PASSENGER RAIL AGENCY OF SOUTH AFRICA

Supply and Installation of OHTE equipment at Wonderboom – Mountain View, Akasiaboom – Wintersnest and Wintersnest- Wolmerton sections

SPECIFICATION AND SCOPE OF WORK

CIDB (Construction Industry Development Board = 4 EP)

***COMPULSORY REQUIREMENTS*:**

The following schedules shall be returned with the tender document which shall be evaluated:

- *Programme of execution with clear duration of project execution.*

SAFETY REQUIREMENTS:

All work in this contract shall comply with the Occupational Safety Act, 1993 (Act No: 85 of 1993). These items shall all be included in the tendered rates. A copy of the act as well as an approved safety file shall be kept on site for the duration of the project.

1. General

- The contractor shall be responsible for the removal and transportation of old equipment covered under this scope to Rebecca stores.
- The contractor shall be responsible for the Supply, delivery, installation, commissioning and testing of 3kV Overhead Traction Equipment (OHTE) at the abovementioned sites

- The contractor shall
  - Perform the services as outlined by the scope of work below
  - Be responsible for cleanliness of site after the work is done
  - Work under Prasa supervision at all times
  - Be responsible for security and safety of their staff and equipment (including works not yet handed over) during the duration of the contract.

1.1. Subcontracting

1.1.1. The Contractor shall not make use of any sub-Contractor to perform the works or parts thereof without prior permission from the Project Manager.

2. Financial

2.1. Payments shall be made for fully functional equipment only, i,e, all work completed.

2.2. All prices quoted shall be fixed and firm for the duration of the contract

2.3. Penalties shall be applicable for late completion of the work and the rate shall be as stipulated in the contract terms and conditions for each day the completion is delayed. Terms and conditions in this contract are applicable in this regard.

2.4. Rates supplied in the BOQ shall be used to calculate the final payment for equipment.

3. Scope of works and areas of focus

3.1. Wonderboom – Mountain View Crossovers

3.1.1. At Mast pole number 10/5: Supply and install all make-off accessories including stay wire, new insulators and suspensions. (staring point 0).

3.1.2. At Mast pole number 10/6: Supply and install double suspension insulator, contact wire accessories and the steady arm with insulator. (Point 31 m).

3.1.3. At Mast pole number 10/272: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (point 84 m).

3.1.4. At Mast pole number 10/294: supply and install single suspension insulator for tiger wire, supply and install knuckle for contact wire, and all the associated accessories. (point 106 m).

3.1.5. At Mast pole number 10/326: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (Point 136 m).

3.1.6. At Mast pole number 10/370: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (point 180 m).

3.1.7. At Mast pole number 10/396: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (point 205 m).

3.1.8. At Mast pole number 10/442: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (point 250 m).

3.1.9. At Mast pole number 10/470: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (point 280 m).

3.1.10. At Mast pole number 10/497: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (point 307 m).

3.1.11. At Mast pole number 10/545: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (point 355 m).

3.1.12. At Mast pole number 10/607: supply and install Single suspension insulator for tiger wire and steady arm with insulator for contact wire, and all the associated accessories. (point 416 m).

3.1.13. At Mast pole number 10/674: Supply and install all Mak-off accessories including stay wire, new insulators and suspensions. (Point 482)

3.1.14. Supply and install x2 Section insulators and all the associated components on the section.

3.1.15. Install tiger wire for the section (500 m), and Install Contact wire for the section (500 m), including the droppers and all the associated components.

3.2. Akasiaboom – Wintersnest Crossovers

3.2.1. At Mast pole number 3/148: Supply and install all make-off accessories including stay wire, new insulators and suspensions. (Point 0)

3.2.2. At Mast pole 3/169 (point 24 m):

(a). Supply and install suspension insulator for tiger wire and feeder wire,

(b). Move existing equipment from the current Mast pole to the next mast pole.

(c). Supply and install double knuckles for the contact wire.

(d). Supply and install double suspension insulator.

(e). Supply and install single suspension insulator.

(f). Supply and install section insulator and all the associated components.

3.2.3. At Mast pole number 3/215: at (70 m)

(a). Supply and install cantilever with suspension

(b). Supply and install Climbing Angle

(c). Supply and install a Push-pull steady arm.

(d). Supply and install x2 steady arms with insulators.

3.2.4. At Mast pole number 3/241:

3.2.5. (a). Supply and install all Mak-off accessories including stay wire, and all the associated components.

