and experience are to the satisfaction of the Employer/ Employer's Representative and whose representative is available on the site as necessary or as required by the Employer's Representative.
- viii. The DDC shall submit his Design Quality Assurance Plan as required for the design by the Contract.
- ix. Provide design support, review shop/ fabrication drawings and other drawings submitted by the contractor and be available for any clarification, review the work for compliance with the design and carry out design changes required during construction including testing and commissioning of the installations.
- x. Assist the contractor to prepare the As-Built Drawings by releasing soft/ hard copy of contract drawings and reviewing and commenting on the contractor's draft submissions.

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- xi. The Employer/employer's representative may review the work carried out by the consultant at planning, detailed engineering or at any pre-constructional stage to get satisfied with the standards and procedures adopted by the consultant. It shall be the responsibility of the consultant to make available the concerned documents to the Employer on demand. All the documents shall be submitted in Hard & Soft Copies.

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CHAPTER 11**11.0 Software**

The Consultant shall use licensed version of software for carrying out the work as stipulated in scope of work. Consultant shall indemnify the Employer against any damage, expense, liability, loss or claim in this regard.

11.1 Computer Programs/ Software

The DDC shall submit details of all computer programs and tools it intends to use during the design process.

S No.	Description of Simulation / Study / Design	Name of the applicable Software used for the work by DDC
1.	Traction Power simulation	
2.	HV and MV load flow	
3.	Traction and Auxiliary network shortcircuit	
4.	Protection relay coordination for Auxiliary and Traction System	
5.	Insulation Coordination	
6.	Harmonics	
7.	EMI/EMC	
8.	Power Factor	
9.	Line Resonance	
10.	Earthing & Bonding and Earth mat design.	
11.	Pantograph Dynamic Studies	
12.	Lighting System	
13.	Direct Lightning Stroke Protection(DSLP)	
14.	Existing IR/metro power supply lines effect on BSRP and vice versa	

The consultant shall submit the soft copies of each work (2D-3D, etc.) in the desired format and facilitate the employer for easy accessibility of the soft copies.

DDC shall be responsible and directly involved in the preparation of detailed design, drawings, calculations, modelling in software, BOQ, Technical documents. Some of the activities but not limited to are given hereunder:

- i. Preparation of Initial Work Plan (IWP) and Detailed Work Plan (DWP) for design of Power Supply, Traction and SCADA System.
- ii. Preparation of Design calculation templates as per design criteria given in standards, codes etc.
- iii. Preparation of Model in the software
- iv. Preparation of tender drawings, GFC/CRD and review of As Built Drawings.
- v. Preparation of BOQ in reference to SORs, LARs, Budgetary offers, and good industrial practices.
- vi. Preparation of Technical Documents.
- vii. Making Employer/Employer's Representative team trained and well conversant to do all above activities.

CHAPTER -12

12.0 Operation and Maintenance

- i. BSRP intends the contractor of Power Supply and Traction System for Operation & comprehensive Maintenance of the system for 10-15 years.
- ii. DDC shall perform the detailed analysis of Operation and Maintenance (O&M) for Power Supply, Traction and SCADA System. Based on the analysis, the DDC shall recommend the period of Operation & comprehensive Maintenance (10 OR 15 years) and prepare the complete scope, specifications, manpower requirement, BOQ for O&M works. The O&M scope for Contractor shall contain all aspects of Power Supply and Traction System which contains following but not limited to:
 - a. Contractor shall carry out the operation and comprehensive maintenance of Power Supply, Traction and SCADA system (including Employer provided T&Ps and all the assets created during the currency of contract by the contractor) and undertake maintenance & operation of all PST facilities during the Maintenance Period.
- iii. The operation & comprehensive maintenance document shall include following but not limited to:
 - a. All Scheduled, Unscheduled and breakdown maintenance including operation achieve the following objectives:
 - Safety of Operation & Maintenance
 - Adherence to Operation Schedule
 - Reliability, Availability and Maintainability
 - Key Performance Indicators for systems and subsystems.
 - Adherence to Service Quality

To achieve above parameters, required manpower (competent, skilled and unskilled), all Tools & Plants, Catenary Maintenance Vehicle, Breakdown vehicles, equipment and material spares shall be in the scope of O&M Contractor.
 - b. Obsolescence Management.
 - c. Maintenance Management Information System.
 - d. Provision of remote monitoring and fault diagnostic
 - e. Round the clock Helpline in OCC/BCC & RSS/AMS/TSS/ASS and Prompt Response at all places of work.
 - f. Interface with Operations department.
 - g. Interface with other Systems such as Signaling and Telecommunication, Rolling Stock E&M, Civil, Track, BESCO and KPTCL etc.

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- h. Rescue and Disaster Management.
- i. Asset Management System for control of all assets, equipment and material.
- j. Management of Staff Organisation.
- k. Inspection and Audit of PST System by Employer/ Authorised agency of employer
- l. Procedures for operation & Power Blocks, Maintenance Reports, Maintenance Manual and formats.

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CHAPTER -13**13.0 Miscellaneous works to be included in connection with elimination of LC gates and Elevation of IR section from KM 211.325 TO KM 216.200**

In section Hebbal to Banaswadi from Km 211.325- 216.200 tracks will be elevated for a maximum of 6 meters from the existing IR level, in order to facilitate placement of boxes to eliminate Six level crossings.

At present 1 No. of running IR track is present in this section. First the formation will be constructed for outermost BSRP track and the existing IR trains will be diverted temporarily on this track in Phase (1). Subsequently, the existing IR track will be dismantled and earth work will be done for remaining three lines (one BSRP & two (UP & DN) IR), to bring rail level at par with the already elevated BSRP level.

In phase (2) Two tracks will be laid for running of IR trains at elevated level. The trains running temporarily will be diverted permanently these new tracks.

In phase (3) the BSRP tracks will be made final and 2 nos. of dedicated tracks each for BSRP and IR will be running permanently.

The scope of work for consultant includes but not limited to the following: -

The type of foundations, Masts, brackets, conductors and other OHE parts shall be designed by the consultant. In phase (1) the constructed BSRP track will be used by the IR trains. So, all the parameters of conventional IR system such as Height of OHE, Implantation of OHE masts, Electrical clearances, Encumbrance, span, sag, tension etc. should be met by this track.

In phase (2) the temporarily diverted IR trains will be diverted to newly constructed permanent IR tracks and preceding track will be used for BSRP. Hence,

- i) foundations and masts at this track should meet all BSRP parameters

Or

- ii) the foundations need to be designed in such a way that the grouted mast should be easily recoverable in phase (2).

