1. INTRODUCTION

The South African Police Service under Supply Chain Management Division has a requirement to Design, supply, delivery, installation & commission of INVERTER BATTERY BACKUP/PV SOLAR for Police Stations (West coast, Cape wine lands & city of Cape Town) in Western Cape Province Region 1.

2. SCOPE OF WORKS

The works comprises of Design, supply, delivery, installation & commissioning of INVERTER BATTERY BACKUP/PV SOLAR SYSTEM Power for Police Stations (West coast, Cape wine lands & city of Cape Town) in Western Cape Province Region 1.

The Contractor will provide all equipment's, labour, materials, transportation,test, installation & commissioning of INVERTER BATTERY BACKUP/SOLAR SYSTEM Power for Police Stations (West coast, Caspe wine lands & city of Cape Town) in Western Cape Province Region 1. to supply Critical areas, CSC, Cells , passages, outside lights.

The Contractor will issue Certification of Compliance (COC) for all work done.

The Contractor will design, supply, delivery, installation & commissioning of INVERTER BATTERY BACKUP/SOLAR SYSTEM with the following items:

- Solar Panels- Only Tier 1 allowed
- Solar Grid Tied and Hybrid invertors .
- Lithium-ion Battery Storage where applicable.
- Switches, wiring, mountings , rails ,cables ,lugs , Fuses ,connectors, AC,DC combiner box and all accessories.

The Contractor shall ensure that he/she is conversant with the technical specification and applicable standards.

Note: it is the contractor's responsibility to ensure that his/her pricing make provision for the appointment of a registered professional Electrical, civil and structural engineer/technologist in terms of the Engineering and Profession Act 2000 (Act No.46 of 2000)

The Contractor shall complete the functional evaluation criterion table with all information provided in order to ensure their bid is responsive.

Based on the outcome of the functional evaluation, the successful bidder shall proceed further in the evaluation where the financial considerations are taken into account as follows.

The bidder shall ensure that all information is provided to support the functional evaluation as omission of incomplete information shall render the bidder unsuccessful.

3. REGULATIONS, STANDARDS AND REFERENCES

The entire installation shall be carried out to the satisfaction of the SAPS, Facility Management, and shall be carried out in accordance with the following Standard Specifications and Regulations including but not limited to.

- SANS 10400: The application of the National Building Regulations.
- All municipal regulations pertaining to building codes and health and safety requirements.
- South African Occupational Health and Safety Act (Act 85 of 1993).
- ISO 9000/9001 Quality Management Systems.
- SANS 1186 Symbolic safety signs
- SANS 1632 Batteries
- SANS 1652 Battery chargers – industrial type
- SANS 10140 Identification colour marking
- SANS 60529 Degrees of protection provided by enclosures
- SANS 10142-1 Wiring of Premises
- SANS 10198-8 Cable laying and Installation
- SANS 10400 Building regulations
- SANS 10142-2 Medium voltage installations above 1kv a.c. not exceeding 22kv.
- SANS 61084-1-2 Electrical Installation Ducting and Trunking Systems on walls and ceilings

- SANS 61305-1-2.4 Electrical Installation Conduit Fittings
- SANS 767- 1-2 Electrical Earth Leakage Protection units
- SANS 45001 Occupational Health and Safety Act No. 85 of 1993
- SANS 62109-1/ IEC 62109-2
- NRS 097-2-1: Inverters shall be certified and operate according to SANS 62109-1, IEC 62109-2 and NRS 097-2-1
- The municipal by-laws and any specific requirements of the Local Supply Authority of the area or district concerned.
- Local Fire Regulations

4. NOTICE TO BIDDER

This tender is for the Design, supply, delivery, installation & commission of INVERTER BATTERY BACKUP/SOLAR SYSTEM Power at Police Stations (West coast, Cape wine lands & city of Cape Town) in Western Cape Province Region 1.

The contractor will be obligated in terms of this contract to ensure Design, supply, delivery, installation & commission of INVERTER BATTERY BACKUP/SOLAR SYSTEM Power at Police Stations (West coast, Caspe wine lands & city of Cape Town) in Western Cape Province Region 1 are completed within duration stipulated.

The contractor shall fully acquaint themselves with the nature of the work carried out, the locality of the facility and any possible hindrances in the execution of Inverter Battery backup/Solar System, warranty and to allow for these entire factors in their price, as any later claim based on unforeseen events or knowledge will not be entertained.

The contract shall be entirely responsible for referencing all relevant standard specification of the SAPS and SANS or other applicable published standard whether such standard is referenced in this document or not and ensuring compliance with the Engineering Works therewith. All equipment supplied shall be from suppliers that have proven track record and with aftersales technical support as well as complies with the small scale embedded generation requirement of the municipal area to be installed.

The references in this document to standard specification shall not be construed as limiting, and are given merely as a guide for basic reference. Where SABS is stated, the applicable SANS shall apply. The SAPS further reserve the right to accept or decline such variations.

- Any equipment or part of the equipment shall not be removed from devolved and non-devolved facilities for repairs or otherwise unless permission is granted by POLICE STATION in consultation with Division Supply chain Management /Facility Management Programme and Project Management. If it happens that such equipment or part of the equipment is removed without the permission, such equipment or part of the equipment will be returned to where it was taken at no cost to SAPS.
- All installations must adhere to local wiring regulations and standards.
- This contract required Grading of 5 EP or higher (Electrical Engineering Project Works).
- For the bid submission a Bill of Quantity (BoQ) is provided below.
- Sizes of 8kW single phase, 12kW 3phase, and 50kW 3phase is priced herein, but the size of the backup/solar plants may vary as per the table below. In the interest of standardizations, spares and ease of maintenance and operation, these system and component sizes will be utilized in multiples of the equipment where the required power on site exceed a single size as per the table below, and the information provided will be multiplied accordingly to meet the requirements.
- Note that the equipment and pricing must permit scaling and parallelizing of equipment for more power to facilitate this requirement of selecting different battery, inverter and solar combinations
- The below table is a simple guide and may vary in terms of solar power kWp, inverter power kVA and battery storage capacity.kWh
- The battery storage indicated is an estimate only based on peak demand of C2 rating
- The solar size is dependent on the permissible roof space or not and also maximum DC input of the inverter assumed
- The table is a guide only to intended system sizing from the BoQ

item	Power required @ site	System size proposed from BoQ	Estimated Storage size proposed from BoQ	Estimated Solar kWp
1	8kW@220VAC	8kW x1	15.2kWh	8kWp
2	12kW@400VAC	12kW x1	20kWh	12kWp
3	16kW@ 220VAC	8kW x2	30kWh	16kWp
4	25kW@400VAC	12KW x2	40kWh	40kWp
5	50kw@400VAC	50KW x1	100kWh	100kWp
6	100kW@400VAC	50KX x2	120kWh	120kWp
7	150KW@400VAC	50kw x3	200kWh	150kWp
8				

The combination of equipment will be site specific and shall be made in consultation with the SAPS engineer prior to commencement of works including whether a grid tied or hybrid storage system is best suited to user requirements

5. TECHNICAL REPORT AND SPECIFICATION

After the design, supply, delivery, installation & commissioning of INVERTER BATTERY BACKUP/SOLAR SYSTEM are complete, full training shall be provided by the contractor with detail guidelines.

The contractor shall provide:

- a full set of AS-BUILT drawings including SLD, DC, AC reticulation detail to the SAPS engineer as part of the handover documentation
- technical manuals and warrantee documentation on main equipment incl solar panels/inverters/batteries
- Practical completion certificates signed by PrEng/Pr Tech (ECSA)
- Commission test results report
- Project Closeout Report
- Certificate of compliance (COC)

6. CLEANING OF SITE

- After completion of construction activities, the contractor shall remove all his equipment and site facilities from the site and leave the site in a tidy condition. The cost thereof must be included for in the P & G's.

7. SPECIAL CONDITION OF THE CONTRACT

STATE UNDER PARTICULAR OF TENDER AGAINST EACH REQUIREMENT WHETHER THE TENDER COMPLY OR DO NOT COMPLY WITH THE REQUIREMENT OF THE SPECIFICATION (FAILURE WILL LEAD TO DISQUALIFICATION OF THE BID) (Please do not make a tick or √ / X)		**Comply / not Comply**
7.1	This tender is for the Design, supply, delivery, installation & commission of INVERTER BATTERY BACKUP/SOLAR SYSTEM Power at Police Stations (West coast, Caspe wine lands & city of Cape Town) in Western Cape Province Region 1. Decommissioned of outmoded or damaged equipment will remain the property of the SAPS (as specified in this document).	
7.2	The contractor will be obligated in terms of this contract to ensure the Design, supply, delivery; installation & commission of INVERTER BATTERY BACKUP/SOLAR SYSTEM Power at Police Stations are completed within a period of two (2) months after receiving of order form. The Contractor shall fully acquaint them with the nature of the work to be carried out, the locality of the facility and any possible hindrances in the execution of the installation and to allow for all of these factors in their prices, as any later claim bases on unforeseen events or knowledge will not be entertained. (as specified in this document)	
7.3	Supply and install symbolic safety signs in compliance with SANS 1186-4: 2004. Ensure that all required warning signs on the outside of the building or BATTERY BACK UP/SOLAR SYSTEM facility are to be in position. The lettering must be readable and visible and in a good state. (as specified in this document)	
7.4	Final Delivery will not be taken unless proof can be provided, by means of signed job cards by the responsible official on site, indicating that such services were carried out. All job cards will be certified and sign-off by the relevant SCM Representatives. All **original** job-cards must be attached to the applicable invoices, for payment purposes. The applicable documentation, such as load test certificates, COC, and photos, should be attached to the job-cards, as part of the supporting documentation. The contractor will supply job cards in accordance with the example including herein. The job card must be completely legibly in black ink after completion of each service and/or maintenance.	
7.5	Electrical Connections –Wiring must be designed and installed as prescribed by SABS 1042 wiring of buildings. (as specified in this document)	
7.6	Throughout the work shall be executed to the highest standards and to the entire satisfaction of the SAPS, SCM Representative who shall interpret the meaning of the Contract Document and shall have the authority to reject any work and materials, which, in his judgment, are not in full accordance therewith. All condemned material and workmanship shall be replaced or rectified as directed and approved by the SAPS, SCM Representative. All work shall be executed in a first-class manner by qualified expert. The Contractor shall warrant that the materials and workmanship shall be of the highest grade, that the equipment shall be installed in a practical and first-class manner in accordance with the best practices and ready and complete for full operation. It is specifically intended that all material or labour which is usually provided as part of such	

	equipment as is called for and which is necessary for its proper completion and operation shall be provided without additional cost whether or not shown or described in the Contract Document.	
7.7	The Contractor shall comply with the requirements of the Health & Safety Specification and applicable regulations. The contractor shall refer to the site information, and the specifications describing the scope of the Engineering Works, for information about the type of environment in which the work is to be executed. Notwithstanding anything stated in this document the contractor shall be responsible for determining the safety requirements of the site. (as specified in this document)	
7.8	All electrical cables, unarmored and armored, shall be locally manufactured and shall bear the SABS stamp of approval.	
7.9	All new BATTERY BACK UP/SOLAR SYSTEM will be designed in facilities certified to ISO9001 and manufactured in facilities certified to ISO9001 or ISO9002 standards.	
7.10	New equipment and material shall be supplied with a written guarantee confirming a defects liability period of 12 months from date of practical completion. These guarantees shall be furnished in favour of the SAPS.	
7.11	Equipment and material installed shall be new and unused.	
7.12	The Contractor shall ensure that all safety regulations and measures are applied and enforced during repair work on cabling, wiring, distribution boards, luminaires, power points and fixed appliances.	

8. INSTALLATION DURATION AND SCOPE OF WORKS BATTERY BACK UP/SOLAR SYSTEM

The Installation duration and scope of works for INVERTER BATTERY BACKUP/SOLAR SYSTEM for various facilities throughout the Province shall be provided by a simple GANTT diagram from Microsoft projects showing the installation time scales and Milestones and activities for a typical rooftop solar battery backup site of (eg 50kWp with 50kWh Battery Storage).

Prior to installation, the bidder shall provide a single line diagram with the cable ratings and protection gear clearly designed and market to show the project engineer , after design by the design PrEng/PrTech who will take responsibility of Design.

The FOR CONSTRUCTION drawings will also include a DC wiring schematic indicating the string arrangements proposed for the solar DC side of the installation where applicable as well as the DC battery connection and protection proposed in the installation.

9. CONDITIONS OF CONTRACT incl SAFETY

The Contractor shall comply with the obligations and requirements of the Agreement and Contract Data documents contained in Part C1 including the General Conditions of Contract 2004 (GCC 2004).

