

RFQ-2024-400

**Replacement of Package Unit Substation and Associated Works
at Golf Course Pump Substation, Jerudong**

Bill of Quantities

1. The bid price represents the full cost to the client for the performance and delivery of the works by the contractor, which shall be in accordance with the Contractor HSE Guidelines and BPC HSE Procedures.
2. The bid shall be firm in BND currency as stated in this [Bill of Quantities](#).
3. The rates listed in this document shall include all essential expenses, including but not necessarily limited to supply, installation, transportation, duties, taxes, temporary infrastructure, and any other costs for project completion.
4. All quantities stated herewith are provisional and subject to final re-measurement.
5. The contractor shall allow for any costs associated with limited or restricted working hours imposed by the client and VVIP residents in the vicinity. Prior to bid submission, it is strongly recommended that the contractor visit the site to gain a comprehensive understanding of project scope. No claims will be considered for inaccuracies or insufficiency in the provided information.
6. Compliance with site safety and security protocols is mandatory for the Contractor, including:-
 - Attendance to safety induction course by all on-site contractor personnel.
 - Submission of Risk Assessment and Method Statement (RAMS) for the works for approval prior to commencing work.
 - Provision of Personal Protective Equipment, rest area with portable toilet, appropriate tools, and certified equipment at the site.
 - Assignment of a HSE officer for the duration of the contract period.
 - Adherence to all relevant HSE regulations implemented by BPC and pertinent government authorities.

Item	Description	Qty.	Unit	Unit Rate	Amount
A	Site Verification <ul style="list-style-type: none">- Allow cost for conducting site verification to ensure the accuracy of the existing substation equipment layout, and the proposed modifications.- Manual excavation of trial pits to confirm the location of existing underground cables and other utility services as instructed by the BPC contract owner, inclusive of all associated reinstatement works.	1	lot		

Item	Description	Qty.	Unit	Unit Rate	Amount
B	Cable Installation Works				
1.	<p>Cable Trenching. The work includes but is not limited to the following:-</p> <ul style="list-style-type: none"> - Manual or mechanical excavation of the cable trench including provision of proper shoring, safety warning signages, barricades with blinkers. - Provision of competent manpower and certified machineries (i.e., excavator, dump truck, Hiab crane truck, etc.). - Supply and installation of 50mm layer of sand bedding before cable laying and 300mm sand layer to cover the newly laid cables. - Installation of yellow PVC cable protective tiles covering the entire cable trench. - Backfilling, compaction and reinstatement. Supply and lay 50mm layer topsoil and close grass turfing, as necessary. - Allow cost for the daily removal of unsuitable earth material from the site so as not to cause spillage of earth onto the road and ensure cleanliness of the work area at all times. 	150	m		
2.	<p>Installation of 3c/95mm² 11kV cables</p> <p><i>(Note: 11kV cable to be supplied by BPC and to be collected by the Contractor from BPC Store).</i></p>	160	m		
3.	<p>Installation of LV armoured cables, as required for the diversion of low voltage cables from the existing package unit substation to new package unit substation.</p> <p><i>(Note: LV cables are to be supplied by BPC and to be collected by the Contractor from BPC Store).</i></p>				
	a. 4c/240 sqmm XLPE/SWA/PVC cable	40	m		
	b. 4c/185 sqmm XLPE/SWA/PVC cable	40	m		
	c. 4c/120 sqmm XLPE/SWA/PVC cable	40	m		
	d. 4c/95 sqmm XLPE/SWA/PVC cable	40	m		
	e. 4c/35 sqmm XLPE/SWA/PVC cable	40	m		

Item	Description	Qty.	Unit	Unit Rate	Amount
4.	Cable joint bay. Excavation of joint bay for 11kV and LV cables 1.5m(W) x 2m (L) x 1m(D) approx. This includes provision of temporary canvas tent, power and lighting as required during the cable jointing works.	3	lots		
5.	Termination of 3c/95mm ² 11kV cable. Provision of competent manpower, tools, and equipment for the termination of 11kV cables. This item is inclusive of IR testing of cable spans before and after jointing. <i>(Note: 11kV termination kits are to be supplied by BPC and to be collected by the Contractor from BPC Store).</i>	7	nos.		
6.	Jointing of 3c/95mm ² 11kV cables. Provision of competent manpower, tools, and equipment for the jointing 11kV cables. This item is inclusive of IR testing of cable spans before and after jointing. <i>(Note: 11kV joint kits are to be supplied by BPC and to be collected by the Contractor from BPC Store).</i>	2	nos.		
7.	Termination of LV cables. Supply of approved type of LV cable termination kit, competent manpower, tools, and equipment for the termination of LV cables.				
	a. 4c/240 sqmm XLPE/SWA/PVC cable	2	nos.		
	b. 4c/185 sqmm XLPE/SWA/PVC cable	1	no.		
	c. 4c/120 sqmm XLPE/SWA/PVC cable	1	no.		
	d. 4c/95 sqmm XLPE/SWA/PVC cable	1	no.		
8.	Jointing of LV cables. Supply of approved type of LV joint kit, competent manpower, tools, materials, and equipment for the jointing of LV cables. This item is inclusive of IR testing of cable spans before and after jointing.				
	a. 4c/240 sqmm XLPE/SWA/PVC cable	2	nos.		
	b. 4c/185 sqmm XLPE/SWA/PVC cable	1	no.		
	c. 4c/120 sqmm XLPE/SWA/PVC cable	1	no.		
	d. 4c/95 sqmm XLPE/SWA/PVC cable	1	no.		
9.	Supply, fabricate and install of cable markers.				
	a. 11kV cable joint marker post as per Dwg. No. BPC-01-11 202-CM	4	nos.		