If case i) is opted as mentioned above, the IR conductors should be shifted to one of the permanent IR tracks in order to reduce the scrapping of the conductors. Also, special masts should be designed with provision for attachment of OPC, AEC and the feeder wire as per the requirement of BSRP Design.

If case ii) is opted as mentioned above the foundations casted for IR masts should be scrapped and new foundations and masts should be used to cater the BSRP OHE.

The scope of the consultant is to study the techno economic feasibility of above conditions and to propose the design for the BSRP and IR OHE accordingly in above mentioned section. The

Consultant will also be responsible for finalizing the construction methodology for the section where the LC elimination is planned.

The scope of the consultant also include: -

Detailed design of FOCS system with suitable conductor system as advised by DDC to cater BSRP standards for the elevated section. After scrutinizing the failure analysis of the past, DDC shall submit the Techno-economic analysis of the following items based on reliability, maintainability, life cycle cost etc. All design shall be as per latest RDSO specs.

Special type foundations shall be designed, so that all OHE masts can be retrieved in the second phase since all of them will be redundant for BSRP Lines.

OHE cantilever: - DDC to compare and examine best suitable type of cantilever arrangement among Single Insulator Cantilever (SIC)/ Modular Aluminum / GI conventional etc. based on reliability, maintainability etc.,

Stagger

Spans and staggers shall be carefully arranged to ensure that the contact wire will never be displaced by more than 200 mm on straight track and 300 mm on curve from the center-line of the pantograph at any point in-span, under the worst operating conditions of the OHE System, the rolling stock and the pantograph

In calculating the maximum displacement of the contact wire for the stagger, the following shall be taken into account:

- i. Temperature effect (i.e., the effect of stagger changes due to temperature variation)
- ii. Static and dynamic effect of track tolerances (if they are not included in pantograph sway);
and
- iii. Erection tolerance.

OHE Masts

DDC shall submit the techno economical comparison and propose the suitable masts based on reliability, maintainability, life cycle cost, aesthetic etc.

Tension and Tension Length

The Contact and catenary tension values shall be reviewed based on design speed. Optimisation of tension length shall be carried out and calculation for tension and speed graph shall be submitted and by DDC. Individual tension lengths shall be designed for crossovers wherever possible.

Techno-economical comparison of Five pulley type/ Three pulley type / Spring type ATDs (standardized design) based on reliability, maintainability, life cycle cost etc. shall be submitted by DDC for main line and depots.

Contact Wire Sag

The auto-tensioned simple overhead line system shall be such that the nominal height of the contact wire at mid-span is lower than that at the supports to improve the current collection quality. The amount of this pre-sag on a straight & curved track shall be decided by the DDC based on system

calculations or experimental data.

Calculation of dropper schedule shall be submitted by DDC

Maximum Gradient of Contact Wire

The height of the contact wire above the rail level shall normally be the same at each support. If, due to local conditions (such as the transition between main line and depot), a variation in height is necessary, this shall be achieved with as small a gradient as practicable

Clearances

The minimum electrical and mechanical clearances shown in Table (below) shall not be infringed under the worst operating conditions of the overhead line equipment, the rolling stock and pantograph. The values in the right column shall be used only where it is absolutely necessary and prior approval of Engineer as obtained upon review in each case.

In the event of additional space being available, the space shall be used to enhance the electrical clearances above the stated values, before consideration is given to increase the system height.

Insulators

Proven type composite or porcelain insulator with minimum creepage distance of 1600mm shall be proposed along with the GTP.

Clearance at Power Line Crossings

The minimum vertical clearances between the conductors of utility's power line and all the conductors of the OHE shall be as per Indian Railways Traction Manual.

Electrical Sectioning

- OHE shall be divided into electrically isolated sections by provision of interrupters at insulated overlaps and with section-insulator at turnouts. Sectioning shall be provided to permit isolation of OHE in small sections for maintenance or to isolate damaged OHE in case of breakdown/accident and to permit diversion of train from up line to down line and vice-versa
- The sectioning shall be such that in case of failure of OHE on one track, the faulty section can be isolated quickly and the train (EMU) lying in the healthy section on the same track can either be brought to station or can be taken on the other track through emergency cross-over depending upon the operational requirement. Where practicable, insulated overlaps shall be provided instead of section insulators, for the sake of better dynamic performance.
- Following items shall be studied and explored for inclusion in tender, and a life cycle cost comparison studies to be submitted by DDC. After scrutinizing Suitable suggestions of design, make and suppliers of Indian/ international to be submitted by DDC: -
 - i. Isolators, Interrupters, Load Break Switches at Switching posts (SSP, SS).
 - ii. Provision of Lightning Arrestors on OHE posts to be examined
 - iii. PT / Capacitive Sensor on OHE posts to be examined. Provision of Blast proof PT arrangements to be explored.
 - iv. Jumpering arrangement and use of PG clamps/fittings etc.

Earthing and Bonding

Overhead Line Equipment Earthing System

DDC shall design a suitable and effective earthing system for the entire OHE system. The present arrangement and requirements specified for the earthing and bonding facilities shall be studied in detail by the DDC and amended. In addition to requirement laid down in IS-3043 and IEEE-80 or latest, earthing and bonding shall be provided in accordance with norms laid down in following documents: -

CCITT limits on induced Voltages.

EN50122 limits on Rail Voltages and touch potential.

AC Traction Manual (ACTM) of Indian Railways/Metro.

General Bonding

The bonding shall ensure safety of passenger, equipment, adjacent building, structures and passage of return current back to substation.

Traction Return Rail Bonding

On the main line, single or both rails of both the tracks shall be utilized as the traction return rails. DDC shall suggest bonding at following locations:

- Special bonding at expansion joints
- Impedance bond/ ITL/ MET locations.
- Intertrack bonds. Etc
- Power Supply System.

General

The requirement of traction power at each substation / section shall be calculated based on the frequency of train services during peak hours with maximum no. of passengers, permissible voltage drop at the farthest end under emergency feed conditions in case of failure of one traction substation and without any curtailment of commuter services, power consumption by train auxiliaries, losses in OHE, local loads at the substations, sectioning and sub-sectioning posts and by the trains moving in the car depot yard.

Similarly, the auxiliary power requirement shall be calculated based on the station-wise loads of utilities, lights, fans, lifts and escalators & other essential loads and loads of depots-car sheds / workshops etc. Property Development loads shall also be taken into account. The permissible voltage drop / regulation at the farthest end, in this case, is to be considered taking into account the failure of one main auxiliary substation at a time.

Accordingly, the sizing of equipment is to be proposed by DDC, keeping in view the standardization of equipment.