The Contractor shall allow for all the responsibilities and obligations in terms of the conditions of contract and contract data, including;

- Risks, costs and obligations in terms of the General Conditions of Contract, the Contract Data and of the standardized specifications, except where provision is made in the Project Specifications to cover compensation for any of these items.
- Head office, site overheads and supervision.
- Profit and financing costs.
- Sureties, employment-related expenses, statutory expenses.
- Indemnities & insurances: The contractor will only be permitted to perform work on the site if a valid insurance policy document and proof of cover or premium payment have been submitted and approved.
- The Contractor shall maintain current registration and have paid the necessary fees to the Compensation Commissioner in compliance with the Compensation for Occupational Injuries and Diseases Act, No 130 of 1993 (COID). The contractor will only be permitted to perform work on any site if a valid Letter of Good Standing issued by the Compensation Commissioner has been submitted and approved.
- A detailed program for the execution of the engineering works, Maintenance works and Installation works for the whole of the contract period, listing each facility, its location and fixed dates of maintenance. The contractor will be required to comply with the program at all times.
- Expenses of a general preliminary and general nature not specifically related to any item or items of permanent or temporary work.
- All work on site shall carry a safety file with method statement and necessary OHSE approval including work at height

10. SPECIFICATIONS FOR MATERIALS AND EQUIPMENT OF ELECTRICAL INSTALLATIONS

The solar systems envisaged are for the sizes of: 8kVA 1phase, 12kVA 3phase, 50kVA 3phase, 100kVA 3phase or multiples of these sizes.

Hence the bidder shall price the bill of quantities according to these sizes such that any solar system that may be a multiple of this system will them be applied to the pricing provided.

All prices provided for in the rates below shall consider a complete supply and fit of those items in the installation.

10.1 Inverter- GRID TIED OR HYBRID TYPE

Any inverter shall be NRS097 complaint. Only tier 1 BNEF supplied products will be permitted. Hybrid inverter is a highly efficient power management tool that allows the user to hit those 'parity' targets by managing power flow from multiple sources such as solar, mains power (grid), and Generators, and then effectively storing and releasing power as and when utilities require.

INTERACTIVE COMMUNICATION

- Easy and simple to understand LCD display.
- User APP permissible on selected telephone for remote sensing
- Supporting Wi-Fi or GSM monitoring.
- Visual power flow screen.
- Frequency/droop control.
- High-voltage battery.
- Highly efficient.
- Up to 16 inverters can be connected in parallel.
- Minimum 4 MPPT inputs built in as standard
- Programmable solar priority scheme with peak shaving and peak lopping capability and programmable zero grid injection
- Time of day programmable logic of solar power
- Separate port for generator control and grid input
- Minimum 10 yr warranty

COMPATIBLE

- Compatible with mains electrical grid voltages or Generators.
- 12kVA 3phase machine up to 240Amp charge/discharge current

- Support storing energy from diesel Generators.
- THD<3%
- Max MPPT efficiency >=99.9%
- 230V/400V Three-phase Pure Sinewave Inverter.
- Self-consumption and feed-in to the grid.
- Auto restart while AC is recovering.
- DC and AC are coupled to retrofit the existing solar system.
- Grid regulation IEC61727, IEC62116, IEC60068, IEC61683, NRS 097-2-1
- EMC safety regulation IEC62109-1/-2, IEC61000-6-1, IEC61000-6-3, IEC61000-3-11, IEC61000-3-12
- PV Input Lightning Protection
- Anti-islanding Protection
- PV String Input Reverse Polarity Protection
- Insulation Resistor Detection
- Residual Current Monitoring Unit
- Output Over Current Protection
- Protection
- Output Shorted Protection
- Output Over Voltage Protection
- Surge protection
- Noise level < 30dB
- IP65 rated
- Power factor minimum 0.8

10.2 Lithium Battery

Technical Specifications

- CAN 2.0/RS485 BUS communication protocol compatible with the selected inverter
- Wall mount and cabinet/rack mount options available
- Total Energy Capacity [kWh]: as specified
- Energy, 80% DoD [kWh]: as specified
- Energy, 90% DoD [kWh]: as specified
- Selected storage shall be approved by inverter supplier or preferred model selected
- Enclosure: ~3mm thick Aluminium, powder coated, tamper proof, indoor use
- On-board Management: Full battery management system and internal trip protection

- Human Interfaces: On and Off Buttons, State of Charge LED Display (0 to 100%), Error/Fault light, Error/Fault Reset Button, USB Plug for Programming and data access with PC, main breaker
- Cluster controller separate for optimised battery management at high voltage level>500VDC
- Protection: Shunt Trip Circuit Breaker sized to suit max current, can be tripped by BMS if critical fault, manual reset. Protection for overcurrent, cell under and over voltage, temperature, weak cell detection and other critical events
- Battery Chemistry: Lithium Iron Phosphate (LiFePO4)
- Battery Cooling: Natural Convection (heat generation is negligible inside the battery)
- Suitable Ambient Temp[°C]: 0°C to +35°C
- Extreme Operating Temp [°C]: -20°C to +55°C
- Warranty: 10 years or 6 000 cycles for average 70% DoD, and max 90% DoD
- Service life – Cycles: >16 years (>5 500 cycles) expected life at 70% DoD per cycle, >20 years (>7 500 cycles) at 50% DoD or ±2°C, 0.5C/0.5C,EOL70%≥6000
- High Voltage operating voltage 500-700VDC for >60kWh LiFePo options
- Peak discharge 125A
- Altitude <= 2000m
- Certification CE/IEC62619/UL1973/UL9540A/UN38.3

10.3 Solar Panels

- Solar Panels that are from Tier 1 BNEF supplier shall be provided only, the Manufacturer of the solar panels must demonstrate proof of over 60GWp produced/installed capacity and participation in South Africa over last 5 years (South African conditions)
- Module efficiency minimum 21.5%
- Linear degradation rate of < 0.55% pa over 25 years
- Certification IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA CEC listed (US California) UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68 UNI 9177 Reaction to Fire: Class 1
- Positive power tolerance +10W on monocrystalline type only

- Module fire performance TYPE 1 (UL 61730 1500V) or TYPE 2 (UL 61730 1000V) or CLASS C (IEC 61730)

10.4 Distribution Board (DB)

- The construction must be in accordance with SANS 10142-1:2017.

- Openings into distribution boards must tie up with the installation.AC and DC circuitry shall not be in the same distribution box. All earthing requirements shall be included in pricing as well as labelling in DB. The AC DB and DC DB shall be complete with all internal requirements for the solar or battery inverter system to function adequately in accordance with the SANS requirements and shall be included in price where not explicitly separately priced in the Bill of Quantity.
- All AC and DC DB shall include SPD class 1 surge protection and shall ensure adequate earth leakage where necessary

10.5 Cable Trays

10.5.1 Metal Cable Trays

Metal cable trays shall be manufactured from perforated rolled steel. Metal trays manufactured to the following standards shall be use:

- Less than 150 mm wide 1,2 mm minimum thickness with 12 mm minimum return.
- 150 mm to 457 mm 1,2 mm minimum thickness with 19 mm minimum return.
- 460 mm to 610 mm (Heavy duty) 2,5 mm minimum thickness with 76 mm return.

10.5.2 Accessories

Horizontal and vertical bends, T-junctions and cross connections shall be supplied by the Contractor. The dimensions of these connections shall correspond to the dimensions of the linear sections to which they are connected. The radius of all bends shall be 1m minimum. The inside dimensions of horizontal angles or connections shall be large enough to ensure that tine allowable bending radius of the cables is not exceeded. Sharp angles shall be 45° mitered.

10.6 PVC - Insulated Cables

This section covers the requirements for PVC-insulated cables for general installations under normal environmental conditions.

Cables shall be manufactured in accordance with SANS 1507-3:2015, shall come only from fresh stocks, and shall be constructed as follows:

- Armored cables PVC-insulated/PVC-bedded/ armored/black extruded PVC outer sheath.

Cable shall be manufactured and supplied in one length to the lengths specified unless these lengths exceed a standard drum length in which case a ruling shall be obtained from the SAPS.

At the option of the SAPS acceptance tests shall be carried out on production runs of the cable in accordance with SANS 1507-3:2015.

10.7 PVC - Sheathed Aluminium-Covered Cables

Aluminum-covered cables shall comprise PVC-insulated copper conductors protected by an aluminum foil tape screen and a PVC sheath. Cable ends shall be made off with compression glands fitted with a neoprene ring to seal the end. Aluminum sheathed cable shall be installed on surface only using matching saddles installed at suitable intervals to prevent sagging. Where exposed to sunlight, the cable shall have a stabilized black outer sheath.

10.8 Labelling

Care shall be taken to ensure that all equipment is fully labelled and that accurate descriptions and safety warning notices appear in English.

Engraved plastic or ivory-sandwiched strips shall be used throughout. The strips shall bear white lettering on black background for normal labels and red letters on a white or yellow background for danger notices.

10.9 Circuit breakers and fuses

All moulded-case circuit breakers shall be flush mounted with only the toggles protruding. Miniature circuit breakers may be installed in clip-in trays mounted on the frame. All other circuit breakers shall be bolted to the chassis. Special provision shall be made for large main switches when designing the framework. Care shall be exercised that the rear studs of circuit breakers are properly insulated from the steel chassis. Where necessary, insulating material shall be installed that the toggles are in the up position when "ON" and "OFF.
DC and AC protection gear shall not be same unit
Only SABS approved circuit breakers are allowed for use in compliance with SAN10142-1

DC protection shall be through fuselinks with both positive and negative side protection using double pole DC fuselink holders with quick release device and disconnect.

10.10 INSTALLATION OF CABLES and EARTHING

This section covers the installation of cables for the distribution of power in buildings, other structures and in ground for system voltages up to 11 kV, 50 Hz.

All earthing shall comply with the SANS10142-1-2 Standard of either TNCS or TNSS with equal potential bonding to of the inverter N/E to the main feeder N/E and a relay disconnect in the event of islanding
A detailed lighting and earthing and surge plan shall be provided to the SAPS engineer prior to commence of work indicating the philosophy, observations on site and class of protection to be provided.

10.11 Cable Types

- All cables and jointing and termination accessories used for power distribution shall comply with SANS 10142-1:2017.
- Cables with copper conductors shall be used throughout unless otherwise specified or approved.
- All unarmoured cables shall be installed in metal trunking, sleeves or conduits unless clearly specified to the contrary.
- XLPE Cables shall only be used in exceptional circumstances with the written permission of the Project Manager: SCM Facility Management.
- All DC cabling shall be minimum 6mm2 TUV tested and 1500VDC rated with Teflon insert and rodent and UV resistant.

10.12 Identification of Cables

- Cables shall be identified at all terminations by means of punched metallic bands or marked with labels or tags. (Also refer to SANS 10142-1:2017).
- The use of PVC tape with punched characters is not acceptable.
- The identification numbers of cables shall be shown on "as-built" drawings of the installation.

10.13 TRENCHING

- The Contractor shall be responsible for all trenching excavations unless specified to the contrary.

- The Contractor shall, before trenching commences, familiarise himself with the routes and site conditions and the procedure and order of doing the work shall be planned in conjunction with the general construction programme for other services and building requirements.

- The Contractor shall acquaint himself with the position of all the existing services such as storm water pipes, water mains, sewer mains, gas pipes, telephone cables, etc. before any excavations are commenced. For this purpose he shall approach the local municipal authority and any other authority which may be involved, in writing.

- The Contractor will be held responsible for damage to any existing services brought to his attention by the relevant authorities and shall be responsible for the cost of repairs.

- The Contractor shall take all the necessary precautions and provide the necessary warning signs and/or lights to ensure that the public and/or employees on site are not endangered.

- The Contractor shall ensure that the excavations will not endanger existing structures, roads, railways, other site constructions or other property.

- Trenching shall be programmed in advance and the approved programme shall not be departed from except with the consent of the Project Manager: SCM Facility Management.

- Trenches shall be as straight as possible and shall be excavated to the dimensions indicated in this specification.

- The bottom of the trench shall be of smooth contour, and shall have no sharp dips or rises which may cause tensile forces in the cable during backfilling.

- The excavated material shall be placed adjacent to each trench in such a manner as to prevent nuisance, interference or damage to adjacent drains, gateways, trenches, water furrows, other works, properties or traffic. Where this is not possible, the excavated materials shall be removed from site and returned for backfilling on completion of cable laying.

- Surplus material shall be removed from site and disposed of at the cost of the Contractor.

- Trenches across roads, access ways or footpaths shall not be left open. If cables cannot be laid immediately, the Contractor shall install temporary "bridges" or cover plates of sufficient strength to accommodate the traffic concerned.

- In the event of damage to other services or structures during trenching operations, the Contractor shall immediately notify the SCM Facility Management and institute repairs.

- Prior to cable laying, the trench shall be inspected thoroughly and all objects likely to cause damage to the cables either during or after laying shall be removed.

- Where ground conditions are likely to reduce maximum current carrying capacities of cables or where the cables are likely to be subjected to chemical or other damage or electrolytic action, the SCM Facility Management shall be notified before installing the cables. The Project Manager: SCM Facility Management will advise on the course of action to be taken.

