

SCOPE OF WORKS

APPOINTMENT OF A SERVICE PROVIDER TO SUPPLY, INSTALL AND MAINTAINANCE OF THE ENERGISED PERIMETER INTRUDER DETECTION FENCE (ELECTRIFIED FENCE)

1. BACKGROUND

Sentech is a state-owned company and is the largest broadcasting signal distributor in South Africa. Sentech is a licensed Electronic Communications Network Service provider in South Africa. It currently operates many telecommunication networks for Satellite, Television, Radio, Internet and more. As such, Sentech is a global enabler of broadcasting and digital content delivery.

Scope of Work	<p>The scope of work is to supply, install and maintenance of Energised Perimeter Intruder Detection Fence (Electrified fence) at Sentech Sender Technology Park (STP)</p> <p>The service provider must ensure that a maintenance schedule is in place and shall carry out the full maintenance of the system. A copy of the maintenance schedule shall be provided to Sentech.</p> <p>All work and equipment shall be in accordance with the approved SABS Standards and shall comply with the Occupational Health and Safety Act, No 85 of 1993 and current regulations of all other codes applicable to this work.</p> <p>Twelve (12) month guarantee period</p> <p>Professional services included under this scope of work to be performed by the service provider should include, but are not limited to, the following.</p> <p><u>1. Technical Specification for Energised Perimeter Intruder Detection Fence</u></p> <p>1.1. The physical fence part of the Energised Intruder Detection System shall be a multi-wire Energised Fence (EF) which consists of a horizontally spaced grid of conductive wires supported by a specially made carrier fence. This will comprise of insulated components exclusively used for a security fence and support posts retro-fitted to an existing high security solid and/or mesh type fence or wall.</p> <p>1.2. The system shall be installed in accordance with the manufacturer's installation instructions and will comply to NKP requirements.</p>
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	<p>1.3. The operating voltage for the energised fence shall be a high voltage short duration pulse, managed and continually monitored to deter intrusion by giving any intruder a safe high voltage (HV) pulse should they touch any part of the grid of conductive wires whilst earthed or in contact with other conductive elements.</p> <p>1.4. The system shall provide an optional reduced voltage operating mode (Low Feel) to provide full detection capability as per high voltage but with reduced deterrent.</p> <p>1.5. All EF wires must deliver a safe deterrent pulse to an intruder touching a wire and earth or attempting to penetrate between any adjacent wires.</p> <p>1.6. The EF system shall contain intermediate insulating posts at a spacing not greater than 3m to minimise ability to spread the grid of conductive wires creating a viable opening in the EF.</p> <p>1.7. Intermediate insulating components shall have a minimum electrical tracking distance of not less than 80mm.</p> <p>1.8. Intermediate insulating components shall have no area where the conductive wires can be trapped easily between insulator surfaces of the insulating components if the conductive wire is demounted from its nominal position on the insulating component.</p> <p>1.9. Shielding of insulating components should be designed to direct the conductive wire to an earth contact to maximise alarm generation if the conductive wire is demounted from its nominal position.</p> <p>1.10. The retention mechanism of the conductive wire on the insulating components shall be designed to 'break away' during climbing attempts where a load greater than 30kg is applied in a direction down and away from the physical fence structure.</p> <p>1.11. All structural climb points must be fitted with extra alarm monitored and anti-climb protection against intrusion.</p> <p>1.12. The system shall be attached to the inside of the existing inner ClearVu and access gates. The barrier security fence provides a physical separation barrier between the general public and the exposed pulsed HV conductors.</p> <p>1.13. Unless otherwise specified, the conductive wires shall extend at least 0.6 metres above the top of the existing barrier security fence fabric or a minimum of 1.0 metre above a wall.</p>
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	<p>1.14. Each energised fence circuit on same fence control device must be capable of being operated independently.</p> <p>1.15. Where two fence circuits are operating within the same detection zone, shorting of one conductive wire to earth or another conductive element (excluding second conductive wire) should not affect the performance and detection of the second conductive wire.</p> <p>1.16. Each access gate or perimeter access door shall be fitted with a switching device that will detect and then annunciate the opening of the gate/door within 50mm. The switching device and/or attached controls shall ensure all high voltage pulses on or round the gate/door are effectively shorted to earth or disabled at the Fence Controller.</p> <p>1.17. Opening of a perimeter access door or gate should annunciate an alarm condition on the system and inhibit the deterrent pulses on that gate.</p> <p>1.18. Each active fence circuit shall be individually configurable for all functionalities.</p> <p>1.19. Zone configuration shall be interface to other systems such as the site CCTV systems.</p> <p>1.20. Anti-climb configuration at strain points shall be provided, above the physical barrier. The fence circuit shall be routed around strain posts and connected to strainers such that it forms part of the continuous electrical circuit and does not constitute a parallel, redundant or dead-end path.</p> <p>1.21. Re-tensioning of fence wires must be possible without the need to reposition anti-climb elements.</p> <p>1.22. The anti-climb loops/links are to be supported at the back of the strain post with a separate short length of the security post.</p> <p>1.23. All joints between conductive elements in a fence circuit shall be clamped and not rely solely on tension of the conductive wire to maintain the integrity of the electrical connection. This excludes the external pressure contact between gate switch halves.</p> <p>1.24. Galvanised security posts embedded in concrete should be epoxy coated with contiguous paint film from the embedded end of the post to 100mm above the finished concrete level.</p> <p>1.25. All metal components of the system must be protected against the environment through the use of aluminium alloy, or steel with zinc-based galvanising.</p>