APPENDIX-A

LIST OF MINIMUM KEY TECHNICAL PERSONNEL & SUPPORT STAFF

The list of Minimum Key Technical personnel required for the work is as under. The DDC shall have a competent team of the following personnel, so as to complete the work satisfactorily as per various requirements of the contract. The contents in the tables below shall be read in conjunction with all the notes given underneath.

Table A - Key Experts

Sl. No	Position	Qualifications & Experience	Man month Requirement
1	Project Director (Max. Age: 65 Years)	Post Graduate/Graduate in Electrical Engineering from a reputed institution, with 20 years of rich experience in various infrastructure projects, out of which, minimum last 10 years in Design Consultancy works in Metro Rail / Rapid Rail Transit / High Speed Rail projects.	As and when required (to achieve the Key Dates)
2	Team Head – OHE installations. (Max. Age: 62 Years)	Graduate in Electrical from a reputed institution with 12 years of total experience, out of which, minimum 7 years in Design of 25 kV OHE works in Metro Rail / Rapid Rail Transit / High Speed Rail projects.	As and when required (to achieve the Key Dates)
3	Team Head – Power supply Installations (Max. Age: 62 Years)	Graduate in Electrical from a reputed institution with 12 years of total experience, out of which, minimum 7 years in Design of power systems installations in Metro Rail / Rapid Rail Transit / High Speed Rail projects.	As and when required (to achieve the Key Dates)
4	Team Head – Simulation studies. (Max. Age: 62 Years)	Graduate in Electrical from a reputed institution with 10 years of total experience in major electrical works with experience in power system simulation of at least 3 Metro Rail / Rapid Rail Transit / High Speed Rail projects.	As and when required (to achieve the Key Dates)
5	Resident Engineer cum Interfacing Expert (Max. Age: 50 Years)	Graduate in Electrical Engineering from a reputed institution with 10 years of experience in major electrical works out of which minimum 3 years of latest experience (Particularly in interfacing issues) in Metro Rail / Rapid Rail Transit / High Speed Rail projects.	30
6	OHE Engineer (Max. Age: 50 Years)	Graduate in Electrical Engineering from a reputed institution with 8 years of total experience in railway electrification works with 4 years experience in 25 kV OHE works in Metro Rail / Rapid Rail Transit / High Speed Rail projects.	30
7	PSI Engineer (Max. Age: 50 Years)	Graduate in Electrical Engineering from a reputed institution with 8 years of total experience in railway electrification works with 4 years experience in PSI works in 25 kV OHE of Metro Rail / Rapid Rail Transit / High Speed Rail projects.	30
8	Simulation Engineer (Max. Age: 50 Years)	Graduate in Electrical Engineering from a reputed institution with 4 years of experience in Simulation works in Metro Rail / Rapid Rail Transit / High Speed Rail projects.	24

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Sl. No	Position	Qualifications & Experience	Man month Requirement
9	CAD Engineer (Max. Age: 50 Years)	Graduate in Electrical Engineering from a reputed institution with 3 years of experience in CAD works in Metro Rail / Rapid Rail Transit / High Speed Rail projects.	60

Notes:

- 1) The man power shown in Table-A Sl.no 1 to 4 is suggestive to achieve the progress and milestones. The DDC may vary as per the actual requirement, with the approval of the Employer. All other man power in the other items in above table is mandatory. It is responsibility of DDC to constitute team and add additional member if required to complete the work as per the requirement within the specified time.
- 2) The Sl.no 5 to 9 of man months shown above in table may not be operated continuously. The same will be advised by the Employer, depending on the need, site requirement and the progress of construction. Certain personnel Sl. no 5 to 9 of above table may have to be disengaged when not required and re-engaged when required. The periods of dis-engagement/re-engagement will be advised by the Employer two weeks in advance.
- 3) The Employer, may, based on the requirement, redistribute the no. of man-months in the following manner. Redistribution of total no. of man-months of Sl. nos. 5 to 8 in the above table therein, duly limiting the maximum reduction to 50% in each category may be done by the Employer. The required no of staff for Sr. No. 5 to 9 for achieving the key dates may be proposed by the consultant. The decision of employer in this regard will be considered as final. (For redistribution purpose the Interfacing expert, OHE Engineer, PSI Engineer & Simulation Engineer will be considered as equivalent Posts irrespective of their remunerations).
- 4) The CVs of all personnel shall be submitted for approval, at least 1 week in advance before deployment for approval of the Employer in respect of the personnel in Table. The Employer reserves the right to reject the candidatures of the personnel if not found suitable, and in such a case, other suitable personnel have to be proposed within a week of rejection. There is no limit on the number of rejections, in case the candidates are not found suitable. For this purpose, the DDC shall have a list of meritorious candidates befitting the concerned roles along with their willingness to join. In case of any delay in achieving the milestones mentioned in Appendix – B, due to the rejection of candidates the employer shall not be held responsible and applicable penalties will be imposed on the consultant.
- 5) The performance of the personnel engaged will be monitored during the progress of the work. In case of unsatisfactory performance of any person, as observed by the officials of the Employer, she/he shall be replaced at the earliest, but not later than two weeks. No plea on account of delay in finding a suitable replacement will be entertained and Liquidated Damages/Penalties will be imposed, in case of any delay in achieving the milestones mentioned in Appendix – B.
- 6) The scope and number/duration of Key Experts, Engineers and Support staff mentioned above is suggestive, and not exhaustive. If the above staff are found inadequate during any stage, then additional staff, as required, shall be engaged forthwith without compromising the quality of design or any other assigned work, by the DDC at their own cost, to complete all the activities within the time frames specified for the Key Dates. No plea that the scope/ number/ duration/ expertise/ experience of the Key Experts/ Engineers/Support staff is/are insufficient to complete all the activities within the time frames specified for the Key Dates, will be entertained and Liquidated Damages/Penalties will be imposed, in case of any delay in achieving the milestones

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mentioned in Appendix - B. All the above personnel have to be approved by the competent authority of the Employer well before engagement.

- 7) In order to approve the candidates for various roles, the Employer needs sufficient time to go through the profiles and interact with the proposed candidates before allowing them to be engaged on the project. In view of this, though time limits for submitting the candidatures to the Employer have been specified above, it is in the earnest interest of the Consultant to propose the candidates well in advance of those timelines.