10.14 Dimensions of trenches

- A trench must be excavated at a depth of 500mm and a width of 300mm. An electrical warning tape must be laid 300mm above the depth of 500mm trench.

- The width shall be increased where more cables are installed to allow for the spacing as stipulated above.

- Where trenches change direction or where cable slack is to be accommodated, the Contractor shall ensure that the requirements of the relevant SANS 10198-8:2016 specification regarding the bending radii of cables are met when determining trench widths.

10.15 Joint Holes

Where cable joints are required to be made in the course of a cable run, a joint hole shall be excavated of sufficient size to enable the cable jointer to work efficiently and unimpeded.

10.16 Bedding

- The bottom of the trench shall be filled across the full width with a 75 mm layer of suitable soil sifted through a 6 mm mesh and levelled off.

- Only sandy clay or loam soil with a satisfactory thermal resistivity (not exceeding 1.5 °C m/W) may be used for this purpose. Sea or river sand, ash, chalk, peat, clinker or clayey soil shall not be used. The use of crusher sand is acceptable.

- Where no suitable soil is available on site, the Contractor shall import fill from elsewhere and make all the necessary arrangements to do so. The cost of importing soil for bedding purposes shall be included in the unit rates for excavations.

- After cable laying, a further layer of bedding shall be provided to extend to 75 mm above the cables.

- The bedding under joints shall be fully consolidated to prevent subsequent settling.

10.17 Cable Sleeves

- Where cables cross under roads, railway tracks and other service areas, etc. and where cables enter buildings, the cables shall be installed in Polyethylene (6 mm thickness), pipes or earthenware pipes. Pitch fibre and PVC pipes are not acceptable because of the adhesion that occurs after a period of time between the pipe and the sheathing or outer serving of the cables.

- Pipes shall be joined in accordance with the manufacturer's instructions.

- Sleeves shall cross roads and railway tracks at right angles.

- Cable sleeves shall be installed to the spacing and depths stated below.

- Galvanised metallic sleeves up to and including 76 mm dia. shall be supplied and installed by the contractor.

- The ends of all sleeves shall be sealed with a non-hardening watertight compound after the installation of cables. All sleeves intended for future use shall likewise be sealed.

10.18 Backfilling

- The Contractor shall not commence with the backfilling of trenches without prior notification to the SCM Facility Management so that the cable installation may be inspected. Should the Contractor fail to give a timeous notification, the trenches shall be re-opened at the Contractor's cost. Such an inspection will not be unreasonably delayed.

- The tape shall be yellow, marked with the words "**ELECTRICAL WARNING TAPE**" in black.

- Backfilling shall be undertaken with soil suitable to ensure settling without voids. The maximum allowable diameter of stones present in the backfill material is 75 mm.

- The Contractor shall have allowed in his tender for the importation of suitable backfill material if required.

- The backfill shall be compacted in layers of 150 mm and sufficient allowance shall be made for final settlement. The Contractor shall maintain the refilled trench at his expense for the duration of the contract. Surplus material shall be removed from site and suitably disposed of.

- On completion, the surface shall be made good to match the surrounding area.

- In the case of roadways or paved areas the excavations shall be consolidated to the original density of the surrounding material and the surface finish reinstated.

10.19 INSPECTIONS, TESTING, COMMISSIONING AND HANDING OVER

10.20 PHYSICAL INSPECTION PROCEDURE

- Once the Contractor has completed the installation, written notice shall be given to the Project Manager: SCM Facility Management in order that a mutually acceptable date can be arranged for a joint inspection.

- During the course of the inspection, the Project Manager/Engineer will compile a list of items (if any) requiring further attention. A copy of this list will be provided to the Contractor who will have a period of 7 days in which to rectify the offending items of the installation.

- The Contractor shall then provide written notice that he is ready for an inspection of the remedial work to the offending items.

- This procedure will continue until the entire installation has been correctly completed to the satisfaction of the Project Manager/Engineer.

10.21 TESTING AND COMMISSIONING

- All installed equipment shall be commissioned and tested as per the manufacturer¡¦s recommendations. The results of all tests must be recorded and submitted to SAPS, SCM, Facility Management for approval.

- Routine factory tests reports shall accompany all equipment supplied and shall be given to the SAPS, SCM, Facility Management, prior to the equipment being installed and commissioned.

- Contractor to provide COCs and all relevant test certificates to SAPS Project Manager/Engineer prior to energizing of equipment.

- Commissioning shall be conducted in accordance with the relevant IEC standard with clear test procedure provided by the bidder in their proposal and documentation and recording of string voltages, inerter startup test and measurements and recording of all voltages and currents during commissioning recorded and signed off by commissioning PrEng/PrTech.

11 CLEANING OF SITE

- After completion of construction activities, the contractor shall remove all his equipment and site facilities from the site and leave the site in a tidy condition. The cost thereof must be included for in the P & G's.

12 PREAMBLES TO SCHEDULE OF QUANTITIES

PRICE SCHEDULE

General – The Schedules of Quantities define the scope of the Engineering Works in terms of the measurement and payment parameters specified. The Schedules shall be read in conjunction with the General Conditions of Contract. The quantities stated on the schedules are provisional and are subject to re-measurement upon completion. Bidders shall quote for all equipment and all accessories specified within this document. The procurement of this equipment shall take place as needed, spread over the one year period. Servicing and maintenance of all newly installed equipment and components and guaranteeing free of defects for the full maintenance period of one year, will form part of this contract.

Descriptions & Measured Items – The Schedule of Quantities consists of Descriptions followed by measured items (Item lines) which specify the items of differing dimensions, ratings, etc. which comply with the overall requirements of such Description. The measured items may add, subtract or in any other way vary the Description. Below each item line the measured quantities applicable to each of the applicable sections of the Works appears under the relevant column heading, the total of which is shown under the Quantity column. The terms used and Schedule layout are defined in the *Schedule of Quantities* Legend which is presented at this Preamble. The Schedule of Quantities is based upon the Standard system of measurement modified as necessary. **Fixed Rates** – Rates shall be fixed for the duration of the contract. **All inclusive** – The Descriptions and item lines are of necessity abbreviated summaries of the specifications and unless otherwise stated or elsewhere measured, shall include all necessary components and accessories required or necessary for the correct functioning or performance of the item when incorporated into the Engineering Works. The rates and prices shall accommodate the nature of the Engineering Work and any restrictions which apply to the Works Environment and the Site of the Works, shall include all the costs and expenses that may be required in and for the construction of the Works described and shall include the cost of all general obligations, risks and liabilities stated or implied in the contract documents.

12.1 DETAIL SCHEDULES OF QUANTITIES

No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	**PRELIMINARY & GENERAL**				
	NOTE:THE FOLLOWING WORK IS TO BE CARRIED OUT BY AN APPROVED SPECIALIST: SUPPLY, DELIVERY, INSTALLATION & COMMISSIONING OF BATTERY BACK UP/SOLAR SYSTEMOF POLICE STATION, OCCUPIED BY THE SOUTH AFRICAN POLICE SERVICE (SAPS)				
1.1	Preliminary & General: Site Establishment (Office Rental)	Per week	1		Rate only
1.2	Insurance: Construction Works : Time related	sum	1		Rate only
1.3	Insurance: Public Liability : Time related	sum	1		Rate only
1.4	Insurance: Special Risk (SASRIA) : Time related	sum	1		Rate only
1.5	Insurance: Occupational Compensation (COID): Time Related	sum	1		Rate only
1.6	Admin facilities: Maintenance register, communication, etc.	sum	1		Rate only
1.7	Attending of six(6) monthly meeting with client (two per year)	sum	1		Rate only
1.8	Site hand-over meeting and inspection with client (stations)	ea	1		Rate only
1.9	Display boards placed at each facility room/ container/facility (contract information)	ea	1		Rate only
1.10	Safety compliance as per OHS act and specification, including DCP Fire extinguisher Cabinet and 9 kg dry powder fire extinguisher combo in the INVERTER BATTERY BACKUP/SOLAR SYSTEM	ea	1		Rate only
1.11	Engineering AS BUILT DRAWINGS and CLOSEOUT reports	ea	1		rate
1.12	Commissioning test report and measurement	ea	1		Rate per site
1.13	Training	ea	1		Rate per site
1.14	Lightning , surge and Earthing plan	ea	1		Rate per site
1.15	Other on site safety file and OHSE considerations	ea	1		Rate per site
SUBTOTAL NO 1					
2	**ELECTRICAL MATERIALS & EQUIPMENT**				
2.1	**KIOSKS**				
2.1.1	Single sided distribution kiosk (inclusive of mounting rails, faceplate, faceplate blank inserts, legend holder, screws, rawl bolts, washers, lock, keys, key ring, key tag, and Certificate of Compliance)	sum	1		Rate only

2.1.2	Double sided distribution kiosk (inclusive of mounting rails, faceplates, faceplate blank inserts, legend holders, screws, rawl bolts, washers, locks, keys, key rings, key tags and Certificates of Compliance)	sum	1		Rate only
2.2	**CONDUIT & SLEEVES**				
2.2.1	25 mm diameter PVC conduit (inclusive of accessories, saddles/raised saddles, fixtures)	/ m	1		Rate only
2.2.2	50 mm diameter PVC conduit (inclusive of accessories, saddles/raised saddles, fixtures)	/ m	1		Rate only
2.2.3	25 mm diameter galvanised conduit (inclusive of accessories, saddles/raised saddles, fixtures)	/ m	1		Rate only
2.2.4	50 mm diameter galvanised conduit (inclusive of accessories, saddles/raised saddles, fixtures)	/ m	1		Rate only
2.2.5	50 mm diameter ribbed sleeve	/ m	1		Rate only
2.2.6	110 mm diameter ribbed sleeve	/ m	1		Rate only
SUBTOTAL NO 2					
3	**TRENCHING**				
3.1	Trenching and backfilling, 300 mm (w) x 600 mm (d) (Inclusive of electrical warning tape)	/ m	1		Rate only
3.2	Reinstate concrete surfaces, upon completion of trenching, inclusive of compaction to verified civil engineering standards (soil conditions and depth/width of trenching)	/ m^2	1		Rate only
3.3	Reinstate paving, upon completion of trenching, inclusive of replacement of broken paving material and inclusive of compaction to verified civil engineering standards (soil conditions and depth/width of trenching)	/ m^2	1		Rate only
SUBTOTAL NO 3					
4	**CABLES**				
4.1	**PVC INSULATED**				

4.1.1	1.5 mm² 3 Core PVC Insulated (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.1.2	2.5 mm² 3 Core PVC Insulated (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.1.3	4 mm² 3 Core PVC Insulated (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.1.4	6 mm² 3 Core PVC Insulated (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.1.5	10 mm² 3 Core PVC Insulated (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.2	**FOUR CORE STEEL WIRE ARMOUR & EARTH**				
4.2.1	6 mm² 4 Core PVC/SWA/PVC + 4 mm² BCEW (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.2.2	10 mm² 4 Core PVC/SWA/PVC + 6 mm² BCEW (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.2.3	16 mm² 4 Core PVC/SWA/PVC + 10 mm² BCEW (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.2.4	25 mm² 4 Core PVC/SWA/PVC + 16 mm² BCEW (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.2.5	35 mm² 4 Core PVC/SWA/PVC + 25 mm² BCEW (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.2.6	50 mm² 4 Core PVC/SWA/PVC + 25 mm² BCEW (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.2.7	70 mm² 4 Core PVC/SWA/PVC + 35 mm² BCEW (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.2.8	95 mm² 4 Core PVC/SWA/PVC + 50 mm² BCEW (inclusive of all glands, terminals, ferrules)	/ m	1		Rate only
4.3	**DC CABLES**				
4.3.2	6 mm² 2 core (red or black) double insulated PV cable (inclusive of all glands, terminals, ferrules and tape)	/ m	1		Rate only

4.3.3	35 mm² single core (red or black) double insulated permoflex battery cable (inclusive of all glands, terminals, ferrules and tape)	/ m	1		Rate only
4.3.4	70 mm² single core (red or black) double insulated permoflex battery cable (inclusive of all glands, terminals, ferrules and tape)	/ m	1		Rate only
SUBTOTAL NO 4					
5	**CIRCUIT BREAKERS: AC**				
5.1	10 A single pole 6 kA circuit breaker (QF-1(13))	ea	1		Rate only
5.2	20 A single pole 6 kA circuit breaker (QF-1(13))	ea	1		Rate only
5.3	20 A single pole 6 kA circuit breaker (QF-1(26))	ea	1		Rate only
5.4	30 A single pole 6 kA circuit breaker (QF-1(26))	ea	1		Rate only
5.5	40 A single pole 6 kA circuit breaker (QF-1(26))	ea	1		Rate only
5.6	50 A single pole 6 kA circuit breaker (QF-1(26))	ea	1		Rate only
5.7	100 A single pole 6 kA circuit breaker (QF-1(26) – High Rating)	ea	1		Rate only
5.8	30 A three pole 6 kA circuit breaker (QF-3(26))	ea	1		Rate only
5.9	40 A three pole 6 kA circuit breaker (QF-3(26))	ea	1		Rate only
5.10	50 A three pole 6 kA circuit breaker (QF-3(26))	ea	1		Rate only
5.11	63 A three pole 6 kA circuit breaker (QF-3(26))	ea	1		Rate only
5.12	70 A three pole 6 kA circuit breaker (QF-3(26))	ea	1		Rate only
SUBTOTAL NO 5					
6	**DISCONNECTORS: AC**				
6.1	63 A two pole 6 kA disconnector (QF-S-2(13))	ea	1		Rate only
6.2	125 A four pole 40 kA disconnector (QF-S-3(26))	ea	1		Rate only
6.3	200 A four pole 40 kA disconnector (QF-S-3(26))	ea	1		Rate only
SUBTOTAL NO 6					