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	<p>1.25.1.1. Copper based components are NOT permitted.</p> <p>1.25.1.2. Stainless steel should not be mechanically or electrically coupled to aluminium or zinc galvanised components without measures to prevent galvanic corrosion.</p> <p>1.26. Fine pitch tensioning capability shall be provided for ease of adjustment during installation and maintenance.</p> <p>1.27. Re tensioning of fence wires must be possible without the need to reposition the configuring links.</p> <p>1.28. Where springs are attached to the grid of conductive wires, an indication of the tension of the conductive wire must be clearly visible on the spring device.</p> <p>1.29. Springs used in the tensioning of the conductive wire should be of a single continuous wire which forms part of the conductive circuit.</p> <p>1.30. Any spring which forms part of the conductive circuit should have a means of physically limited the length of extension of the spring.</p> <p>1.31. Within each active fence circuit there shall be no parallel, redundant or dead-end paths.</p> <p>1.32. Each conductive fence wire shall be capable of deterring and detecting potential intruders by means of a high voltage pulse and detecting the following types of attack:</p> <p>1.32.1.1. Cutting or disconnecting any wire.</p> <p>1.32.1.2. Shorting any wire to ground on the support fence.</p> <p>1.32.1.3. Shorting adjacent but different polarity wires.</p> <p>1.32.1.4. Shunting the wires with an electrically conductive material to reduce the pulse voltage.</p> <p>1.33. Each active fence circuit shall be always monitored whilst operating in one or more of the following operating modes:</p> <p>1.33.1.1. High voltage with monitoring.</p> <p>1.33.1.2. High voltage disabled, with monitoring only. (On the Northern side of the fence boundary)</p> <p>1.33.1.3. Monitoring as defined above and the alarm triggering the high voltage operating mode for a pre-set period.</p> <p>1.33.1.4. Low Feel with monitoring.</p>
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	<p>1.33.1.5. Low Feel disabled, with monitoring.</p> <p>1.33.1.6. Monitoring as defined above and the alarm triggering the Low Feel operating mode for a pre-set period.</p> <p>1.33.1.7. Low Feel Mode and the alarm triggering the high voltage operating mode for a pre-set period.</p> <p>1.34. The system shall be configured in accordance with the specific contract drawings.</p> <p>1.35. The system shall generate an alarm within 4 seconds if any one wire is cut or continuously short circuited to an adjacent wire or to earth.</p> <p>1.36. The shorting together of any wires or cutting of any wires shall have no impact on the deterrent or detection capability of the remaining active fence circuits and zones.</p> <p>1.37. The shorting together of any wires, or cutting of any wires shall raise an alarm at the Security Management System Software</p> <p>1.38. The system shall detect all attempts by an intrusion pressure of more than 35kg on a single wire, to penetrate or scale the protected fence under any environmental conditions.</p> <p>1.39. The system shall generate minimal nuisance alarms in any environmental conditions of wind, rain and temperature, nor from wildlife of less than 5 kg (birds, rabbits, foxes etc.)</p> <p>1.40. The system shall have a False Alarm Rate (FAR) no greater than 1 false alarm per fence line kilometre per week.</p> <p>1.41. All high voltage, and Low Feel, pulses shall be synchronised so that the pulses on adjacent fence sections do not occur at a time interval less than permitted in the reference standards.</p> <p>1.42. When specified, local control at Field Cabinets shall be provided via Alarms Management Terminals.</p> <p>1.43. Fully adjustable lightning diverter and protection devices shall be connected to each electric fence circuit connection. A separate ground or earthing system must be provided with a physical separation of 10m from any other earthing system.</p> <p>1.44. Where the EF abuts to, attaches to or passes over any metallic structure, the structure must be grounded or earthed using a separate earthing system. The EF must have a physical separation of 2m from any other earthing system.</p> <p>1.45. When specified, the energised fence must be capable of interfacing with an emergency shutdown system, which in the</p>
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	<p>event of an incident will electronically deactivate and isolate the high voltage deterrent pulses on the conductive fence wire array.</p> <p>1.46. The interface shall be a fail-safe interface, carried out at each of the Field Cabinets to minimise dependency on site communication systems.</p> <p>1.47. The system manufacturer shall support the product for a minimum period of 10 years from the time at which the product is superseded.</p> <p>1.48. The system must be formally inspected and assessed by a manufacturer approved representative, to the manufacturer's published standard.</p> <p>1.49. Full system documentation meeting the manufacturer's compliance minimum quality and safety codes and instruction must be provided to the system end user representative.</p> <p>1.50. Full system operation and maintenance training must be provided to the end user.</p> <p>1.51. An annual preventative maintenance program must be provided to check and maintain the energised security fence system to an operational and safe condition.</p> <p>1.52. Electrified fence to be installed on the inside of the existing ClearVu fence</p>
Terms and Conditions	<p>SENTECH reserves the right to</p> <ul style="list-style-type: none"> • Extend the closing date; • Verify any information contained in a response; • Request documentary proof • Cancel or withdraw the requirement • To limit communications to only those Service Providers who meets the requirements. • This request will be subject to the General Conditions of Contract issued in accordance with Treasury Regulation 16A published in terms of the Public Finance Management Act, 1999 (Act 1 of 1999). The Special Conditions of Contract are supplementary to that of the General Conditions of Contract. Where, however, the SCC conflict with the GCC, the SCC shall prevail. • The successful Service Provider may only enter into a subcontracting arrangement with the approval of SENTECH. The successful Service Provider may not subcontract more than 30% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level of contributor than the Service Provider concerned, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.