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APPENDIX-B

NOTE: "D" - Date of issue of LOA

1.1 Stage-1 Key dates.

KeyDate No.	Item	Time Frame	Delay Damages / Penalty for non- achieving progress within the time frame
KD1	Engagement of Key Experts (mentioned in Table A1 of Appendix – A) and Commencement of Design Activity	D + 15 days	0.05% of accepted contract price per week of delay *
KD2	Deployment of field equipment and engineers for field surveys, as required	D + 20 days	0.05% of accepted contract price per week of delay
KD3	Completion of Field Survey and Submission of Filed survey report along with pegging plans, drone images etc. of all Corridors.	D + 35 days	0.05% of accepted contract price per week of delay
KD4	Interfacing of all departments and collecting of required data at in and out of KRIDE.	D + 45 days	0.05% of accepted contract price per week of delay
* KD5	Submission of details of mast location, earthing and bonding, cables and feeder routing, lighting etc. as stated in Section-8 for casting viaduct for casting of viaduct structures for elevated alignment of 9.25 km in corridor-2	D+50 days	0.05% of accepted contract price per week of delay
KD6	First review of load flow, EMI, EMC, Short circuit studies etc. simulation studies as stated in Section -8 of tender document for all corridors.	D + 60 days	0.05% of accepted contract price per week of delay
KD7	First review of conceptual PSI design calculations and Drawings as stated in Section -8 of tender document for all corridors.	D + 65 days	0.05% of accepted contract price per week of delay
KD8	First review of conceptual OHE design calculations and Drawings as stated in Section -8 of tender document for all corridors.	D + 70 days	0.05% of accepted contract price per week of delay
KD9	Second review of load flow, EMI, EMC, Short circuit studies etc. simulation studies as stated in Section -8 of tender document against the first review with suitable alterations / modifications suggested by Employer / Employers representative.	D + 75 days	0.05% of accepted contract price per week of delay
KD10	Third review of load flow, EMI, EMC, Short circuit studies etc. simulation studies as stated in Section -8 of tender document against the Second review with suitable alterations/ modifications suggested by Employer/Employers representative.	D + 80 days	0.05% of accepted contract price per week of delay

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KeyDate No.	Item	Time Frame	Delay Damages / Penalty for non- achieving progress within the time frame
KD11	Submission of load flow, EMI, EMC, Short circuit studies etc. simulation studies as stated in Section -8 of tender document against the Third review with suitable alterations / modifications suggested by Employer / Employers representative with Proof checker Authorization.	D + 90 days	0.1% of accepted contract price per week of delay
KD12	Second review of OHE design calculations and Drawings as stated in Section -8 of tender document for all corridors against the first review with suitable alterations/ modifications suggested by Employer / Employers representative.	D + 90 days	0.05% of accepted contract price per week of delay
KD13	Second review of PSI design calculations and Drawings as stated in Section -8 of tender document for all corridors against the first review with suitable alterations / modifications suggested by Employer/ Employers representative.	D + 90 days	0.05% of accepted contract price per week of delay
KD14	Third review of OHE design calculations and Drawings as stated in Section -8 of tender document for all corridors against the Second review with suitable alterations / modifications suggested by Employer / Employers representative.	D + 110 days	0.05% of accepted contract price per week of delay
KD15	Third review of PSI design calculations and Drawings as stated in Section -8 of tender document for all corridors against the second review with suitable alterations / modifications suggested by Employer / Employers representative.	D + 110 days	0.05% of accepted contract price per week of delay
KD16	Final submission of OHE design calculations and conceptual Drawings as stated in Section -8 of tender document for all corridors against the Third review with suitable alterations/ modifications suggested by Employer/ Employers representative along with proof checker authorization.	D + 130 days	0.05% of accepted contract price per week of delay
KD17	Final submission of PSI design calculations and conceptual Drawings as stated in Section -8 of tender document for all corridors against the third review with suitable alterations/ modifications suggested by Employer/ Employers representative along with proof checker authorization.	D + 130 days	0.05% of accepted contract price per week of delay

KeyDate No.	Item	Time Frame	Delay Damages / Penalty for non- achieving progress within the time frame
KD18	Preparation of tender documents and BOQ and cost estimation required for floating of tenders of all corridors.	D+150 days	0.05% of accepted contract price per week of delay.
KD19	First review of tender documents for all corridors.	D+160 days	0.05% of accepted contract price per week of delay
KD20	Submission of tender documents with modifications/ alterations against the first review for all corridors.	D+165 days	0.05% of accepted contract price per week of delay
KD21	Submission of all good for construction drawings, calculations etc. in both hard and soft copies.	D+180 days	0.1% of accepted contract price per week of delay

- The key date KD5 shall be considered as the important key date. Consultant is expected to study the alignment of elevated section of corridor 2 thoroughly and propose the LOP and locations for OHE main mast, spare mast casting details any other structure related to the OHE, PSI (Traction & Auxiliary), MEP & SCADA work on viaduct portion considering the optimum span. Referring to the data given by consultant the casting of viaducts will start. The consultant will be held fully responsible for finalizing the locations of OHE masts and the cost of any rectification/alterations caused due to defective design will be deducted from the consultants pay. In addition to this consultant shall propose the type and class of fasteners which need to be used on viaduct for OHE structures.

1.2 Stage-2 Work:

1. During this stage there is no any particular Key date, work should be achieved as per the employer's requirement.
2. During this stage as per Employer/ Employers representative requirement DDC should support in all works as per the scope of this tender.
3. During this stage Employer/ Employers representative have a right to decide interim KEY dates and this Key need to be achieved by consultant.
4. During this stage progressive and planning meetings will be held as per mutual understandings.

Note:

1. Progress review and Planning meeting to be held at KRIDE office on 1st week of every month for stage 1 & stage 2 of project.
2. Employer may call for additional meetings in stage 1 & stage 2 of project for reviewing the progress/planning. The date and time of meeting will be conveyed 5 working days before the meeting. The maximum number of meetings to be called in a month during stage 1 & stage 2 of project will be 3 & 1 respectively.
3. Attendance of each staff including the key expert and support staff is compulsory on this meeting. The transportation, lodging and any other expenses incurred to attend the

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meeting will be on consultant's scope and no extra payment will be admissible for the same.

4. In case of any delay in achieving the particular Key date, effort should be made to achieve the subsequent key date. As if subsequent key date is achieved as per the schedule stated in table -B stated above then the penalty on all previous key date shall be waived off.
5. The penalty on the key dates will be finalized once the stage 1 of project gets completed.

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SECTION-9

**PRICE SCHEDULE
BANGALORE SUBURBAN RAIL PROJECT (BSRP)**

NAME OF WORK: Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings, BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.