7	**FENCED & GATED YARDS**				
7.1	Ground based solar panel yard fence and gate for a 8 kW type system- 6mx6m	ea	1		Rate only
7.2	Ground based solar panel yard fence and gate for a 12 kW type system- 8mx8m	ea	1		Rate only
7.3	Ground based solar panel yard fence and gate for a 50 kW type system-10m x 10m	ea	1		Rate only
7.4	Ground based solar panel yard fence and gate for a 100 kW type system – 20x20m	ea	1		Rate only
SUBTOTAL NO 7					
8	**SHIPPING CONTAINER**				
8.1	Supply, installation/placement and conversion of a standard "3m" shipping container, inclusive of full lock set with same keys, equipped with 6-way distribution board, main isolator, 5 A circuit breaker, conduit reticulation, cabling and vapour proof light.	Sum	1		Per site
SUBTOTAL NO 8					
9	**HYBRID AND GRID TIED INVERTER SYSTEMS**				
9.1	**HYBRID INVERTERS**				
9.1.1	Supply , installation ,Test and commission of 8 kW single phase hybrid invertor	sum	1		Rate only
9.1.2	Supply , installation ,Test and commission of 12 KW three phase hybrid invertor	sum	1		Rate only
9.1.3	Supply , installation ,Test and commission of 50 KW three phase hybrid invertor	sum	1		Rate only
9.1.4	Supply , installation ,Test and commission of 50 KW three phase GRID TIED AC COUPLED TRASNFORMERLESS invertor	sum	1		Rate only
SUBTOTAL NO 9					

10	**BATTERIES+ RACKS**				
10.1	Supply , installation ,Test and commission of 5.1 kWh lithium-ion battery	sum	1		Rate only
10.2	Supply , installation ,Test and commission of 10.2 kWh lithium-ion battery	sum	1		Rate only
10.3	Supply , installation ,Test and commission of 20.4 kWh lithium-ion battery	sum	1		Rate only
10.4	Supply , installation ,Test and commission of 60 kWh lithium-ion battery, High Voltage LV with Cluser controller unit and battery rack	sum	1		Rate only
10.5	Supply , installation ,Test and commission of 120 kwh lithium-ion battery	sum	1		Rate only
10.6	Supply , installation ,Test and commission of 240 kwh lithium-ion battery	sum	1		Rate only
10.7	Supply , installation ,assemble battery Rack per battery each for lithium-ion battery maximum up to stack of 10	Per batter y	1		Rate only for single battery rack
SUBTOTAL NO 10					
11	**CHANGE-OVER SWITCH**				
11.1	Change-over switch for 8 kW single phase hybrid invertor	sum	1		Rate only
11.2	Change-over switch for 12 KW three phase hybrid invertor	sum	1		Rate only
11.3	Change-over switch for 50 KW three phase hybrid invertor	sum	1		Rate only
11.4	Change-over switch for 100 KW three phase hybrid invertor	sum	1		Rate only
SUBTOTAL NO 11					
12	**CABLING**				
12.1	Supply and installation of cables, earth wire, cable termination, cable rack/wiremesh trays and all accessories for 8 kW single phase hybrid invertor system	Sum	1		Rate only

12.2	Supply and installation of cables, earth wire, cable termination, cable rack/wiremesh trays and all accessories for 12 kW three phase hybrid invertor system	sum	1		Rate only
12.3	Supply and installation of cables, earth wire, cable termination, cable rack/wiremesh trays and all accessories for 50 kW three phase hybrid invertor system	sum	1		Rate only
12.4	Supply and installation of cables, earth wire, cable termination, cable rack/wiremesh trays and all accessories for 100 kW three phase hybrid invertor system	sum	1		Rate only
SUBTOTAL NO 12					
13	**DISTRIBUTION BOARDS**				
13.1	AC/DC distribution boards with circuit breakers, surge arrestors (SPD's), rails, brackets, signage, legends, numbering and all accessories for 8 kW single phase hybrid invertor system	Sum	1		Rate only
13.2	AC/DC distribution boards with circuit breakers, surge arrestors (SPD's), rails, brackets, signage, legends, numbering and all accessories for 12 kW three phase hybrid invertor system	Sum	1		Rate only
13.3	AC/DC distribution boards with circuit breakers, surge arrestors (SPD's), rails, brackets, signage, legends, numbering and all accessories for 50 kW three phase hybrid invertor system	Sum	1		Rate only
13.4	AC/DC distribution boards with circuit breakers, surge arrestors (SPD's), rails, brackets, signage, legends, numbering and all accessories for 100 kW three phase hybrid invertor system	Sum	1		Rate only
SUBTOTAL NO 13					
14	**DC FUSES**				
14.1	Supply, installation and terminations of DC Fuses and fuse holders, inclusive of all fixtures and accessories, for 5.1 kWh lithium-ion battery	Ea	1		Rate only
14.2	Supply, installation and terminations of DC Fuses and fuse holders, inclusive of all fixtures and accessories, for 10.2 kWh lithium-ion battery	Ea	1		Rate only

14.3	Supply, installation and terminations of DC Fuses and fuse holders, inclusive of all fixtures and accessories, for 20.4 kWh lithium-ion battery	Ea	1		Rate only
14.4	Supply, installation and terminations of DC Fuses and fuse holders, inclusive of all fixtures and accessories, for 60 kWh lithium-ion battery	Sum	1		Rate only
14.5	Supply, installation and terminations of DC Fuses and fuse holders, inclusive of all fixtures and accessories, for 120 kWh lithium-ion battery	Sum	1		Rate only
14.6	Supply, installation and terminations of DC Fuses and fuse holders, inclusive of all fixtures and accessories, for 240 kWh lithium-ion battery	Sum	1		Rate only
14.7	Supply, installation of DC SPD 3P 40kA 1500VDC rate Din rail mounted	Sum	1		Rate only
SUBTOTAL NO 14					
15	**SOLAR PANELS and MOUNTING CLAMPS**				
15.1	Supply and installation of 550 Watt photo voltaic (PV) panel inclusive of mounting rails/mounting stands, accessories and fixtures (see specification document for PV panel specifications)- TIER 1 BNEF RATED SOLAR PANELS ONLY	sum	1		Rate only
15.2	Supply, fit and install of Mounting structure for galvanized corrugated or IBR roof complete with rails, mounting clamps, end clamps, end caps per solar panel- SABS approved only	Per panel set	1		Rate only
15.3	Supply, fit and install of Mounting structure for tile roof complete with rails, mounting clamps, end clamps, end caps per solar panel- SABS approved only	Per panel set	1		Rate only
15.4	Earthing and bonding and terminations of solar modules per solar panel with 6mm2 CEW to Earth bar to SANS10142-1-2	Per panel set	1		Rate only
SUBTOTAL NO 15					
16	**CERTIFICATES OF COMPLIANCE (COC's)**				
16.1	Certificates of compliance (COC's) for AC and DC distribution boards for <100 kW single phase hybrid invertor system (separate COC's issued for AC and DC distribution boards)	sum	1		Rate only

16.2	Certificates of compliance (COC's) for AC and DC distribution boards for <100 kW three phase hybrid invertor system (separate COC's issued for AC and DC distribution boards)	sum	1		Rate only
16.3	Certificates of compliance (COC's) for AC and DC distribution boards for <100 kW single phase grid tied invertor system (separate COC's issued for AC and DC distribution boards)	sum	1		Rate only
16.4	Certificates of compliance (COC's) for AC and DC distribution boards for <100 kW three phase grid tied invertor system (separate COC's issued for AC and DC distribution boards)	sum	1		Rate only
16.5	As built Set of drawings	Sum	1		Rate only
SUBTOTAL NO 16					
17	**LABOUR incl SITE OHSE per individuals**				
17.1	TOTAL labour for supply and installation of complete 8 kW single phase hybrid invertor system	sum	1		Rate only
17.2	TOTAL labour for supply and installation of complete 12 kW three phase hybrid invertor system	sum	1		Rate only
17.3	TOTAL labour for supply and installation of complete 50 kW three phase hybrid invertor system	sum	1		Rate only
17.4	TOTAL labour for supply and installation of complete 100 kW three phase hybrid invertor system	sum	1		Rate only
SUBTOTAL NO 17					
18	**WARRANTY**				
18.1	Full system and installation warranty of a complete 8 kW single phase hybrid invertor system, including replacement and repair of equipment, labour, fuel, transportation, accommodation and meals, for a three year period following on the practical completion date	sum	1		Rate only
18.2	Full system and installation warranty of a complete 12 kW three phase hybrid invertor system, including replacement and repair of equipment, labour, fuel, transportation, accommodation and meals, for a three year period following on the practical completion date	Sum	1		Rate only

18.3	Full system and installation warranty of a complete 50 kW three phase hybrid invertor system, including replacement and repair of equipment, labour, fuel, transportation, accommodation and meals, for a three year period following on the practical completion date	Sum	1		Rate only
18.4	Full system and installation warranty of a complete 100 kW three phase hybrid invertor system, including replacement and repair of equipment, labour, fuel, transportation, accommodation and meals, for a three year period following on the practical completion date	Sum	1		Rate only
SUBTOTAL NO 18					
19	**SERVICE**				
19.1	Six-monthly service during the full warranty period / term contract period of a complete 8 kW single phase hybrid invertor system, inclusive of cleaning of the entire solar array	Sum	1		Rate only
19.2	Six-monthly service during the full warranty period / term contract period of a complete 12 kW three phase hybrid invertor system, inclusive of cleaning of the entire solar array	Sum	1		Rate only
19.3	Six-monthly service during the full warranty period / term contract period of a complete 50 kW three phase hybrid invertor system, inclusive of cleaning of the entire solar array	Sum	1		Rate only
19.4	Six-monthly service during the full warranty period / term contract period of a complete 100 kW three phase hybrid invertor system, inclusive of cleaning of the entire solar array	Sum	1		Rate only
SUBTOTAL NO 19					
20	**TRANSPORT**				
20.1	Truck suitable for delivery and placement of equipment to site and inclusive of accompanying labour for placement and installation.	/ km	1		Rate only
20.2	Light Delivery Vehicle (LDV) defined in terms of the SANRAL Vehicle Classifications and Definitions, suitable for Equipment's servicing and repair of Battery backup/Solar and inclusive of accompanying labour for servicing and repair.	/ km	1		Rate only
SUBTOTAL NO 20					

21	**CONSULTANTS**		
	The consultants will be responsible to survey the existing electrical installation, provide as built drawings and draw up specifications for the hybrid inverter system and layouts of the proposed system and bill of quantities, inclusive of a comprehensive report with photos. System parameters to be determined with clients inputs. Such specifications, layouts, bill of quantities and report subject to client approval.		
	The consultants will be responsible to supply the client with a full set of construction drawings, bill of quantities and specifications for approval by the client (SAPS).		
	The consultants will be responsible for construction monitoring and certification of the works, inclusive weekly reports on construction progress.		
	The consultants will be responsible for compiling sets of handover files, containing full specifications, as built drawings, equipment brochures and pamphlets, COC's and final report		
	All work on site must be accompanies by a safety file with the method statement and approved by SAPS engineer with necessary work at height and occupational safety and COIDA information		
21.1	**ENGINEERING NOTES**		
	ALL distribution boards will be COC'ed individually, irrespective of being contained in a singular frame or cabinet.		
	Professional Engineer/ Technologist to be responsible with ,Design quality inspection, sign off installation and to do close out		
	No sprague may be specified or installed.		
	All conduit, inclusive of galvanised conduit, will be bent with appropriate pipe bending equipment or will be installed with appropriate elbows and bends.		
	All screw fixtures shall be made utilising Fischer type plugs and screws specific to Fischer type plugs. **NO NAIL-IN OR KNOCK-IN TYPE PLUGS OR SCREW TYPES WILL BE ALLOWED.**		
21.2	**CONSULTANTS FEES**		
21.1.1	Professionally registered (ECSA) Electrical engineer/ technologist		%
21.1.2	Professionally registered (ECSA) Civil and Structural engineer/ technologist		%
SUBTOTAL NO 21			

13. FINAL SUMMARY OF THE SCHEDULE OF RATES

Details	RATE	Amount (R)
Subtotal No 1		
Subtotal No 2		
Subtotal No 3		
Subtotal No 4		
Subtotal No 5		
Subtotal No 6		
Subtotal No 7		
Subtotal No 8		
Subtotal No 9		
Subtotal No 10		
Subtotal No 11		
Subtotal No 12		
Subtotal No 13		
Subtotal No 14		
Subtotal No 15		
Subtotal No 16		
Subtotal No 17		
Subtotal No 18		
Subtotal No 19		
Subtotal No 20		
Subtotal No 21		
Overall SUB-TOTAL (ST)	OFFER EXCLUDING VAT	
Add VAT: @ 15% of ST	VAT	
Total Tender Price: Overall ST + VAT	TOTAL OFFER	

JOBCARD

Service Date: ..... **Reference no.** .....