(b). Remove the existing mast pole

(c). Fix the earth wire at the top.

3.2.6. Install tiger wire for the section (100 m) and Install Contact wire for the section (100 m), including the droppers and all the associated components.

3.3. Wintersnest – Wolmerton Crossover

3.3.1. At Mast pole number 19/681: Supply and install all Mak-off accessories including stay wire, new insulators and suspensions. (Point 0)

3.3.2. At Mast pole 19/715 (point 33 m):

(a). Supply and install a knuckle for contact wire,

(b). Supply and install single suspension insulator for tiger wire.

3.3.3. At Mast pole 19/733 (point 53 m):

(a). Supply and install Double steady arm with push pull for contact wire.

(b). Supply and install Double suspension for feeder and tiger wire.

(c). Supply and install section insulator with all associated components.

3.3.4. Mast pole number 19/782: (Point 99)

(a). Supply and install Single suspension for tiger wire

(b). Supply and install 2x steady arm with push pull for contact wire.

3.3.5. Mast pole number 19/813 (point 132 m): supply and install all Mak-off accessories including stay wire, and all the associated components.

3.3.6. Install tiger wire for the section (135 m), and Install Contact wire for the section (135 m), including the droppers and all the associated components.

4. Particulars of scope of works

4.1. Wire works.

4.1.1. Any conductors supplied as supplementary to the existing system shall match the existing unless specified otherwise. New make-off wiring shall be spliced onto the existing wiring where new termination structures are required. Standard conductor sizes are:

4.1.1.1. **Contact wire**: 161 mm² copper wire shall be supplied in continuous lengths of 1830 meter accordance with BBD 7267 Version 2 and installed in accordance with CEE 241.

4.1.1.2. **Catenary wire:** 160mm² Aluminium Conductor Steel Reinforced (ACSR).

4.1.1.3. **Feeder wire:** 800mm^2 hard drawn Aluminium in accordance with SABS 182.

4.1.1.4. **Feeder Catenary Contact Jumpers (FCC's):** 160mm^2 to be replaced with a 160mm² all-aluminium soft stranded jumper in accordance with BBH 2161 Version 1 in line with drawing BBH 2164.

4.1.1.5. **Earth wire**: 61mm^2 ACSR Conductor shall be supplied and installed.

4.1.2. Dropper wire: shall be the stainless-steel type.

4.1.3. The maximum span length in the Gauteng region is 67m.

4.1.4. All terminations shall comply with Drawing CEE-TPB-3.

4.1.5. Spring terminations devices shall be supplied and installed, all thimbles and Crosby clamps shall be stainless steel throughout.

4.2. Section insulators

4.2.1. The contractor shall supply and install Section Insulators at identified locations, these shall conform to the specification CEE-0054-83.

4.2.2. Section insulators shall only be cut into the overhead wires where the separation between contact and catenary wires is not less than 750 mm after installation of the section insulator.

4.2.3. The contractor shall supply and install numbering plates for all section insulators supplied under this contract.

4.2.4. It is the contractor's responsibility to smooth out kinks on contact wire because of tensioning or other activities.

4.3. Insulators

4.3.1. All insulators shall be replaced with the vandal proof type.

4.3.2. All such new Insulators shall be of the Bell type, adequately rated for the specific voltage **(4,5kV)** and have an ultimate mechanical strength in tension of not less than 54kN, and to SANS standards. The minimum creepage path shall be 450 mm.

4.4. Equipment at Bridges

All existing bridge cross spans shall be replaced. This work shall include the following:

4.4.1. Replacement of all insulators (composite).

4.4.2. Replacement of cross span wiring (Live and Earth cross-spans). All turnbuckles and Crosby's shall be stainless steel.

4.4.3. Replacement of all steel supports.

4.4.4. Greasing of equipment.

4.4.5. Replacement of bolts and plates.

4.4.6. Re-instating bonds and all OHTE and transmission line components.

4.5. Earthing, Bonding and Suppression

4.5.1. Before any welding connection, the surface(s) shall be thoroughly prepared as per detailed instructions to ensure a strong and continuous bond. The galvanizing of the structures shall be removed with a grinder, and the surface where the exothermic weld is to be performed should be thoroughly cleaned.

4.5.2. The area where the galvanizing was removed shall be treated with zinc spraying, hot – patch soldering, or coated with zinc-rich paint complying with the requirements of SABS 920.

4.5.3. All welded joints shall be "hammer tested" to ensure that the mechanical strength of the joints is sound. Welded joints shall also be painted.