PREAMBLE

1. The Price Schedule shall be read in conjunction with the Instructions to Tenderers, Conditions of Contract, Particular Conditions, Contract Data, Notice Inviting Tender, Terms of Reference, Scope of work, Schedule, Annexures, corrigenda, Addenda and any other related documents in the Bid Document.
2. The amount shall be quoted in **Schedule-A** for financial evaluation.
3. The amount shall be quoted in Indian Rupees.
4. The whole cost of complying with all the provisions of the Contract is deemed to have been included in the quoted amount.
5. General directions and description of works and materials are neither repeated nor summarized in the Price Schedule. They are deemed to have been covered or described elsewhere in the Bid Document or implied as good practices adopted for similar works.
6. The method of measurement of works regulating the interim payment, wherever applicable, shall be in accordance with the requirements as stated in the individual sections of the Technical Specifications and Conditions of Contract.
7. The percentage of quoted lumpsum price submitted as monthly remuneration for non-key staff in Form-8 of section-3 shall be used for the purpose of addition/deduction from / to quoted price as per the conditions mentioned therein. **Non submission of Form-8 of Section-3 of bid document shall lead to rejection of bid.**
8. The Tenderers shall note that, to perform this contract, nothing extra will be payable on account of field constraints, availability of front, (except for the provisions made elsewhere in the Bid Document), preparation of detailed scheme, for taking necessary clearances and approvals from all the concerned authorities/ local bodies etc. The quoted value shall include the cost of all these items/aspects.
9. The Tenderer's offer shall be inclusive of all taxes and duties payable by them, labour cess and any other cess, levies etc. GST, Income Tax, and any other statutory taxes to be deducted at source, if any, will be deducted by the Employer in accordance with the Income Tax Act and any other acts in force and in accordance with instructions issued by the Authorities on this behalf, from time to time.
10. The Employer may, in any payment certificate, make any correction or modification that should have been reflected in any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Employer's acceptance, approval, consent or notice of no-objection to any of the documents of the DDC or to (any part of) the works.

SUMMARY OF PRICE SCHEDULE					
(Centre of E-governance has disabled submission of documents pertaining to financial proposal in e-portal. Bidders are requested to enter the Financial Proposal in the respective cell provided in the e-portal. This format of Financial Proposal is only for reference.)					
NAME OF WORK: Detailed Design Consultancy for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, preparation of drawings, BOQ, Cost estimate, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project including associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.					
Tender no: KRIDE/2023-24/EL/WORK_INDENT6				Date –16.08.2023	
Schedule No.	Item No.	Description	Unit	Quoted by Tenderer	
				Quoted Amount in INR In Figures	In Words
(1)	(2)	(3)	(4)	(5)	(6)
Schedule 'A'	(i)	Detailed Design Consultancy and proof checking for Design of Receiving Sub Stations, 25 kV AC Traction Substations, Auxiliary Substations, Extra High Voltage & High Voltage Network, Auxiliary Network, 25 kV Flexible Overhead Equipment, 25kV Rigid Overhead Equipment and SCADA System including Simulation of complete system, EMI/EMC study, Load flow analysis, Protection relay Co-ordination, Insulation Co-ordination, Harmonics, Power Factor, Line Resonance, design calculations, preparation of drawings, BOQ, Technical documents for Corridors - 1, 2, 3 & 4 of BSRP project and associated depots and Design of 25 kV Flexible Overhead Equipment suitable for IR on the section of IR Km.211.325 to Km.216.200 in Corridor – 2, modifying same OHE suitable for BSRP afterwards.	Lumpsum		

S

Notes:

- A. The quoted value covers all items of the work as detailed in the Terms of Reference in Section - 8 as well as conforming to all Particular Conditions of Contract in Section - 7 and all other stipulations laid down in the Bid Document in every other Section including all addenda/corrigenda thereof till the date of submission of Bids.
- B. The quoted value is inclusive of all costs of Designs, Drawings, Reports, Surveys, Office, Transport etc. till the end of Construction Phase. The quoted value is also inclusive of Insurance, Profit, Duties, GST, Taxes, Levies, Royalties as per applicable law, together with all associated risks etc., and all other liabilities and obligations set out or implied in all the sections of the contract.

1.0 Payment Procedure:

Payment for this work is made in two stages after adjusting the advance, deducting of recoveries & penalties against services, supplies, underutilization of non-key staff as per employer's requirement & other refunds due from the consultant. In case of delay in completing the heads as mentioned below in stage-2 of project due to reasons not concerned with the consultant, the payment may be made for completion of heads for each corridor in proportion of length of corridor. The track length of depots shall be considered in the respective corridors.

For release of payment, relevant clauses of contract conditions and PCC (Section-7) shall be applicable.

1.1 Stage -1 Payment:

Under this stage the payment is made up to 70 % of the overall accepted rate against the completion of following works

Head	Description of work	% of payment against the quoted price
A	Deployment of all personnel, as given in tables B1 to B4 in Appendix-B of Section-8 (Terms of Reference) and establishment of office (with all furniture, computers and other equipment) in Bengaluru for the staff deployed in Bengaluru	5%
B	Conducting and submitting report of load flow, EMC, EMI, Harmonics, Short circuit studies and all other simulation studies as stated in Section-8 of tender document with proof checker authorization and approval of all conceptual drawings as applicable	20%
C	Submission of Detailed Design & Drawings, Good for construction drawing, Cost Estimates & Bid Documents for the construction of OHE, RSS, TSS, ASS & SCADA etc. as stated in Section - 8 of tender document.	45%

1.2 Stage -2 Payment:

Under this stage the payment is made for remaining 30% of the overall accepted rate against the completion of following works

Head	Description of work	% of payment against the quoted price
D	Revision of all good for construction drawings for OHE, PSI, SCADA, RSS, TSS, AMS, ASS, other general electrical drawings, interface with construction contractor & support to the employer during construction stage etc. as mentioned in Section-8 of tender document	15%
E	Approval of As-Built Drawings completion of any balance works as mentioned in Section-8 of tender document	15%

Further break-up of the above heads A-E shall be mutually decided by the employer and consultant. The indicative breakup is as given below. However, the decision of employer will be final in this regard.

DETAILS OF PAYMENT HEAD A: - 10% of accepted lumpsum price.