	<ul style="list-style-type: none"> • SENTECH reserves the right to request a BBBEE transformation plan with clearly defined timelines and milestones if the recommended Service Provider does not meet SENTECH's transformation goals. These milestones must be achieved over the term of the contract. This transformation plan shall be submitted within 10 working days from the written request, failing which SENTECH reserves the right to withdraw its appointment of the preferred recommended Service Provider. • SENTECH shall have the right, at its sole and exclusive discretion, upon written notice to the Service Provider, to terminate this Agreement, in whole or in part should the SERVICE PROVIDER fail to perform any of its obligations or deliver any deliverable timeously or should SENTECH not be satisfied with the quality of any service/s in terms of this Agreement, to the satisfaction of SENTECH. • SENTECH shall furthermore have the right, as a result of such termination, to appoint a third party to perform the obligations of the Service Provider in terms of the Agreement and the Service Provider indemnifies SENTECH against all costs incurred by SENTECH in appointing such third party to fulfil the obligations of the Service Provider. • SENTECH shall have the right, at its sole and exclusive discretion, to terminate this Agreement, at any time, upon 30 (thirty) days' written notice to the Service Provider. • SENTECH reserves the right to conduct supplier due diligence at any time pre, during and post the contract period. This may include announced or unannounced site visits. • Key resource provided in response should be engage in the project, should there be resource changes the resource levels must be equivalent to the resources in the proposal, with notice and acceptance by SENTECH be understood as special condition of contract. • Service Level Agreement will be signed with the successful Service Provider. • SENTECH will renew the contract annually based on satisfactory performance review.
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PRICING
Price List (see attached BOQ)

Description		
	Sub Total	
	Total (Including vat)	