Place: ..... **Institution** ..... **Location** .....

Service Description .....

Contractor: .....

WORK EXECUTED DESCRIPTION

Use addendum if additional space is required. Attach the following documents: 1. Completed & signed servicing checklists page and monthly travel log sheet.

Artisan's Name : .....

Date of arrival : ..... **Time:** .....

Completion date :..... **Time:** .....

Actual hours worked on site : .....

Signature of Artisan (Contractor) : .....

CONTRACTOR

I hereby declare that the maintenance and servicing as listed have been satisfactorily executed and that all records have been updated.

SIGNED BY THE CONTRACTOR

Date :..... **Name :** ..... **Signature :**.....

CLIENT DEPARTMENT (To be completed by the Station Commander/designated officer).I have personally checked that the contractor inspected the generator facility on the date stated. (However I do not certify technical correctness)

Remarks : .....

Name : ..... Rank : ..... Date : .....

Signature : ..... Telephone : .....

South African Police
STAMP
PLEASE

APPOINTMENT OF A CONTRACTOR FOR DESIGN, SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF INVERTOR BATTERY BACKUP / SOLAR SYSTEM IN WESTERN CAPE PROVINCE REGION ONE (01) FOR THE PERIOD OF THREE (03) YEARS

BID: 19/1/9/1/28TB(23)

PART C

CONTRACT

PART C 3

OCCUPATIONAL HEALTH AND SAFETY

HEALTH & SAFETY SPECIFICATION

FOR

CAPITAL WORKS AND PLANNED MAINTENANCE PROJECTS

MANAGED ON BEHALF OF

SOUTH AFRICAN POLICE SERVICE

(THE "CLIENT")

TABLE OF CONTENT

1. PREAMBLE

In terms of Construction Regulation 5(1) (*b*) of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), South African Police Service, as the Client must prepare a suitable, documented and coherent site specific health and safety specification for the intended construction work based on the baseline risk assessment.

The Client's further duties are as described in The Act and the Regulations made there-under. The Principal Contractor shall be responsible for the Health & Safety Policy for the site in terms of Section 7 of the Act and in line with Construction Regulation 7 as well as the Health and Safety Plan for the project.

This 'Health and Safety Specifications' document is governed by the "Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as 'The Act'. Notwithstanding this, cognizance should be taken of the fact that no single Act or its set of Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates "a documented specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is required that the entire scope of the Labour legislation, including the Basic Conditions of Employment Act be considered as part of the legal compliance system. With reference to this specification document this requirement is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. Despite the foregoing it is reiterated that environmental management shall receive due attention.

Due to the wide scope and definition of construction work, every construction activity and site will be different, and circumstances and conditions may change even on a daily basis. Therefore, due caution is to be taken by the Principal Contractor when drafting the Health and Safety Plan based on these Health and Safety Specifications. Prior to drafting the Health and Safety Plan, and in consideration of the information contained here-in, the contractor shall set up a Risk Assessment Program to identify and determine the scope and details of any risk associated with any hazard at the construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard. *This Risk*

Assessment and the steps identified will be the basis or point of departure for the Health and Safety Plan.

The South African Police Service is tasked to provide accommodation and operational facilities to a very large proportion of it members. A very large number of State employees and public users of the facilities and the services provided there-in directly interacts with the facilities provided by the well-being, health and safety of a great number of people. This Department thus has directly or indirectly, an impact on the Republic of South Africa as well as the National Parliament.

In this a high premium is to be placed on the health and safety of the most valuable assets of the South African Police Service. These are its personnel, the personnel of its Clients and the physical assets of which it is the custodian and may also include the public as well. The responsibilities the Department and relevant stakeholders have toward its employees and other people present in the facilities or on the sites are captured further in this specification document. These responsibilities stem from both moral, civil and a variety of legal obligations. The Principal Contractor is to take due cognisance of the above statement.

Every effort has been made to ensure that this specification document is accurate and adequate in all respects. Should it however, contain any errors or omissions they may not be considered as grounds for claims under the contract for additional reimbursement or extension of time, or relieve the Principal Contractor from his responsibilities and accountability in respect of the project to which this specification document pertains. Any such inaccuracies, inconsistencies and/or inadequacies must immediately be brought to the attention of the Agent and/or Client.

2. SCOPE OF HEALTH AND SAFETY SPECIFICATION DOCUMENT

These Specifications should be read in conjunction with the Act, the Construction Regulations and all other Regulations and Safety Standards which were or will be promulgated under the Act or incorporated into the Act and be in force or come into force during the effective duration of the project. The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract

130

documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any stipulation of the Act, Regulations and Safety Standards which are promulgated under, or incorporated into the Act.

3. PURPOSE

The South African Police Service is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these Health and Safety Specifications.

The purpose of this specification document is to provide the relevant Principal Contractor (and his /her contractor) with any information other than the standard conditions pertaining to construction sites which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work for the South African Police Service. The Principal Contractor (and his /her contractor) is to be briefed on the significant health and safety aspects of the project and to be provided with information and requirements on inter alia:

a) Safety considerations affecting the site of the project and its environment;
b) Health and safety aspects of the associated structures and equipment;
c) submissions on health and safety matters required from the Principal Contractor(and his /her contractor); and
d) the Principal Contractor's (and his /her contractor) health & safety plan.

To serve to ensure that the Principal Contractor (and his /her contractor) is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations made there-under including the applicable safety standards, and in particular in terms of Section 6, 7 and 8 of the construction regulation (2014).

To inform the Principal Contractor that the Occupational Health and Safety Act, 1993 (Act 85 of 1993) in its entirety shall apply to the contract to which this specification document applies. The Construction Regulations promulgated on 07 February 2014.

4. DEFINITIONS - The most important definitions in the Act and Regulations pertaining to this specification document are hereby extracted.

"Purpose of the Act" – To provide for the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

"Health & Safety Specification" – means a document that includes information required under the construction regulation and obtained from the clients & designers during the early planning & design stage for a specific project on a specific site for use by the contractors when preparing their tenders or bids to clients.

"Health & Safety Plan" – means a site, activity or project documented plan in accordance with the clients health and safety specification.

"Agent" – means any person who acts as a representative for a client;

"Client" – means any person for whom construction work is performed;

" Construction Health & Safety Agent (SACPCMP)" – The person or entity appointed by the client through the Agent and who has a full authority and obligation to act on the clients behalf in terms of the construction regulations;

"Construction Work" is defined as any work in connection with –

(a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
(b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;
(c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
(d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

Construction Work Permit – means a document issued by the Provincial Director of Department of Labour

"Contractor" – means an employer, as defined in Section 1 of the Act, who performs construction work and includes Principal Contractors.

"Contract Amount" Financial value of the contract at the time of the award of the contract, exclusive of all allowance and any value added tax or sales tax which the law requires the employer to pay to the contractor.

"Practical Completion Certificates" A certificates issued in terms of a contract by the employer, signifying that the whole of the construction works have reached a state of readiness for occupation or use for the purposes intended, although some minor work may be outstanding.

"Accident" – means unplanned occurrence that happens due to the unsafe condition and may cause injury to a person, damage to the property, material, plant, equipment and the environment;

"Hazard" – means anything including work activities and practices with the potential to cause harm;

"Risk" – means the likelihood that harm will occur and the subsequent consequences.

"Risk assessment" – means a process to determine any risk associated with any hazard at a construction site in order to identify the steps needed to be taken to mitigate, reduce or control such hazards.

Health and Safety File" – means a file, or other record containing the information in writing required by Construction Regulations.

5. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT

5.1 Structure and Organization of OH&S Responsibilities

5.1.1. *Overall Supervision and Responsibility for OH&S*

a) The Client and/or its Agent on its behalf to ensure that the Principal Contractor, appointed in terms of Construction Regulation 5(1)(k), implements and maintains the agreed and approved H&S Plan. Failure on the part of the Client or Agent to comply with this requirement will not relieve the Principal Contractor from any one or more of his/her duties under the Act and Regulations.
b) The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the Act to ensure that the Employer (as defined in the Act) complies with the Act. The pro forma Legal Compliance Audit may be used for this purpose by the Principal Contractor or his/her appointed contractor.

c) All OH&S Act (85 /1993), Section 16 (2) appointee/s as detailed in his/her/their respective appointment forms to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).

d) The Construction Supervisor and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 8 to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any

131

deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).

e) All Health and Safety Representatives (SHE-Reps) shall act and report as per Section 18 of the Act.

5.1.2 **Required appointments as per the Construction Regulations:-**

Item	Regulation	Appointment	Responsible Person
1.	3	Application Construction work permit	Client
2.	5(1)(k)	Principal contractor for each phase or project	Client
3.	5(6)	Construction Health & Safety Agent	Client
4.	7.(1)(c)	Contractor	Principal Contractor
5.	7(3)	Contractor	Contractor
6.	8(1)	Construction manager	Contractor
7.	8(2)	Assistance Construction manager	Contractor
8.	8(5)	Construction Safety Officer	Contractor
9.	8(7)	Construction Supervisor	Contractor
10.	8(8)	Responsible employee	Contractor
11.	9(1)	Competent risk assessor	Contractor
12.	10(1)	Fall protection planner	Contractor
13.	12(1)	Temporal work designer	Contractor
14.	12(2)	Supervisor of temporal work operation	Contractor
15.	12(3)(F)	Competent temporary works inspector	Contractor
16.	13(1)(a)	Excavation supervisor	Contractor
17.	13(2)(k)	Competent person in the use of explosive for excavations	Contractor
18.	14(1)	Competent demolition supervisor	Contractor
19.	14(11)	Explosives expert	Contractor
20.	16(1)	Scaffold supervisor	Contractor
21.	17(1)	Suspended platform supervisor	Contractor
22.	18(1)a	Rope access Supervisor	Contractor

23.	19(8)(a)	Material hoist inspector	Contractor
24.	20(1)	Bulk mixing plant supervisor	Contractor
25.	21(2)(b)	Explosive actuated fastening device inspector	Contractor
26.	21(2)(g)	Explosive actuated fastening device cartridge, nails and studs issuer & collector	Contractor
27.	23 (1)	Operator : construction vehicle and mobile plant	Contractor
28.	28 (a)	Stacking and storage supervisor	Contractor
29.	29 (h)	Fire equipment inspector	Contractor
		OTHER APPOINTMENTS	
	ACT /REGULATION	APPOINTMENT	
1	16(1)	CEO	
2	16(2)	Deputy CEO	
3	17	Health and safety representatives	
4	19	Health and Safety committee members	
5	37(2)	Mandatory agreement	
6	GAR 9(2)	Incident investigator	
7	GSR 3	Competent First aider	
8	GSR 5(1)	Competent Confined space inspector	
9	DMR 18(5)(a)	Lifting machine inspector	
10	DMR 18(5)(a)	Lifting machine entity	
11	GMR 2	Supervisor of machinery	

5.2 ***Communication, Participation & Consultation***

5.2.1 Occupational Health & Safety matters/issues shall be communicated between the Employer, the Principal Contractor, the other Contractors, the Designer and other concerned parties shall be through the H&S Committee or other means determined by the client.

5.2.2 In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

5.2.3 Consultation with the workforce on OH&S matters will be through their Supervisors and H&S Representatives ('SHE – Reps')

5.2.4 The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and/or its Agent on its behalf and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

6. INTERPRETATION

a) The Occupational Health and Safety Act and all its Regulations, with the exception of the Construction Regulations, distinguish between the roles, responsibilities and functions of employers and employees respectively. It views consultants and contractors as employees of the "owner" of a construction or operational project, the "owner" being regarded as the employer.

b) (The position taken by the Construction Regulations is that the "owner", in terms of its instructions, operates (has to operate) in the role of client as per relevant definition. The contractors working for the "client" are seen to be in two categories, i.e. the Principal Contractor and Contractors.

c) The Principal Contractor has to take full responsibility for the health and safety on the site of the relevant project / contract. This includes monitoring health and safety conditions and overseeing administrative measures required by the Construction Regulations from all contractors on the project site.