Sl. No.	Activity	Stage Payment in percentage of Lumpsum cost under this head
1.	Deployment of all personnel, as given in tables in Appendix-A of Section-8 (Terms of Reference)	50%
2.	Establishment of Office (with all necessary furniture, computers and other equipment) in Bengaluru for the Staff deployed at Bengaluru	50%

DETAILS OF PAYMENT HEAD B: 33% of accepted lumpsum price

Sl. No.	Activity	Stage Payment in percentage of Lumpsum cost under this head
1.	Initial Survey of all site and submission of pegging plan and approval by Engineer / Employee	5%
2.	Traction Power simulation	5%
3.	HV & LV Load Flow analysis	5%
4.	Traction and Auxiliary Network short Circuit Analysis	5%
5.	Protection Relay Co-ordination for Auxiliary and traction System	5%
6.	Insulation Co-ordination	5%
7.	Harmonics	5%
8.	Power Factor	5%
9.	Calculations and design of Earthing System and approval from Employer / Engineer	5%
10.	Design of foundations on via duct & at grade and approval from Employer / Engineer	5%
11.	Design of OHE mast on via duct & at grade and approval from Employer / Engineer	5%
12.	Design of OHE Cantilever System and approval from Employer / Engineer	5%
13.	Design of ATD system and approval from Employer / Engineer	5%
14.	Design of Catenary, Contact, Feeder Wire, Earth Conductor etc.	5%
15.	Design of Sectioning & isolation arrangement of OHE	5%
16.	Design of RSS, TSS, ASS and approval from Employer / Engineer	8%
17.	Design of AMS Network and approval from Employer / Engineer	2%

Sl. No.	Activity	Stage Payment in percentage of Lumpsum cost under this head
18.	Design of Switching Station Arrangement and approval from Employer / Engineer	2%
19.	Design of SCADA and approval from Employer / Engineer	2%
20.	Approval of Conceptual drawing- OHE and approval from Employer / Engineer	2%
21.	Approval of Conceptual drawing- PSI	3%
22.	Submission of Standards, Specifications, calculations along with the list of vendors-OHE and approval from Employer / Engineer	3%
23.	Submission of Standards, Specifications, calculations along with the list of vendors-PSI and approval from Employer / Engineer	3%

DETAILS OF PAYMENT HEAD C: - 27% of accepted lumpsum price

Sl. No.	Activity	Stage Payment in percentage of lumpsum cost under this head
1	Submission of BOQ & Cost Estimation for all corridors	20%
	Submission of all good for construction drawings	50%
2	Submission of Tender Document for all corridors	30%

DETAILS OF PAYMENT HEAD D: - 15% of accepted lumpsum price

Sl. No.	Activity	Stage Payment in percentage of lumpsum cost under this head
1	Revision good for construction drawings and calculations.	45%
2	Supporting the employer till execution of work for Corridor-1,2,3 & 4 of BSRP as per employer's requirement.	55%

DETAILS OF PAYMENT HEAD E: - 15% of accepted lumpsum price

Sl. No.	Activity	Stage Payment in percentage of lumpsum cost under this head
1	Completion of all required services and checking of as-built drawings and submission of reconciled calculations until completion of construction stage for Corridor-1,2,3 & 4 of BSRP.	10%
2.	Any Balance miscellaneous Work.	10%
3.	Completion of Schedule for deployment of all personnel mentioned in tables A of appendix A of Section 8 (Terms of Reference)	80%

2 TERMS OF PAYMENT:

- 2.1 All bills shall be submitted by firm/consultant only (to whom contract has been awarded) to the authority mentioned in Preamble.
- 2.2 The payment percentage given in Head A to E will remain constant however further bifurcation of payment percentage in Head A to E will be discussed and may be changed with mutual agreement. However, the decision of employer will be final in this regard.
- 2.3 The cost of key and support staff man-months mentioned in section 8 should be considered while quoting the lumpsum rate for schedule A.

2.4 RECOVERIES FROM THE CONSULTANT:

- (a) All the recoveries for services/supplies rendered by the Employer to the Consultant and other refunds due from the Consultant shall, unless otherwise specified, ordinarily be made by deductions from payments due to the Consultant covering the value of services / supplies the progress payment for services / supplies and from payment on provisional Acceptance.
- (b) The cost of shortage of services/supplies supplied in case of final reconciliation will be recovered in full by the Employer at relevant price in book rate to the extent of requirement of such services for each sub-section of section-8 of scope of work.

K-RIDE

SECTION-10

**FORMAT OF BANK GUARANTEE FOR
SECURITY DEPOSIT ETC.,**

INDEX**Table of Forms**

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NOTE: *This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.*

All italicized text is for guidance how to prepare the various forms and shall be deleted from the final documents.

FORMAT OF BANK GUARANTEE FOR SECURITY DEPOSIT

To,.....(Name of the Employer)
.....(Address of the Employer).

Whereas(Name and Address of the contractor) (herein after called the Contractor) has undertaken, in pursuance of contract no.....
Dated:.....(Name of the contract and brief description of the work) (herein after called the Contract)

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of Rs. _____ [amount of guarantee]
Rupees _____ [in words], and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 28 days from the date of expiry of the Defects Liability Period.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____
Date _____

FORM OF BANK GUARANTEE FOR PERFORMANCE SECURITY

(On non-judicial stamp paper of the appropriate value in accordance with stamp Act. The stamp paper to be in the name of Executing Bank).

From:

Name and Address of the Bank.....
.....

To:

The Managing Director,
Rail Infrastructure Development Company (Karnataka) Limited,
"Samparka Soudha", 1st Floor,
B.E.P Premises (Opp. Orion Mall),
Dr. Rajkumar Road,
Rajajinagar 1st Block,
Bangalore - 560 010

WHEREAS, Rail Infrastructure Development Company (Karnataka) Limited, hereinafter called the **Employer**, acting through **[Insert Designation and address of the Employer's Representative]**, has accepted the bid of **[Insert Name and address of the Contractor]**, hereinafter called the **Contractor**, for the work of **[Insert Name of Work]**, vide Notification of Award No **[Insert Notification of Award No...]**
AND

WHEREAS, the contractor is required to furnish Performance Security for the sum of **[Insert Value of Performance Security required]**, in the form of bank guarantee, being a condition precedent to the signing of the contract agreement.

WHEREAS, **[Insert Name of the Bank]**, with its Branch **[Address]** having its Headquarters office at **[Address]**, hereinafter called the **Bank**, acting through **[Designation(s) of the authorised person of the Bank]**, have, at the request of the **[Insert name of the JV partner]**, a JV partner on behalf of the contractor, agreed to give guarantee for performance security and additional performance security as hereinafter contained:

- 1 KNOW ALL MEN by these present that I/We the undersigned **[Insert name(s) of authorized representatives of the Bank]**, being fully authorized to sign and incur obligations for and on behalf of the Bank, confirm that the Bank, hereby, unconditionally and irrevocably guarantee to pay the Employer the full amount in the sum of **[Insert Value of Performance Security required]** as above stated.
- 2 The Bank undertakes to immediately pay on presentation of demand by the Employer any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by the Employer on the Bank shall be final, conclusive and binding, absolute and unequivocal not withstanding any disputes raised/ pending before any Court, Tribunal, Arbitration or any Authority or any threatened litigation by the Employer of Bank.