4.5.4. PRASA's Technical Officer shall inspect and approve the work before any Grading Ring is covered by soil.

4.5.5. Rail continuity Bonds – All joints in the rail shall be bonded with 4 x 96 mm^2 PVC sheeted steel cables. The continuity bonds shall be bolted to the web of the rail using the Expanding collar system. The ends of the bonds shall have lugs crimped to it, which shall then be fastened to the rail using the Expanding collar system.

4.5.6. Cross bonds – are applied between various tracks that share the return current. It consists of a 96 mm^2 PVC sheeted composite bond that is fastened to the web of the rail using the Expanding collar system. Cross bonds shall be provided at intervals not exceeding 500 m.

4.5.7. Mast to rail bonds – shall exist in spacing not exceeding 350 m (5 spans). They shall consist of a 2 x 96 mm^2 PVC sheeted bond that is fastened with WAM Stud and Lug to the mast and fastened to the web of the rail using the Expanding collar system. The end bolted to the rail shall have a lug crimped to it, which shall be fastened to the rail with a WAM stud. Where no earth wire is connected to the mast, 4 Mast to rail bonds shall be provided.

4.5.8. Switch Structure – shall be provided with double mast to rail bonds of 96 mm^2 PVC sheath steel cable.

4.5.9. The bridges may not be connected directly to the "traction earth wire" or to "rail" but shall be connected to rail via spark gap at 2 separate positions. Furthermore, the "dead" side of the 3kV DC insulators shall be insulated from the structure either by means of an additional disc insulator or insulating pads, bushes or washers between the insulator support bracket and the fixing bolts, the insulator support brackets then being connected to rail either directly or via a common earth wire, with two earth paths. Where only one earth cross span exists, a second shall be installed. The earth conductor protecting each set of "live" cross-spans shall be so arranged as to provide a ring connection with dual connections for every earth point.

4.5.10. Spark gaps to be supplied as per specification BBB1616 and installed as indicated on drawing CEE-TU-100.

4.5.11. A 95mm^2 composite cable shall be supplied and installed for all mast to rail bonds. Rail bonding fasteners shall comply with BBB6017.

4.5.12. Lightning arrestors compliant to specification BBB2141 shall be supplied and installed as per specification BBB2144.

4.6. Small Part Components (SPC)

4.6.1. The contractor shall supply and install the following small parts in accordance with the specifications as indicated:

4.6.2. Cross Spans to DB's shall be to Drawing CEE-TMGC-13

4.6.3. Vertical members shall be to CEE-TMF-106.

4.6.4. Cross arms: Intermediate transmission line X-arms shall be to Drawing CEE-TPF-4

4.6.5. Suspension arm arrangements for supporting Aerial Bundled Conductors on concrete masts and through bridges shall be to drawing CEE-TMGC-22.

4.6.6. The Contractor shall allow for the clamping brackets (back-straps) to be modified (i.e., extended) to include a 14 mm ø hole for bonding cable.

4.6.7. Shop drawings of all the SPC shall be required for approval prior to manufacture.

4.7. Small Part Components (SPC) Scrapping of Material

4.7.1. PRASA staff shall be allowed to scrutinize the scrap material and have first choice to remove re-useable materials to the depot supervised stores.

4.7.2. The contractor shall be responsible for the safe movement of salvaged scrap to Rebecca Depot.

4.7.3. Abandoned steel components shall not be left unattended on site. The steel shall be removed from the track side after each occurrence, safely stored temporarily (if required) and transported to the Driehoek stores as soon as practically possible. All care shall be taken to avoid unlawful removal of these components from site.

4.7.4. All occurrences shall be documented in the site diary and signed by both parties.

4.7.5. The cost to be allowed for here is:

a. Administration
b. Transport
c. Loading and off-loading

5. Care of the Site

5.1.1. From the date on which the Site is handed over to the Contractor to the date of the issue of a Certificate of Completion, the Contractor shall take full responsibility for the care of the

Works and the Employer's Assets on the Site and of all Plant intended for incorporation into the Works and materials on the Site intended for incorporation into the Works.

6. Site Overall Staffing and Key Professional Staff

6.1.1. The contractor shall provide qualified and experienced professional staff for the following positions.

6.1.1.1. Site Supervisor

6.1.1.2. Traction Linesmen

6.1.1.3. Erectors

6.1.1.4. Flagman

6.1.1.5. Construction Health and Safety Officer

6.2. Minimum Qualification of Key Professional Staff

6.2.1. Site Supervisor

6.2.1.1. All work shall be supervised by a Site Supervisor in possession of a Traction Linesmen qualification or a C-green Certificate.