7. RESPONSIBILITIES

7.1 **Client**

a) The Client or his appointed Agent on his behalf will appoint each Principal Contractor for this project or phase/section of the project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations.

b) The Client or his appointed Agent on his behalf shall discuss and negotiate with the Principal Contractor the contents of the health and safety plan of the both Principal Contractor and Contractor for approval.

c) The Client or his appointed Agent on his behalf will take reasonable steps to ensure that the health and safety plan of both the Principal Contractor and Contractor is implemented and maintained. The steps taken will include periodic audits at intervals of at least once every month.

d) The Client or his appointed Agent on his behalf, will prevent the Principal Contractor and/or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:

- have failed to have complied with any of the administrative measures required by the Construction Regulations in preparation for the construction project or any physical preparations necessary in terms of the Act;
- have failed to implement or maintain their health and safety plan;
- have executed construction work which is not in accordance with their health and safety plan; or
- act in any way which may pose a threat to the health and safety of any person(s) present on the site of the works or in its vicinity, irrespective of him/them being employed or legitimately on the site of the works or in its vicinity.

7.2 **Principal Contractor**

a) The Principal Contractor shall accept the appointment under the terms and Conditions of Contract. The Principal Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labour of the intended construction. Annexure 2 of this construction regulation contains a "Notification of Construction Work" form. The Principal Contractor shall submit the notification in writing prior to commencement of work and inform the Client or his Agent accordingly.

132

b) The Principal Contractor shall ensure that he is fully conversant with the requirements of this Specification and all relevant health and safety legislation.

c) The Principal Contractor will in no manner or means be absolved from the responsibility to comply with all applicable sections of the Act, the Construction Regulations or any Regulations proclaimed under the Act or which may perceivable be applicable to this contract.

d) The Principal Contractor shall provide and demonstrate to the Client a suitable and sufficiently documented health and safety plan based on this Specification, the Act and the Construction Regulations, which shall be applied from the date of commencement of and for the duration of execution of the works. This plan shall, as appendices, include the health and safety plans of all Sub-contractors for which he has to take responsibility in terms of this contract.

e) The Principal Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the works.

f) The Potential Principal Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and Construction Regulations. (Note: This shall have to be contained in the conditions of tender upon which a tenderer's offer is based.)

g) The Principal Contractor shall consistently demonstrate his competence and the adequacy of his resources to perform the duties imposed on the Principal Contractor in terms of this Specification, the Act and the Construction Regulations.

h) The Principal Contractor shall ensure that a copy of his health and safety plan is available on site and is presented upon request to the Client, an Inspector, Employee or Sub-contractor.

i) The Principal Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this Specification, the Act

and the Construction Regulations, is opened and kept on site and made available to the Client or Inspector upon request. Upon completion of the works, the Principal Contractor shall hand over a consolidated health and safety file to the Client.

j) The Principal Contractor shall, throughout execution of the contract, ensure that all conditions imposed on his Sub-contractors in terms of the Act and the Construction Regulations are complied with as if they were the Principal Contractor.

k) The Principal Contractor shall from time to time evaluate the relevance of the Health and Safety Plan and revise the same as required, following which revised plan shall be submitted to the Client and/or his/her Agent for approval.

7.3 Contractor

The contractor must demonstrate to the Principal Contractor that he has the Necessary competencies and resources to perform the construction work safely.

7.4 Construction Health & Safety Agent (SACPCMP)

The construction Health & Safety Agent act as a link between the client, Principal Contractor and the project team members with respect to health & Safety. They are Required to ensure that the client carry out its H&S responsibilities in terms of Legislation as well as to co-ordinate and ensure good H&S practices are maintained Throughout the duration of the project. In many cases this role starts from project Initiation to project close-out.

a) H&S competence: In the event that the client is unable to satisfy the requirements of the Construction Regulations for whatever reasons, the construction H&S agent may be appointed to perform these functions on behalf of the client. Given the need to appoint a registered construction H&S agent that is competent and adequately resourced with respect to H&S matters.

b) H&S goals: It is important that the construction H&S agents demonstrate clearly to clients how they are going to contribute to the achievement of any client H&S goals and objectives. They should also set their own H&S goals.

c) H&S responsibilities: Prior to accepting the H&S agent appointment from clients, H&S agents need to ensure that they brief clients fully on the client's particular responsibilities in terms of the OH&SA of 1993 and Construction Regulations as amended from time to time. In the absence of acceptance by clients of these responsibilities, H&S agents will not be able to adequately meet their own H&S responsibilities and duties.

d) H&S information: H&S agents must provide the designer or design team with all H&S information to enable them to conduct a design HIRA to identify the significant hazards that need to be included in the H&S specification. This information may be gathered from multiple sources such as, for example, discussion with the client, previous historical use of the site or facility, previous surveys and investigations and past H&S files.

8. SCOPE OF WORK

These specifications are applicable to the specific scope of work pertaining to the above-mentioned project as detailed in the tender documents.

Construction Regulation 5(1)(g) determines that potential contractors submitting tenders have made adequate provision for the cost of health and safety measures during the construction process. The Principal Contractor shall on tendering make provision for the cost of health and safety measures in terms of his/her documented Health and Safety Plan and measures based on these Health and Safety Specifications during the period of the project. The cost shall be duly quantified and clearly identified for such identifiable purpose.

9. PREPARING A HEALTH & SAFETY PLAN

(a) The level of detail required for a H&S plan will depend on how complex the workplace is (in particular, the number of contractors at the workplace at any one time) and the risks involved in the work. The plan must be easily accessible in a construction site and it must be clearly understood by management, supervisors & workers on construction site.

(b) The plan must be implemented, maintained and kept up to date during the construction of the project.

(c) The principal contractor should prepare a H&S plan that includes

- project information;
- client requirements for H&S management on the project;
  Environmental restrictions and existing on-site risks arrangements, imposed by others or developed by the principal contractor, to control significant site H&S risks; H&S file & project H&S review.

(d) The H&S plan should include the following information:

- details of the client, that is the person commissioning the construction work, for example their name, representative and contact details;
  details of the principal contractor;
- details of the construction project, for example address of the workplace, anticipated start and end date and a brief description of the type of construction work that the H&S plan will cover;
- details on how subcontractors will be managed and monitored, including how the principal contractor intends to implement and ensure compliance with the H&S plan such as checking on the performance of subcontractors and how non-compliance will be handled; and
- details on how the risks associated with falls, falling objects, moving plant, electrical work and all high risk construction work that will take place on a construction project will be managed.

(e) The H&S plan should also include information on:

- the provision and maintenance of a hazardous chemicals register, safety data sheets and hazardous chemicals storage;
- the safe use and storage of plant;
- the development of a construction project traffic management plan;
- obtaining and providing essential services information – electrical, gas, telecom, water and similar services.

133

- workplace security and public safety, and
- ensuring workers have appropriate licences and training to undertake the construction work.

(f) The H&S plan must contain:

- a general description of the type of work activities involved in the project and not just a description of the facility to be constructed;
- the project program or schedule details, including start and finish dates, showing principal activities;
- details of client, design team, principal contractor, subcontractors, and major suppliers; and
- extent and location of relevant existing records, surveys, site investigation and geotechnical reports, 'as-built' plans, H&S files.

10. HEALTH AND SAFETY FILE

a) The H&S file is a document prepared by the principal contractor containing important project H&S information for use by the owner of the completed structure after construction has been completed.

b) The principal contractor is responsible for producing an H&S file. It contains important project H&S information for use by the owner of the completed structure after construction has been completed. It is essential that the process of compiling the file commences as early as possible to ensure sufficient time to gather the required information.

c) The Principal Contractor must, in terms of Construction Regulation 7(2) (b), keep a Health & Safety File on site at all times that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done. A more detailed list of documents and other legal requirements that must be kept in the Health & Safety File.

d) The contractor must ensure that the client's format and layout of the H&S file is adhered to. The contractor must identify the responsible person that will prepare the H&S file and who will be responsible for the drafting of as-built drawings. The contractor must establish procedures:

e) The Health and Safety File will remain the property of the Client and/or its Agent on its behalf throughout the period of the project and shall be consolidated and handed over to the Client and/or its Agent on its behalf at the time of completion of the project.

11. OH&S GOALS AND OBJECTIVES AND ARRANGEMENTS FOR MONITORING AND REVIEWING OH&S PERFORMANCE

The Principal Contractor is required to maintain an acceptable disabling incident frequency rate (DIFR) and report on this to the Client and/or its Agent on its behalf on a monthly basis.

11.1 IDENTIFICATION OF HAZARDS AND DEVELOPMENT OF RISK ASSESSMENTS, STANDARD WORKING PROCEDURES (SWP) AND METHOD STATEMENTS

The Principal Contractor is required to develop Risk Assessments, Standard Working Procedures (SWP) and Method Statements for each activity executed in the contract or project.

The identification of hazards is over and above the hazards identification programme and those hazards identified during the drafting of the Health and Safety Plan.

11.1.1 Monthly Audit by Client and/or its Agent.

The Client and/or its Agent on its behalf will be conducting Periodic Audits at times agreed with the Principal Contractor Audit to comply with Construction Regulation

5(1)(*n*) to ensure that the principal Contractor has implemented, is adhering to and is maintaining the agreed and approved OH&S Plan.

a) A representative of the Principal Contractor and the relevant Health and Safety Representative(s) (SHE-Reps) must accompany the Client and/or its Agent on its behalf on all Audits and Inspections and may conduct their own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results. The Client and/or its Agent on its behalf may require to be handed a copy of the minutes of the previous Health and Safety Committee meeting reflecting possible recommendations made by that committee to the Employer for reference purposes.

11.1.2 Health & Safety incident/accident reporting & investigations

a) The Principal Contractor shall report all incidents where an employee is injured on duty to the extent that he/she:

i. dies
ii. becomes unconscious
iii. loses a limb or part of a limb
iv. is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

OR where:

i. a major incident occurred
ii. the health or safety of any person was endangered
iii. where a dangerous substance was spilled
iv. the uncontrolled release of any substance under pressure took place
v. machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects

vi. Machinery ran out of control, to the Provincial Director of the Department of Labour within seven days and at the same time to the Client and/or its Agent on its behalf.

b) The Principal Contractor is required to provide the Client and/or its Agent on its behalf with copies of all statutory reports required in terms of the Act and the Regulations.

c) The Principal Contractor is required to provide the Client and/or its Agent on its behalf with a monthly "SHE Risk Management Report".

d) The Principal Contractor is required to provide a.s.a.p. the Client and/or its Agent on its behalf with copies of all internal and external accident/incident investigation reports. The Principal Contractor is responsible to oversee the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to receive first aid or be referred for medical treatment by a doctor, hospital or clinic. (General Administrative Regulation 9)

(e) The results of the investigation to be entered into the Accident/Incident Register listed above. (General Administrative Regulation 9)

(f) The Principal Contractor is responsible for the investigation of all non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar incidents in future.

(g) The Principal Contractor is responsible for the investigation of all accidents relating to the construction site and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

(h) Notwithstanding the requirements of Section 24 of the Act, ALL incidents shall be investigated and reported on in writing, irrespective of whether such incident gave rise to injury or damage.

(i) **Reporting Of Near-Misses**

- South African Police Service views the reporting of near misses as a critical component in creating a positive health and safety awareness culture on site.
- South African Police Service retains the right to enforce the reporting of near misses within 24 hours of occurrence.

12. Review

The Principal Contractor is to review the Hazard Identification, Risk Assessments and Standard Work Processes at each Production Planning and Progress Report meeting as the construction work develops and progresses and each time changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client and/or its Agent on its behalf, other Contractors and all other concerned parties with copies of any changes, alterations or amendments as contemplated in the above paragraph.

12.1 Site Rules and other Restrictions

a) *Site OH&S Rules*

The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the Health and Safety Plan and associated aspects of the construction. When required for a site by law, visitors and non-employees upon entering the site shall be issued with the proper Personal Protective Equipment (PPE) as and when necessary.

*b) **Security Arrangements***

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees shall at all times be provided with fulltime supervision while on site. The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period.

If not already tasked to the H&S Officer appointed in terms of Construction Regulation, the Principal Contractor must appoint a competent person who must develop contingency plans for any emergency that may arise on site as indicated by the risk assessments.

12.1.1 Appointment of Health & Safety Representatives

a) H&S Representatives('SHE – Reps')

Where the Principal Contractor employs more than 20 persons (including the employees of other Contractors (sub-contractors) he has to appoint one H&S Representatives for every 50 employees or part thereof. (Section 17 of the Act and General Administrative Regulation 6. & 7.)

H&S Representatives must be appointed in writing and the designation shall be in accordance with the Collective Agreement as concluded between the parties as is required in terms of General Administration Regulation 6.

***12.1.2* Duties and Functions of the H&S Representatives**

- The Principal Contractor must ensure that the designated H&S Representatives conduct at least a weekly inspection of their respective areas of responsibility using a checklist developed by a Principal Contractor.
- The report must be consolidated and submitted to the Health & Safety Committee.

- H&S Representatives must form part of the incident/accident investigating team.