- 3 On payment of any amount less than aforementioned full amount, as per demand of the Employer, the guarantee shall remain valid for the balance amount i.e. the aforementioned full amount less the payment made to the Employer.
- 4 The Bank shall pay the amount as demanded immediately on presentation of the demand by Employer without any reference to the contractor and without the Employer being required to show grounds or give reasons for its demand or the amount demanded.
5. The Bank Guarantee shall be unconditional and irrevocable.
- 6 The guarantee hereinbefore shall not be affected by any change in the constitution of the Bank or in the constitution of the Contractor.
- 7 The Bank agrees that no change, addition, modifications to the terms of the Contract Agreement or to any documents, which have been or may be made between the Employer and the Contractor, will in any way release us from the liability under this guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification to the Bank.
- 8 This guarantee is valid and effective from the date of its issue, which is ***[insert date of issue]***. The guarantee and our obligations under it will expire on ***[insert the date Sixty days after the expected end of completion period]***. All demands for payment under the guarantee must be received by us on or before that date.
- 9 The Bank agrees that the Employers right to demand payment of aforementioned full amount in one instance or demand payments in parts totaling up to the aforementioned full amount in several instances will be valid until either the aforementioned full amount is paid to the Employer or the guarantee is released by Employer before the Expiry date.
- 10 The Bank agrees that its obligation to pay any amount demanded by the Employer before the expiry of this guarantee will continue until the amount demanded has been paid in full.
- 11 The expressions Bank and Employer herein before used shall include their respective successors and assigns.
- 12 The Bank hereby undertakes not to revoke the guarantee during its currency, except with the previous consent in writing of the employer. This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.
- 13 The Guarantee shall be in addition to and without prejudice to any other security Guarantee (s) of the contractor in favour of the Employer available with the Employer. The Bank, under this Guarantee, shall be deemed as Principal Debtor of the Employer.
14. This guarantee shall be valid for 60 days from the date of expected end of completion period.

Date

Place.....

.....

[Signature of Authorized person of
Bank/Guarantor]

.....
[Name in Block letters]

.....
[Designation]

.....
[P/Attorney] No.

.....
Bank's Name and Seal

[P/Attorney] No.....

Witness:

1. *Signature*
Name & Address & Seal
2. *Signature*
Name & address & Seal

Note :

1. *All italicized text is for guidance on how to prepare this bank guarantee and shall be deleted from the final document.*
2. *In case the guarantee is issued by a foreign Bank, which does not have operations in India, the said bank shall have to provide a counter-guarantee by State Bank of India.*
3. *In case the Contractor is a JV, the Performance Security is required to be furnished on behalf of the JV in favour of the Employer by the JV Partners in proportion of their respective percentage share specified in the JV Agreement. The percentage share of M/s **[Insert Name of the JV Partner]** in the JV is **[Fill share % in the JV]** percent. All the Bank Guarantee of JV Partners are liable to be encashed cumulatively.*

FORM OF BANK GUARANTEE FOR ADDITIONAL PERFORMANCE SECURITY

(On non-judicial stamp paper of the appropriate value in accordance with stamp Act. The stamp paper to be in the name of Executing Bank)

From:

Name and Address of the Bank.....

.....

To:

The Managing Director,
Rail Infrastructure Development Company (Karnataka) Limited,
"Samparka Soudha", 1st Floor,
B.E.P Premises (Opp. Orion Mall),
Dr. Rajkumar Road,
Rajajinagar 1st Block,
Bangalore - 560 010

WHEREAS, Rail Infrastructure Development Company (Karnataka) Limited, hereinafter called the **Employer**, acting through **[Insert Designation and address of the Employer's Representative]**, has accepted the bid of **[Insert Name and address of the Contractor]**, hereinafter called the **Contractor**, for the work of **[Insert Name of Work]**, vide Notification of Award No. **[Insert Notification of Award No.]**.

AND

WHEREAS, the contractor is required to furnish Performance Security for the sum of **[Insert Value of Performance Security required]**, in the form of bank guarantee, being a condition precedent to the signing of the contract agreement.

WHEREAS, **[Insert Name of the Bank]**, with its Branch **[Address]** having its Headquarters office at **[Address]**, hereinafter called the **Bank**, acting through **[Designation(s) of the authorised person of the Bank]**, have, at the request of the **[Insert name of the JV partner]**, a JV partner on behalf of the contractor, agreed to give guarantee for performance security and additional performance security as hereinafter contained:

- 1 KNOW ALL MEN by these present that I/We the undersigned **[Insert name(s) of authorized representatives of the Bank]**, being fully authorized to sign and incur obligations for and on behalf of the Bank, confirm that the Bank, hereby, unconditionally and irrevocably guarantee to pay the Employer the full amount in the sum of **[Insert Value of Performance Security required]** as above stated.
- 2 The Bank undertakes to immediately pay on presentation of demand by the Employer any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any

-
- such demand made by the Employer on the Bank shall be final, conclusive and binding, absolute and unequivocal notwithstanding any disputes raised/ pending before any Court, Tribunal, Arbitration or any Authority or any threatened litigation by the Employer of Bank..
- 3 On payment of any amount less than aforementioned full amount, as per demand of the Employer, the guarantee shall remain valid for the balance amount i.e. the aforementioned full amount less the payment made to the Employer.
 - 4 The Bank shall pay the amount as demanded immediately on presentation of the demand by Employer without any reference to the contractor and without the Employer being required to show grounds or give reasons for its demand or the amount demanded.
 5. The Bank Guarantee shall be unconditional and irrevocable.
 - 6 The guarantee hereinbefore shall not be affected by any change in the constitution of the Bank or in the constitution of the Contractor.
 - 7 The Bank agrees that no change, addition, modifications to the terms of the Contract Agreement or to any documents, which have been or may be made between the Employer and the Contractor, will in any way release us from the liability under this guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification to the Bank.
 - 8 This guarantee is valid and effective from the date of its issue, which is **[insert date of issue]**. The guarantee and our obligations under it will expire on **[Insert the date Sixty days after the expected end of completion period]** All demands for payment under the guarantee must be received by us on or before that date.
 - 9 The Bank agrees that the Employers right to demand payment of aforementioned full amount in one instance or demand payments in parts totaling up to the aforementioned full amount in several instances will be valid until either the aforementioned full amount is paid to the Employer or the guarantee is released by Employer before the Expiry date.
 - 10 The Bank agrees that its obligation to pay any amount demanded by the Employer before the expiry of this guarantee will continue until the amount demanded has been paid in full.
 - 11 The expressions Bank and Employer herein before used shall include their respective successors and assigns.
 - 12 The Bank hereby undertakes not to revoke the guarantee during its currency, except with the previous consent in writing of the employer. This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.
 - 13 The Guarantee shall be in addition to and without prejudice to any other security Guarantee (s) of the contractor in favour of the Employer available with the Employer. The Bank, under this Guarantee, shall be deemed as Principal Debtor of the Employer.