6.2.1.2. Minimum 5 years' experience as a Traction Linesman in the 3kV DC System.

6.2.1.3. Minimum 5 years' experience in the construction and commissioning of a 3kV DC OHTE system.

6.2.2. Erectors

6.2.2.1. All staff that will climb on structures shall be in possession of a valid "C" green certificate.

6.2.2.2. Minimum 5 years' experience as an Erector/traction linesman.

6.2.2.3. Minimum 5 years' experience in the construction of the 3kV DC OHTE system

6.2.3. Flagman

6.2.3.1. A minimum of three qualified flagmen shall be deployed for each occupied section.

6.2.4. Construction Health and Safety Officer

6.2.4.1. The desired minimum qualifications for the Construction Health and Safety Officer are as follows:

6.2.4.2. Minimum of 3 years industry experience as a health and safety officer.

6.2.4.3. In possession of National Diploma or Degree in Health and Safety Management.

6.2.4.4. Registered with SACPCMP

6.3. To be provided by the contractor

6.3.1. Site books (each in triplicate) to record:

6.3.2. All incidents as well as the progress of work during the occupation.

6.3.3. All instructions pertaining to the technical details of the work being performed at that time.

6.3.4. Upon appointment, the contractor shall supply machinery, equipment, material, labour and consumables, etc. necessary for the undertaking and completion of the works to satisfaction of the client.

6.3.5. The client will require conformance documentation for each item of material procured by the contractor for installation used in this contract.

6.3.6. Any damage caused to the property of PRASA will be for the contractor's account.

6.3.7. Before commencing construction in any particular area, the contractor shall verify the positions of services. Where any underground services are shown on the drawings, the contractor shall have the equipment available on site for as long as is necessary to detect and locate such services and, if so ordered, he or she shall excavate by hand to expose such services in areas and in a manner and at a time agreed upon with the technical officer.

6.3.8. Protection of cables- Before any excavations take place near identified service cables, the contractor shall contact the technical officer. The contractor shall advise the Prasa technical officer at least 7 days in advance of the actual date on which to excavate near any cable. The contractor shall not use mechanical equipment to excavate within 3m of the estimated position of identified cable and shall, if necessary, expose the cable by means of hand excavation carried out under proper supervision.

7. Measurement of Quality of Construction

7.1. The works shall be quantified by the contractor with the assistance of PRASA personnel, the payment will be subject to the rates submitted in the tender.

7.2. Where the condition of the site is such that the specified performance standards cannot be achieved, the contractor should record all relevant information in conjunction with the Prasa Technical Officer before and after working. Correctness and final approval shall be the responsibility of PRASA.

8. Rectification of sub-standard work

8.1. Where the specified standards of workmanship and accuracy are not attained, the Contractor shall rectify at own cost within 7 working days. should the contractor fail to honor the stipulated notified days he can be reported to the National Treasury for non-performance and may be blacklisted (prevented from doing any business with the state).

9. General

9.1. Should any claim arise due to damage caused by any action of work by the Contractor to property of PRASA and his employees or any other person/s, the Contractor shall be held liable to settle such claims at his own cost.

9.2. The contractor shall provide transport, equipment, tools, consumables, supervision, protection, and labor necessary to successfully complete the contract.

10. Safety

10.1. The Contractor shall comply with requirements of safety legislations and regulations in all respects.

10.2. All drivers shall be in possession of valid driver's licenses and Public Drivers Permits (PDP) where applicable. Crane operators will be required to have a valid Crane Operator's certificate. All vehicles shall be roadworthy.

10.3. The Contractor shall be responsible for all protective clothing and –equipment for his employees. All employees required to climb structures shall be issued with suitable harnesses.

10.4. The contractor shall be responsible for security of personnel and material onsite as well as during transit.

10.5. Normal protection measures in accordance with the Protection Manual shall apply.

10.6. An effective safety procedure to be followed by all personnel on any work site in the case of approaching rail traffic shall be compiled by the Contractor and implemented before any work commences. This procedure shall be updated

whenever the need arises, and any changes shall be communicated to all employees on a works site before work proceeds.