12.1.3 Establishment of H&S Committee(s)

- The Principal Contractor must establish H&S Committees consisting of designated H&S Representatives together with a number of Employers Representatives appointed as per Section 19(3) that are not allowed to exceed the number of H&S Representatives on the committee.
- The persons nominated by the employer on a H&S Committee must be designated in writing for such period as may be determined by him. The H&S Committee shall co-opt advisory (temporary) members and determine the procedures of the meetings including the chairmanship.
- The H&S Committee must meet minimum monthly and consider, at least, an agreed Agenda for the first meeting. Thereafter the H&S Committee shall determine its own procedures.

12.1.4 Training & Awareness

The contents and syllabi of all training required by the Act and Regulations including any other related or relevant training as required must be included in the Principal Contractor's Health and Safety Plan and Health and Safety File.

a) *Training & Induction*

All employees performing work or task on site that potentially impact on H&S must be competent & have the necessary appropriate education, training & experience.

All the training must be closely aligned with the risk profile of the project; procedures must be put in place to ensure that all workers are aware of the consequences of their work activities & benefits of improved H&S performance.

All employees of the Principal and other Contractors must be in possession of proof of General Induction training

b) *Site Specific Induction Training*

All employees of the Principal and other Contractors must be in possession of Site Specific Occupational Health and Safety Induction or other qualifying training.

c) Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training.

13. PROJECT/SITE SPECIFIC REQUIREMENTS

The following is a list of specific activities and considerations that have been identified for the project and site and for which Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) have to be developed by the Principal Contractor:

a) Clearing & grabbling the area/site
b) Site establishment
c) Dealing with existing structures
d) Location of existing services
e) Boundary & Access control/Public liability exposures
f) Protection against heat exhaustion, dehydration, wet & cold conditions
g) Dealing with HIV & aids other related diseases
h) Use of portable electrical & explosive tools
i) Any Excavation work and Demolition work
j) Any welding work
k) Loading & offloading of trucks
l) Driving & operations of Construction vehicles & mobile plant
m) Temporal works and
n) Construction work as defined in the construction regulation 2014

135

14. OUTLINED DATA, REFERENCES AND INFORMATION ON CERTAIN AND/OR SPECIFIC OBLIGATORY REQUIREMENTS TO ENSURE COMPLIANCE

Administrative & Legal Requirements

OHS Act Section/ Regulation	Subject	Requirements
Construction. Regulation	Notice of carrying out Construction work	• Department of Labour notified • Copy of Notice available on Site
General Admin. Regulation 4	Copy of OH&S Act (Act 85 of 1993)	• Updated copy of Act & Regulations on site. • Readily available for perusal by employees
COID Act Section 80	Registration with Compensation Insurer.	• Written proof of registration/Letter of good standing available on Site
Construction Regulation 5 & 7(1)	H&S Specification & Programme	• H&S Spec received from Client and/or its Agent on its behalf • OH&S programme developed & Updated regularly
Section 8(2)(d) Construction Regulation 9	Hazard Identification & Risk Assessment	• Hazard Identification carried out/Recorded • Risk Assessment and – Plan drawn up/Updated • RA Plan available on Site • Employees/Sub-Contractors informed/trained
Section 16(2)	Assigned duties (Managers)	• Responsibility of complying with the OH&S Act assigned to other person/s by CEO
Construction Regulation 6(1)	Designation of Person Responsible on Site	• Competent person appointed in writing as • Construction Supervisor with job description
Construction Regulation 6(2)	Designation of Assistant for above	• Competent person appointed in writing as • Assistant Construction Supervisor with job description
Section 17 & 18 General Administrative Regulations 6 & 7	Designation of Health & Safety Representatives	• More than 20 employees – one H&S Representative, one additional H&S Rep. for each 50 employees or part thereof • Designation in writing, period and area of responsibility specified in terms of GAR 6 & 7 • Meaningful H&S Rep. reports. • Reports actioned by Management. •

Section 19 & 20 General Administrative Regulations 5	Health & Safety Committees	• H&S Committee/s established. • All H&S Reps shall be members of H&S Committees • Additional members are appointed in writing. • Meetings held monthly. Minutes kept. • Actioned by Management
Section 37(1) & (2)	Agreement with Mandatories/ (Sub-)Contractors	• Written agreement with (Sub-)Contractors • List of Sub/Contractors displayed. • Proof of Registration with Compensation Insurer/Letter of Good Standing • Construction Supervisor designated • Written arrangements re, • H&S Reps & H&S Committee • Written arrangements re. First Aid
Section 24 & General Admin. Regulation 8 COID Act Sect 38, 39 & 41	Reporting of Incidents (Dept. of Labour)	• Incident Reporting Procedure displayed. • All incidents in terms of Sect. 24 reported to the Provincial Director, Department of Labour, within 3 days. (Annexure 1)(WCL 1 or 2) and to the Client and/or its Agent on its behalf • Cases of Occupational Disease Reported • Copies of Reports available on Site • Record of First Aid injuries kept
General Admin. Regulation 9	Investigation and Recording of Incidents	• All injuries which resulted in the person receiving medical treatment other than first aid, recorded and investigated by investigator designated in writing. • Copies of Reports (Annexure 1) available on Site • Tabled at H&S Committee meeting • Action taken by Site Management
Construction Regulation 10	Fall Prevention & Protection	• Competent person appointed to draw up the Fall Protection Plan • Proof of appointees competence available on Site • Risk Assessment carried out for work at heights • Fall Protection Plan drawn up/updated • Available on Site
Construction Regulation 20 Driven Machinery	Cranes & Lifting Machines Equipment	• Competent person appointed in writing to inspect Cranes, Lifting Machines & Equipment • Written Proof of Competence of above appointee available on Site

Regulations 18		• Cranes & Lifting tackle identified/numbered • Register kept for Lifting Tackle • Log Book kept for each individual Crane • Inspection: - All cranes – daily by operator - Tower Crane/s – after erection/6monthly - Other cranes – annually by comp. person • - Lifting tackle(slings/ropes/chain slings etc.) - daily or before every new application.
General Safety Regulation 8(1)(a)	Designation of Stacking & Storage Supervisor	• Competent Person/s with specific knowledge and experience designated to supervise all Stacking & Storage • Written Proof of Competence of above appointee available on Site
Construction Regulation Environmental Regulation 9	Designation of a Person to Co-ordinate Emergency Planning And Fire Protection	• Person/s with specific knowledge and experience designated to co-ordinate emergency contingency planning and execution and fire prevention measures • Emergency Evacuation Plan developed; • Drilled/Practiced • Plan & Records of Drills/Practices available on Site • Fire Risk Assessment carried out • All Fire Extinguishing Equipment identified and on *register*. • Inspected weekly. Inspection Register kept • Serviced annually
General Safety Regulation 3	First Aid	• Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed) • First Aid freely available • Equipment as per the list in the OH&S Act. • One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed) • List of First Aid Officials and Certificates • Name of person/s in charge of First Aid box/es displayed. • Location of First Aid box/es clearly indicated. • Signs instructing employees to report all • Injuries/illness including first aid injuries

General Safety Regulation 2	Personal Safety Equipment (PSE)	• PSE Risk Assessment carried out • Items of PSE prescribed/use enforced • Records of Issue kept • Undertaking by Employee to use/wear PSE • PSE remain property of Employer, not to be removed from premises (SSR 2(4)
General Safety Regulation 9	Inspection & Use of Welding/Flame Cutting Equipment	• Competent Person/s with specific knowledge and experience designated to inspect Electric Arc, Gas Welding and Flame Cutting Equipment • Written Proof of Competence of above appointee available on Site • All new vessels checked for leaks, leaking vessels NOT taken into stock but returned to supplier immediately • Equipment identified/numbered and entered into a register • Equipment inspected weekly. Inspection Register kept • Separate, purpose made storage available for full and empty vessels
General Safety Regulation 13A	Inspection of Ladders	• Competent person appointed in writing to inspect Ladders • Ladders inspected at arrival on site and weekly thereafter. Inspections register kept • Application of the type of ladders (wooden, aluminium etc.) regulated by training and inspections and noted in register
General Safety regulation 13B	Ramps	• Competent person appointed in writing to supervise the erection & inspection of Ramps. Inspection register kept. • Daily inspected and noted in register

136

15. THE PRINCIPAL CONTRACTOR'S GENERAL DUTIES

- The Principal Contractor shall at all times ensure his status of an "employer" as referred to in the Act, and will abide by his/her responsibilities, duties and functions as per the requirements of the Act and Regulations with specific reference to Section 8 of the Act.

- The Principal Contractor shall keep, and on demand make available, a copy of the Act on site at all times and in addition to that he/she will introduce and maintain a file titled "Health and Safety File", or other record in permanent form, which shall contain all relevant aspects and information as contemplated in the Construction Regulations. He/she will make this file available to the client or his representative whenever necessary or on request to an interested party.
- The project under control of the Principal Contractor shall be subject to periodic health and safety audits that will be conducted by the client at intervals agreed upon between the Principal Contractor and the client, provided such intervals will not exceed periods of one month.
- The Principal Contractor is to ensure that he/she and all persons under his control on the construction site shall adhere to the above specifications.
- The Principal Contractor should note that he/she shall be held liable for any anomalies including costs and resulting deficiencies due to delays caused by non-conformance and/or non-compliance to the above Health and Safety Specifications and the Health and Safety Plan based on these specifications.

16. THE PRINCIPAL CONTRACTOR'S SPECIFIC DUTIES

The Principal Contractor's specific duties in terms of these specifications are detailed in the Construction Regulations as published under government notice 07 February 2014, stipulated in Section 7.

17. THE PRINCIPAL CONTRACTOR'S SPECIFIC RESPONSIBILITIES WITH REGARD TO HAZARDOUS ACTIVITIES

The following examples of activities are identifiable as hazardous in terms of the Construction Regulations. The contractor shall execute the activities in accordance with the following Construction Regulations and other applicable regulations of the Act:

- Fall protection
- Structures
- Excavation work
- Demolition work
- Scaffolding
- Construction vehicles & mobile plant.
- Water environments
- Housekeeping on construction sites
- Fire precautions on construction sites

This list must not be taken to be exclusive or exhaustive! All of the above requirements will be read in conjunction with the relevant regulations and health and safety standards as required by the Act. All documents and records required by the Construction Regulations will be kept in the Health and Safety File and will be made available at any time when required by the client or his representative, or on request to an interested party.

18. GENERAL NOTES TO THE PRINCIPAL CONTRACTOR

Legal Framework

Part of legal obligations

The more important Acts and relevant subordinate/secondary legislation as well as other (inter alia Local Government) legislation that also apply to the State as well as to State owned buildings and premises: -

a. The latest issue of SABS 0142: "Code of Practice for the Wiring of Premises"
b. The Local Government Ordinance 1939 (Ordinance 17 of 1939) as amended and the municipal by-laws and any special requirements of the local supply authority
c. The Fire Brigade Services Act 1987, Act 99 of 1987 as amended

d. The National Building Regulations and Building Standards Act 1977 (Act 103 of 1977) as amended and relevant proclaimed Regulations (SABS 0400)
e. The Post Office Act 1958 (Act 44 of 1958) as amended
f. The Electricity Act 1984, Act 41 of 1984
g. The Regulations of Local Gas Board(s), including Publications of the SABS Standards and Codes of Practice, with specific reference to GNR 17468 dated 4th October 1997
h. Legislation pertaining to water usage and the environment
i. Legislation governing the use of equipment, which may emit radiation (e.g. X-Rays etc.)
j. Common Law

19. HOUSEKEEPING

Good housekeeping will be maintained at all times as per Construction Regulation No. 27. Poor housekeeping contributes to three major problems, namely, costly or increased accidents, fire or fire hazards and reduction in production. Good housekeeping will enhance production time.

In promotion of environmental control all waste, rubble, scrap etc, will be disposed of at a registered dump site and records will be maintained. Where it is found to be impractical to use a registered dump site or it is not available, the Principal Contractor will ensure that the matter is brought to record with the client or his representative, after which suitable, acceptable alternatives will be sought and applied.

Dross and refuse from metals, and waste matters or by-products whose nature is such that they are poisonous or capable of fermentation, putrefaction or constituting a nuisance shall be treated or disposed of by methods approved of by an inspector.

NOTE: No employer (Principal Contractor) shall require or permit any person to work at night or after hours unless there is adequate, suitable artificial lighting including support services in respect of Health and Safety.

20. FACILITIES

The site establishment plan shall make provision for:

20.1 Dining room facilities

The contractor shall make provision for adequate dining room facilities for his employees on site.

20.2 Change rooms

The contractor shall make provision for adequate change rooms for his employees on site.

20.3 Ablution facilities

The contractor shall make provision for adequate ablution facilities for his employees on site.

20.4 Smoking Areas

Designated smoking areas shall be established by Principal Contractor

20.5 Drinking Water Facilities

The provision of drinking water facilities shall be negotiated between the Contractor and client.