Date

Place.....

.....

[Signature of Authorised person of Bank]

.....

[Name in Block letters]

.....

[Designation]

[P/Attorney] No.

.....

.....
Bank's Seal

[P/Attorney] No.....

Witness:

3. Signature
Name & Address & Seal

4. Signature
Name & address & Seal

Note :

- 1 All italicized text is for guidance on how to prepare this bank guarantee and shall be deleted from the final document.
- 2 In case the guarantee is issued by a foreign Bank, which does not have operations in India, the said bank shall have to provide a counter-guarantee by State Bank of India.
- 3 In case the Contractor is a JV, the Performance Security is required to be furnished on behalf of the JV in favour of the Employer by the JV Partners in proportion of their respective percentage share specified in the JV Agreement. The percentage share of M/s **[Insert Name of the JV Partner]** in the JV is **[Fill share % in the JV]** percent. All the Bank Guarantee of JV Partners are liable to be encashed cumulatively.

ADVANCE PAYMENT SECURITY

(On non-judicial stamp paper of appropriate value in accordance with stamp Act. The stamp paper to be in the name of Executing Bank)

From

[Name and Address of the Bank]

To

The Managing Director,
Rail Infrastructure Development Company (Karnataka) Limited,
"Samparka Soudha", 1st Floor,
B.E.P Premises (Opp. Orion Mall),
Dr. Rajkumar Road,
Rajajinagar 1st Block,
Bangalore - 560 010

Beneficiary/Employer: Rail Infrastructure Development Company (Karnataka) Limited.

Guarantee No.: *[.....reference number of the guarantee.....]* **Dated:** *[.....]*

WHEREAS, Rail Infrastructure Development Company (Karnataka) Limited (**hereinafter called the Employer**) has entered into Contract No. *[.....reference number of the Contract.....]* dated *[.....]* for the execution of *[name of the contract]* (**hereinafter called the Contract**) with *[.....name of the Contractor.....]* (**hereinafter called the Contractor**).

WHEREAS, according to the Conditions of the Contract, an advance payment is admissible to the contractor against submission of bank guarantee(s).

At the request of the Contractor, we *[.....name of the Bank.....]* with our branch at *[.....address.....]*, having our Head Office at *[.....address.....]* (**hereinafter called the Bank**) have, at the request of *[.....Insert name of the JV partner.....]*, a JV partner on behalf of the Contractor, agreed to give the said guarantee as hereinafter contained:

1. KNOW ALL MEN by these present that I/We the undersigned *[.....Insert name(s) of authorized representative(s) of the Bank.....]*, being fully authorized to sign and incur obligations for and on behalf of the Bank, confirm that the Bank, hereby, unconditionally and irrevocably guarantees

to pay the Employer the sum of Rs.*[.....value in figure.....]* (Rupees *[.....value in words.....]*) **only (hereinafter called the Full Amount)**.

2. The Bank undertakes to immediately pay to the Employer, without any demur, reservation or recourse, any amount up to and including aforementioned full amount upon first written demand/demands from the Employer.
3. On payment of any amount less than aforementioned full amount, as per demand of the Employer, the guarantee shall remain valid for the balance amount i.e. the aforementioned full amount less the payment made to the Employer.
4. The Bank shall pay the amount so demanded without any reference to the contractor and without the Employer being required to show grounds or give reasons for its demand or the amount demanded.
5. The guarantee hereinbefore shall not be affected by any change in the constitution of the Bank, the Contractor or the Employer.
6. The Bank agrees that no change, addition, modification to the terms of the Contract Agreement or to any document, which have been or may be made between the Employer and the Contractor, will in any way release us from the liability under this guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification to the Bank.
7. This guarantee is valid and effective from the date of its issue, which is [*....date of issue....*]. The guarantee and our obligations under it will expire on dated[*....Please refer note 4 & 5....*]. All demands for payment under the guarantee must be received by us on or before that date.
8. The Bank agrees that the Employer's right to demand payment of aforementioned full amount in one instance or demand payments in parts totaling up to the aforementioned full amount in several instances will continue until either the aforementioned full amount is paid to the Employer or the guarantee validity period expires.
9. The Bank agrees that its obligation to pay any amount demanded by the Employer before the expiry of this guarantee will continue until the amount demanded has been paid in full.
10. The expressions Bank and Employer herein before used shall include their respective successors and assigns.
11. The Bank hereby undertakes not to revoke the guarantee during its currency, except with the previous consent in writing of the employer. This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.

Dated[.....]

Place[.....]

.....
(Signature of the Authorized Person of the Bank)

.....
(Name in Block Letters)

.....
(Designation)

.....
(Bank's Seal)

.....
(Authorization No.)

Witness:

1.
Signature, Name & Address

2.
Signature, Name & Address

Note:

1. *All italicized text in brackets [...text...] is for guidance on how to prepare this bank guarantee and shall be deleted from the final document.*
2. *In case the guarantee is issued by a foreign Bank, the said bank shall have operations in India and should be issued by Indian operations branch of the said bank.*
3. **Mobilization Advance**

(a) For Single Entity

For each Installment of Advance, two Bank Guarantees of equal amounts (each equal to half of the first installment of advance plus 10%) shall be furnished. Each Bank Guarantee shall be valid for the stipulated completion period of the contract.

OR

(b) For JV

For each Installment of Advance, individual JV partner shall furnish Bank Guarantee equal to his share in the installment of Advance plus 10%. Each Bank Guarantee shall be valid for the stipulated completion period of the contract.

4. Advance against Plant and Machinery

(a) For Single Entity

For each Installment of Advance, a Bank Guarantee equal to the installment of advance plus 10% shall be furnished. The Bank Guarantee shall be valid for the stipulated completion period of the contract.

OR

(b) For JV

For each Installment of Advance, individual JV partner shall furnish a Bank Guarantee equal to his share in the installment of advance plus 10%. Each Bank Guarantee shall be valid for the stipulated completion period of the contract.

--00--00--00--