11. Measurements and payments

11.1. Claims for payment will be made monthly.

11.2. Any rejected and incomplete work will not be paid.

11.3. All rates in the schedule of quantities must be made per unit as requested and should be an all-inclusive rate.

11.4. The rate quoted by the Tenderer(s) and accepted by PRASA must hold well till the completion of the work and shall not be subject to any escalation due to increase in the local market rates for materials & labor. No claim on this account whatsoever shall be entertained at any stage including the extended period.

11.5. The client shall retain 10% of all invoices claimed under this contract, this shall be payable at the end of the guarantee period of 52 weeks after the date of handover.

11.6. The amount of the Preliminaries to be included in each monthly payment certificate shall be assessed as an amount prorated to the value of the work duly executed in the same ratio as the preliminaries bears to the total of prices excluding any contingency sum, the amount of the Preliminaries and any amount in respect of contract price adjustment if provided for in the contract.

12. Payment Certificate

12.1. On or after the assessment date, the Supervisor and the Contractor will together assess the quantities of the progress on each item in the Bill of Quantities and complete the Progress Assessment Detail form, where after the Progress Assessment Certificate will be issued.

12.2. The Contractor shall then submit a VAT invoice and attach the above Progress Certificate for payment by the Employer.

12.3. Contractor to provide the Employer with the necessary details regarding banking details to enable the Employer to make electronic payments.

13. PRICING AND THE WORKS.

13.1. The contractor is required to provide firm prices/ rates for material and labor for the duration of the contract.

13.2. The contract period shall be inclusive of the delivery and installation period as well as an additional period of at least one year starting from the date of acceptance by the client of the last unit.

13.3. The costs for normal servicing shall be reflected separately and shall be paid quarterly for the duration of the service period.

13.4. The contract offer shall be based on the rates as indicated in the bill of quantities. The quantities shall be agreed during construction per section.

14. PENALTIES

14.1. If the Contractor fails to complete the Services within the time a stipulated in this Contract for completion of Services or a part or portion of Services, the Contractor shall be liable to the Employer for an amount calculated at 0.05% of the Contract Price per delayed Day per order, which shall be paid for every Day which shall elapse between the time for due completion and completion of the relevant Services. However, the total amount due under this sub-clause shall not exceed the maximum of 10% of the Contract Price.

14.2. The imposition of such penalty shall not relieve the Contractor from its obligation to complete Services or from any of its obligations and liabilities under the Contract,

14.3. PRASA may set off or deduct from the fees due to the Contractor any penalty amounts due and owing by the Contractor in terms of clause 14.1

15. Commissioning tests and completion

15.1. Designated PRASA personnel, in conjunction with the Contractor, shall carry out the final commissioning test. The Contractor shall carry out any remedial work, if necessary.

16. Handing over

16.1. The handovers shall be for each portion of the work when the Electrical System is tested and commissioned to the satisfaction of the Technical Manager, in

accordance with the details as set out in the handing over documentation of PRASA.

17. List of Transnet/ PRASA specifications that form part of this scope of work.

17.1.	BBB2141	Lightning Arrester on 3kV DC Cantilever Structure
17.2.	BBB3569	Symbols
17.3.	BBC 1678	Bonding on All Types of Rails
17.4.	CEE-0054 ISS 83	Section Insulators for 3kV DC OHTE for both High and Low Speed Traffic
17.5.	CEE 0057.90	Supply of Cables
17.6.	CEE 0059.84	Earthing and Bonding 3KV DC Electrification
17.7.	CEE-0241	Specification for hard drawn, grooved, copper contact wire for electrical traction purposes
17.8.	BBH2161	Requirements for 160 square millimetre All Aluminium Jumper Conductor
17.9.	BBH 2164	Typical layout of FCC's and C-Jumper
17.10.	CEE-0054 ISS 83	Section Insulators for 3kV DC OHTE for both High and Low Speed Traffic
17.11.	SABS 920	Galvanising
17.12.	BBB 1616	450 Volt gas arrestor spark gap for traction power supply
17.13.	CEE TU 100	Spark gap drawing
17.14.	BBB 6017	Rail and Mast bond Fasteners
17.15.	BBB2141	Lightning Arrestors Arrangement on 3kV DC Cantilever Structures
17.16.	CEE TMGC 13	Cross span to DB
17.17.	BBB2141	Lightning Arrestor on 3kV DC Cantilever Structure