20.6 Equipment Compliance Certificates

Before equipment is brought on site valid certificates of compliance issued by a competent person shall be presented. The equipment includes but shall not be limited to:

i. lifting equipment and lifting tackle
ii. power driven machinery
iii. electrical equipment
iv. testing and monitoring equipment

137

20.7 Barricading

All barricading shall be of the rigid type unless the use of non-rigid barricading has been approved in writing by South African Police Service Project Manager. The contractors' barricading standard shall be included in the Health and Safety Plan.

Where more than one contractor is working on a site, the fixed barricading shall be clearly marked with the company's name, site contact person as well as the contact number/s.

20.8 Erection of Structures for Logistic Support

Prior to site establishment South African Police Service shall approve the contractor's site plan.

South African Police Service shall approve all structures erected for logistical support by the contractor. These structures include fences, workshops, tool sheds, offices, ablution facilities, etc.

20.9 Salvage Yard Management

Depending on the site specific arrangements and procedures, South African Police Service may provide the salvage yard and the resources to manage it.

The salvage yard management shall conform to safety, health and environmental requirements. The contractors are required to move the equipment from the place of work to the salvage yard.

20.10 Fall Arrest and Prevention Equipment

Approved fall prevention equipment shall be used at heights of less than 2.0 metres. Above heights of 2.0 metres fall prevention equipment shall include fall arrest Equipment. Users of fall arrest equipment shall, amongst other things be trained in what an appropriate load bearing point is for connecting fall prevention equipment. Any deviation from this requirement shall be negotiated and agreed with South African Police Service in writing.

20.11 Hazardous Chemical Substances Waste Removal

South African Police Service shall provide a facility to collect all hazardous chemical waste material. The contractor shall provide adequately marked and sealable containers to transport the hazardous chemical waste from the source to the approved South African Police Service disposal point.

20.12 Personal Protective Equipment (PPE)

Personal protective equipment issued shall be specific to the risks associated with the work to be performed and specific to conditions on site and shall comply with South African National Standards (SANS).

21. LOCKOUT SYSTEMS

A system of control shall be established in order that no unauthorized person can energize a circuit, open a valve, or activate a machine on which people are working or doing maintenance, even if equipment, plant or machinery is out of commission for any period, thus eliminating injuries and damage to people and equipment as far as is reasonably practicable.

Physical/mechanical lock-out systems shall be part of the safety system and included in training. Lockouts shall be tagged and the system tested before commencing with any work or repairs.

22. IMPORTANT LISTS AND RECORDS TO BE KEPT

The following are lists of several records that are to be kept in terms of the Construction Regulations. The lists are:

i. List of appointments
ii. List of record keeping responsibilities
iii. Inspection checklist

a) Contractor Risk Assessment Process

The risk assessment process shall include:

1) an evaluation of the method of the work to be conducted
2) the method statement on the procedure to be followed in performing the task shall be developed
3) the risk assessment will also include activities like:
   i. Transportation of passengers and goods to and from site
   ii. Site establishment
   iii. Physical and mental capabilities of employees
   iv. Others as may be specified.
4) the hazards as listed in the paragraph – Site Specific Health and Safety Hazards
5) a review plan for risk assessments shall provide for:
   i. the quarterly review of all applicable risk assessments
   ii. the review of an assessment if there is reason to believe that the previous assessment is no longer valid, or there has been a change in a process, work methods, equipment or procedures and working conditions
   iii. Risk assessment/s to be reviewed if the outcome of incident investigations and audits etc. requires such action.

A pre - task risk assessment shall be conducted in writing on every task and be facilitated by the team leader. All risk assessments and pre-task risk assessments shall be filed and be available on site.

b) Risk Profile

All contractors shall submit a risk profile of the work to be conducted with their Health and Safety Plan.

c) Risk Based Inspection Program

The inspection programme shall be risk based. The inspection plan shall form part of the Health and Safety Plan.

IMPORTANT CONTACT DETIALS

(FOR HEALTH & SAFETY ASPECTS ONLY)

The contractor is to add all the important contact information about essentials services, support and assistance.

	SERVICE	NUMBER	CONTACT PERSON
	Hospital		
	Ambulance		
	Water		
	Electricity		
	Police		
	Fire Brigade		
	Engineer		

139

ADD OTHER IMPORTANT HEALTH & SAFETY CONTACT DETAILS AS MAY BE FOUND NECESSARY.

SECTION 37(2) AGREEMENTS

CONCLUDED BETWEEN

SOUTH AFRICAN POLICE SERVICE

(Hereinafter referred to as South African Police Service)

AND

.....

(Name of contractor/supplier/Agent/)

I, ...[*(name)*representing .....[*Insert name of contractor/supplier*], do hereby acknowledge that .....[*insert name of contractor/supplier*] is an employer in his/her own right, with duties as prescribed in the Occupational Health and Safety Act No. 85 of 1993 ("the Act"), as amended, and agree to ensure that all work will be performed and/or machinery or plant used in accordance with the provisions of the Act.

I undertake that .....[*insert name of contractor/supplier*] shall strictly adhere to, and ensure that his/her employees adhere to, the provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).

I have been provided with SHE specifications for project/service .....[*insert brief details of project/service, for example, name, contract/project number*] .....and will comply with the requirements set out in these.

I accept and agree that the SHE specifications constitute arrangements and procedures between .....[*Insert name of contractor/supplier/Agent* **Safety Manager/Safety Officer**] and South African Police Service which will ensure compliance by .....[*Insert name of contractor/supplier*] with the provisions of the Act, as contemplated in section 37(2) of the Act.

This agreement constitutes the sole agreement between the parties, and no variation, modification, or waiver of any of the provisions of this agreement or consent to any departure from these shall, in any manner, be of any force or effect, unless confirmed in writing and signed by both parties, and

such variation, modification, waiver, or consent shall be effective only in the specific instance and for the specific purpose and to the extent for which it was made or given.

This agreement is signed on behalf of the parties, each signatory to this warranting that he/she has the requisite authority to do so.

Signed this .....day of ..... 20 ..... at

.....(*Place*)

(*Full name*).....(*Signature*) .....on

behalf of .....**(Supplier/contractor/Agent)**

Contractor Responsible Manager (*responsible for signing the South African Police Service contract on behalf of the contractor*)

Witnesses

1. .....

2. .....

Signed this .....day of .....20.....

at .....(*Place*)

(*Full name*.....(*Signature*).....on

Behalf of South African Police Service.

(Contracts and/or Project Manager or South African Police Service representative)

Witnesses

1. .....

2. .....

PROJECT:_____

(full name AND site address of project)
(and full or proper description of project)

WCS NO: _____ (works control system number)

SUPERVISION BY THE SOUTH AFRICAN POLICE SERVICE:

Mr /Ms/Me - **CONSTRUCTION PROJECT MANAGER**
(add full details of the project manager)

.....

Mr /Ms/Me - **CONSTRUCTION MANAGER**
(add full details)

.....

.....

Mr /Ms/Me **AGENT:**
(full particulars of agent)

.....

.....

SUPERVISION BY THE PRINCIPAL CONTRACTOR:

PRINCIPAL CONTRACTOR: **(full particulars of principle contractor / contractor)**

Mr /Ms/Me - **CONSTRUCTION HEALTH & SAFETY OFFICER**
(add full details and contact of this officer)

.....

.....

Mr /Ms/Me - **CONSTRUCTION HEALTH & SAFETY MANAGER**
(add full details of this officer)

.....

.....

139

Mr /Ms/Me - **CONSTRUCTION MANAGER**
(add full details of the head of the project)

.....

.....

140

APPOINTMENT OF CONTRACTOR FOR DESIGN, SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF INVERTER BATTERY BACKUP / SOLAR SYSTEM FOR THE PERIOD OF THREE (03) YEARS

PART C

CONTRACT

PART C 3.1

FUNCTIONALITY EVALUATION CRITERIA AND POINTS ALLOCATION

141

Functionality Evaluation Criteria and Point Allocation

FUNCTIONALITY CRITERION: DESIGN, SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF INVERTOR BATTERY BACK UP / SOLAR SYSTEM POLICE STATION, OCCUPIED BY THE SOUTH AFRICAN POLICE SERVICE (SAPS).

No	Criteria	Evaluation Indicators	Applicable Value
1	**Company Experience** **BATTERY BACK UP/(BESS) + SOLAR PV OF SYSTEM SIMILAR WORK EXPERIENCE, SCOPE AND COMPLEXITY.**		**25**
	Bidder to demonstrate experience in similar work done. Provide a descriptive list of all **completed/Current works** (Practical Completion) Solar PV grid tied PLUS Hybrid Solar PV System with Battery Backup Energy System (BESS) projects of similar nature, OHSE scope, and value to this project for the last 10 years in relation to: Customer Details: Customer Name, Contact number, Practical certificate or completion certificate to be provided ***Projects will only be considered for scoring when there is a valid reference letter(s) or purchase order or completion certificate for the work done from consultants/clients submitted with the tender document stating the project nature and the project value.***	No Submission	**0**
		One (1) Solar system projects of similar nature, scope and complexity(atleast more than 8kVA)	**10 threshold**
		Two (2) to three (3) Solar system projects of similar nature, scope and complexity(atleast more than 8kVA)	**20**
		Four (4) or more Solar system projects of similar nature, scope and complexity(atleast more than 8kVA)	**25**

Functionality Evaluation Criteria and Point Allocation

	Portfolio of projects: Company experience Please provide documentation such as completion certificate or official purchase order to support, i.e. project description; project/installation value and services of the projects listed below.			
	Name of project	**Client Name and Contact number + email**	**Short Description of the project including type ie (grid tied/hybrid/BESS/Generator Control/Offgrid)**	**Value of Project + year completed (Final account)**
1				
2				
3				
4				
5				
6				
7				
8				

Functionality Evaluation Criteria and Point Allocation

	Criteria	Evaluation Indicators		Applicable Value
2	**COMPETENCE OF KEY PERSONNEL (S), PROFESSIONAL AND TECHNICAL PERSONNEL**			
2.1	**Professional Electrical Engineer/Technologist (BSC, B Eng, BTech) Registered with ECSA**			**25**
	Provide the following information for the Engineering Professionals • A detailed CV, clearly showing design/management/certification/engineering works on at least Grid Tied and Hybrid Solar PV plants both rooftops. • Certified Proof of professional registration with ECSA as a Professional Engineer/Technologist	**0-2 years** post-registration relevant construction experience as a Pr. Eng/Pr. Tech		**10 threshold**
		3- 4years post-registration relevant construction experience as a Pr. Eng/Pr. Tech		**15**
		More than 5 years post registration relevant construction experience as a Pr. Eng/Pr. Tech		**25**
No	**Name of the Key Person**	**Name of the Qualification(s)**	**Portfolio/ Position**	**ECSA NUMBER**
2.2	**Professional Structural Engineer/Technologist (BSC, B Eng, BTech) Registered with ECSA**			**20**
	Provide the following information for the Engineering Professionals • A detailed CV, • Certified Proof of professional registration with ECSA as a professional Engineer/Technologist	**0-2 years** post-registration relevant construction experience as a Pr. Eng/Pr. Tech		**10 threshold**
		3- 4years post-registration relevant construction experience as a Pr. Eng/Pr. Tech		**15**
		More than 5 years post registration relevant construction experience as a Pr. Eng/Pr. Tech		**20**
No	**Name of the Key Person**	**Name of the Qualification(s)**	**Portfolio/Position**	**ECSA NUMBER**

Functionality Evaluation Criteria and Point Allocation

2.3	**Professional Construction Health and Safety Officer/Agent**			**15**
	Provide the following information for the Construction Health and Safety Officer • A detailed CV • Certified Proof of professional registration with SACPCMP as a professional Construction Health and Safety Officer	No Submission		**0**
		0-3 years post registration relevant construction experience as Professional Construction Health and Safety Officer		**10 threshold**
		3 years or more post registration relevant construction experience as Professional Construction Health and Safety Officer		**15**
No	**Name of the Key Person**	**Name of the Qualification(s)**	**Portfolio/Position**	**CVs and Qualifications attached**
2.4	**Staff Capacity (Qualified Electrical personnel with wireman's license)**			**15**
	Provide the following information for the Qualified Tradesman • A detailed CV showing the experience of installation with a wireman's license of at least 2 years or more on solar PV projects of similar nature • Certified Copy of Electrical Trade Certificate-Redseal • Certified Copy of Dept of Labour Wireman's Licence-Three phase	One(1) Electrical Personnel with a wireman's license		**5**
		Two(2) to Three (3) Electrical Personnel with wireman's license		**10 threshold**
		Four(4) and above Electrical Personnel with wireman's license		**15**

Functionality Evaluation Criteria and Point Allocation

No	Name of the Key Person	Name of the Qualification(s)	CVs and Qualifications attached
			YES
1			
2			
3			
4			
5			
6			
TOTAL FUNCTIONALITY SCORE			100

NB: *If a bidder fails to achieve the minimum qualifying score for the functionality of **Sixty Percent 60% (60 points)**, and It will automatically be regarded as non-compliant and shall be not considered any further in the evaluation process.*