Item	Description	Qty.	Unit	Unit Rate	Amount
	b. 11kV cable route marker post as per Dwg. No. BPC-01-11 201-CM	8	nos.		
	c. Sign board for 11kV Secondary Substation as per Dwg. No. BPC-00-10 072-CM	1	no.		
C	Installation of 1000 kVA Package Unit Substation				
1.	Provision of competent manpower and certified equipment for the loading and unloading, transportation and delivery of 1000kVA package unit from BPC store to site.	1	lot		
2.	<p>Installation of 11kV substation earthing system consisting of the following components:</p> <ul style="list-style-type: none"> - 1 no. tin plated copper earthing bar. - 16mm dia x 1800mm long earth rods and connectors. - 120mm² bare/insulated copper conductors - Marconite earth enhancing compound. <p><i>(Note : Materials are to be supplied by BPC and installed by contractor to achieve a total earth grid resistance of less than 1Ω)</i></p>	1	lot		
D	<p>Installation of 11kV 2R1T Ring Main Unit.</p> <p>Provision of skilled manpower, transportation, tools, and equipment for the installation of 2R1T 11kV ring main unit at the Golf Course Lighting Secondary Substation. This item includes:</p> <ul style="list-style-type: none"> - Fabrication supply and installation of C100 steel channel support structure including onsite modifications to suit site condition. - Supply and installation of anchor bolts and fixing accessories. <p><i>(Note: RMU to be supplied by BPC and to be collected by the Contractor from BPC Store).</i></p>	1	lot		
E	Miscellaneous Works				
1.	<p>Engage a licenced geotechnical specialist to conduct soil investigation and geotechnical analysis to be used for the design of shallow foundation of the refurbished 1000 kVA package unit substation. This item includes:-</p> <ul style="list-style-type: none"> - Static cone penetration test for measuring both cone and sleeve resistance from existing ground up to 9m maximum depth as 	1	lot		

Item	Description	Qty.	Unit	Unit Rate	Amount
	<p>per prevailing standard method for subsurface sounding for soils.</p> <ul style="list-style-type: none"> - Prepare and submit report of field data of in-situ test including interpretation and analysis and recommendation for most suitable type of foundation. 				
2.	Engage a qualified professional (C&S QP) to prepare and submit detailed civil and structural drawings of the proposed foundation for the refurbished 1000 kVA package unit substation and new RMU plinth at Golf Course Lighting S/S.	1	lot		
3.	<i>RMU Plinth.</i> Supply and install steel reinforced concrete plinth for 2R1T RMU. Ref Dwg. BPC-00-10 137-CM	1	lot		
4.	<i>Disconnect and Remove Package Unit S/S</i> Provision of competent manpower and certified equipment to disconnect and remove existing package unit substation; inclusive of loading, unloading, transportation and delivery from site to BPC Store.	1	lot		
5.	<i>Remove existing plinth of the Package Unit S/S</i> Provision of manpower, tools and equipment to hack and remove the existing concrete plinth.	1	lot		
6.	<i>Backfilling and leveling the area of existing Package Unit S/S</i> Provision of manpower, materials, tools and equipment to: <ul style="list-style-type: none"> - Backfill the openings of the existing P/U Substation. 	1	lot		
TOTAL					

Guaranteed Completion Time of:

- **Calendar days** for completion of site verification and submission of approved RAMS and attendance of safety induction by all site personnel and PIC training by the site supervisor involved in the works; completion of final construction drawings starting from the Contractual Date and ending on the date that all construction drawings are stamped and signed by the client as 'Reviewed. No Comment. Proceed' (inclusive of time for review and revisions required to achieve final construction drawings)
- **Calendar days** for completion of the installation of 11kV substation equipment and associated cable diversion works starting from the Works Commencement Date agreed by the parties and ending on the date of the Practical Completion Certificate issued by the Contractor and signed by the client.

Company Name

Company Stamp

Signature & Date