Item No.	Description	Unit	Qty	Rate/unit (Excl. VAT)	Total Price (Excl. VAT)
	Preliminary and General				
1.	Remove and transport old material from all the sites to Rebecca Stores	sum	1		
2.	Preliminary and General (eg Toilets, security, etc) for all the sites	Sum	1		
	Wonderboom – Mountain Crossover				
3.	Supply and Installation of the crossover equipment at the Wonderboom – Mountain View section including all the associated works per clause 3.1 of the scope of work.	Sum	1		
4.	Supply and install Section insulators and all the associated works inline with clause 3.1 of scope of work	Each	2		
5.	Supply and install tiger wire and all the associated components.	m	500		
6.	Supply and install Contact wire and all the associated components.	m	500		
7.	Supply and install make-off accessories and all the associated components, including a stay wire	Each	2		
	Akasiaboom – Wintersnest Crossover				
8.	Supply and Installation of the crossover equipment at the Akasiaboom – Wintersnest section including all the associated works per clause 3.2 of the scope of work.	Sum	1		

9.	Supply and install Section insulators and all the associated works inline with clause 3.2 of scope of work	Each	1		
10.	Supply and install tiger wire and all the associated components	m	100		
11.	Supply and install Contact wire and all the associated components	m	100		
12.	Supply and install make-off accessories and all the associated components, including a stay wire.	Each	2		
	Wintersnest - Wolmerton				
13.	Supply and Installation of the crossover equipment at the Wintersnest - Wolmerton section including all the associated works per clause 3.3 of the scope of work.	Sum	1		
14.	Supply and install Section insulators and all the associated works inline with clause 3.3 of scope of work	Each	1		
15.	Supply and install tiger wire and all the associated components	m	135		
16.	Supply and install Contact wire and all the associated components	m	135		
17.	Supply and install make-off accessories and all the associated components, including a stay wire.	Each	2		
	Testing and Commissioning				
18.	Testing and commissioning on all the 3 sites	Sum	1		
			Sub Total Excl. Vat		
			VAT (15%)		
			Total		

18. Technical Evaluation Criteria

CRITERIA	WEIGHT	SCORES
Organizational Experience (N.B. Provide for each successfully completed project/s in the following sequence: Copy of an appointment letter/s(on a company letterhead), description of the project, Client name, Client. Contact (i.e., email and office	40	Score will be based on successfully executed and completed similar projects in the installation of 3 kV OHTE in the last fifteen (15) years from the presented details in the tender document.

number), Project start date, project end date, extension of time where applicable, contract value inclusive of VAT. Furthermore, attach completion certificate signed by client or letter from the client confirming successful completion of the project.)		1: Zero (0) Similar Projects/non-submission/incomplete submission= **0** 2: 1 Similar project = **8 points** 3: 2 Similar projects =**16 points** 4: 3 Similar projects= **28 points** 5: 4 Similar projects = **34 points** 6: 5 and above Similar projects=**40 points**
Qualifications and Technical Experience (based on Submitted CVs) of Key Staff • Site Supervisor (SP) • Traction Linesman (TM) (N.B. Provide copies of original qualifications and certificates of professional bodies. The copies must be certified by commissioner of oath. The date on the stamp shall be three months or less old, before the closing date of the tender. Please provide **SAQA** accredited qualification. (Linesman qualification shall be Category A-Red or C-green) Evaluation will be done on all 2 personnel and maximum points shall be obtained on all 2.	40	Detailed CVs of the team members who will be used in completing the works. Years of experience should be related to 3kV DC OHTE system installation. No information provided/incomplete submission = 0 points 1: Average < 5 years of experience of Key Staff = 8 points 2: Average > = 5 up to 8 years of experience of Key Staff = 16 points 3: Average > 8 up to 10 years of experience of Key Staff = 24 points 4: Average > = 10 up to 15 years of experience of Key Staff = 32 points 5: Average > = 15 years of experience of Key Staff = 40 points
Project program (Work plan) Provide project schedule in MS projects or MS excel that meets the client's timeline	20	Score will be allocated for MS Project or MS excel Schedule provided. **No information provided = 0 points.**

requirements and the schedule to cover the following key Milestones: • Project duration within the targeted duration of 3 weeks. • Resource allocation • Critical Path clearly highlighted • Activities showing safety measures to be taken activities included. The overall schedule should clearly indicate sequencing of activities with clear understanding of scope.		1: Project schedule provided with relevant activities and 1 of the indicated elements addressed = 5. 2: Project schedule provided with relevant activities and 2 of the indicated elements addressed = 5. 3. Project schedule provided with relevant activities and 3 of the indicated elements addressed = 15. 5. Project schedule provided with relevant activities and all the indicated elements addressed = 20.