SCOPE OF WORK

THE APPOINTMENT OF A SERVICE PROVIDER FOR THE ASSESSMENT OF THE EXISTING RADIO COMMUNICATION INFRASTRUCTURE AT THE SANPC REFINERY.

1. Introduction

The SANPC Refinery hereby invites suitably qualified and experienced radio network specialist consultants to submit quotations for the assessment of the Client's existing radio communication infrastructure.

The purpose of this RFQ is to appoint a consultant to perform a comprehensive technical and lifecycle assessment of the current radio system and to provide evidence-based recommendations on whether existing assets should be reused and integrated into a future solution or decommissioned and replaced (rip and replace).

2. Background

The Refineries current radio communication network consisting of:

- Two high sites: Admin Site and Hawkeye Site
- Approximately 200 Motorola subscriber radios
- Supporting radio, power, transmission, and site infrastructure

Previously, the refinery site radio network comprised of a Motorola Dimetra CoreX Geo-redundant system with 4 X MTS4 high sites. As a result of the April 2022 flood, the site operates on Local network.

Parts of the system may be approaching end of life (EOL) or end of OEM support, and the Client requires an independent assessment to inform future capital and procurement decisions.

3. Scope of Work

The appointed Consultant shall perform the services described below.

3.1 Phase 1 – Information Gathering and Review

3.1.1 Documentation Review

Review all available system documentation, including (where available):

- Network architecture diagrams and schematics
- Equipment inventories
- Frequency licences and channel plans
- Maintenance records and fault logs
- OEM lifecycle and support information
- Configuration records and firmware versions

The Consultant shall identify gaps and assumptions where documentation is incomplete.

3.1.2 Site Inspections

Conduct physical inspections at:

- Admin Site
- Hawkeye Site

Site inspections shall include assessment of:

- Radio equipment, racks, and shelters
- Power systems (mains, UPS, batteries, generators)
- Earthing and lightning protection
- Environmental controls (HVAC)
- Physical condition, safety, and access control
- Capacity for future expansion (space, power, cooling)

3.1.3 Radio Network Infrastructure Assessment

Assess all fixed radio network elements, including but not limited to:

- Base stations / repeaters
- Controllers, switches, and servers
- Transmission and IP backhaul

- Network management systems
- Interfaces to other systems (dispatch, telephony, OT/IT systems)

3.1.4 Subscriber Radio Assessment

For approximately 200 Motorola radios, assess:

- Model types and quantity
- Age profile and usage
- Firmware status
- Physical condition
- Battery and charger health
- Compatibility with current and future radio technologies

3.2 Phase 2 – Technical and Lifecycle Assessment

3.2.1 End-of-Life (EOL) and End-of-Support (EOS) Analysis

For all major infrastructure and subscriber components:

- OEM-published EOL and EOS dates
- Software and firmware support status
- Availability of OEM spare parts
- Availability of third-party refurbishment and repair options
- Support risks and lead times

3.2.2 Fit-for-Service Assessment

Evaluate whether the current system:

- Meets current operational requirements
- Delivers adequate coverage, capacity, and availability
- Supports safety-critical and business-critical communications
- Can reasonably support foreseeable future operational needs

3.2.3 Performance, Reliability, and Resilience Review

- Identification of single points of failure
- Redundancy and failover capabilities
- Historical performance and fault trends
- Alignment with good practice for mission-critical radio systems

3.2.4 Standards, Compliance, and Regulatory Considerations

Assess alignment with:

- Applicable ICASA licence conditions
- Relevant radio and IP networking standards
- Cybersecurity considerations for IP-based systems

3.3 Phase 3 – Strategic Options Analysis

The Consultant shall develop and evaluate the following options:

3.3.1 Reuse and Integration Option

- Assets suitable for reuse
- Required upgrades or refurbishments
- Integration constraints and risks
- Estimated remaining useful life (RUL)
- Advantages, disadvantages, and limitations

3.3.2 Rip-and-Replace Option

- Assets requiring decommissioning
- High-level replacement scope definition
- Benefits of full system replacement
- Key risks, including business disruption

3.3.3 Hybrid Options (if applicable)

- Partial reuse scenarios (e.g. sites, towers, power systems)

- Transitional migration considerations

4. Deliverables

4.1 Assessment Report

The Consultant shall deliver a comprehensive report including, at minimum:

1. Executive Summary with clear recommendations
2. Current state infrastructure overview
3. Site and asset condition assessment
4. End-of-life and supportability analysis
5. Fit-for-service evaluation
6. Risk register (technical, operational, lifecycle)
7. Reuse vs replace options analysis
8. Decision evaluation matrix
9. Final recommended approach and rationale

4.2 Presentation

- Formal presentation of findings to Client stakeholders
- Facilitation of questions and clarifications

5. Independence and Conflict of Interest

- Any actual or potential conflicts of interest must be declared
- The Consultant shall not propose or supply equipment

6. Assumptions and Exclusions

- No equipment supply, installation, or maintenance is included
- Detailed system design and implementation are excluded
- The RFQ covers assessment and advisory services only

7. Consultant Qualification Requirements

Respondents must demonstrate:

- Proven experience in mission-critical radio systems
- Experience with Motorola and multi-vendor environments
- Independence from radio equipment suppliers
- Relevant professional certifications and references

8. EVALUATION CRITERIA

8.1 Phase 1

Mandatory Requirements

At this phase, bidder's responses are reviewed against the below Mandatory Requirements.

Failure to comply with any of the Mandatory Requirements will lead to the bidder being disqualified and not be considered for further evaluation on Technical Requirements.

Description of the Mandatory requirements	Comply	Not Comply
The service provider must submit a Letter of Good Standing with the Compensation for Occupational Injuries and Diseases (Act. No 130 of 1993 and Act. No61 of 1997) (COIDA). **Submit a valid copy issued by the Compensation Fund of South Africa.**		
The bidder must be Motorola Tetra Solutions accredited. **Submit Valid copy of Motorola Tetra accreditation certificate.**		

8.2 Phase 2

Technical evaluation

Bidders will be evaluated according to the below technical evaluation criteria. Minimum Technical Threshold is **70%.** It must be noted that if the Bidder does not meet the **70%** minimum threshold, the bidder will be disqualified and not be evaluated further.

Company Experience

The bidder is to have the required experience to perform the scope defined in the SOW.

The bidder must submit a minimum of three (3) reference letters for similar radio infrastructure assessment projects in the last 10 years (2016 to date)

The reference letter must be signed and dated by the client and must be on the client's letterhead and include the date when the work was carried out, the company name and contact details.

	Evaluation Criteria	Document as Evidence	Score	Weighting %
	3 or more relevant reference letters submitted	Reference letters	5	30%
	2 relevant reference letters submitted		3	
	1 relevant reference letter submitted		1	
	0 relevant reference letter submitted		0	

Experience of the Team Leader/Manager

The project team leader must have a minimum of **10 years' experience in radio communications engineering and infrastructure assessment**.

Provide the C.V. for the Project Team leader/Manager, clearly indicating their years of experience and roles and responsibilities.

Evaluation Criteria	Document as Evidence	Score	Weighting %
10 years or more experience	Team Leader CV clearly indicating the duties.	5	25%
8 but less than 10 years' experience		3	
7 but less than 8 years' experience		1	
Less than 7 years' experience		0	

Methodology and Approach

The bidder must provide a **clear methodology** for conducting the assessment.

Bidder to submit a Detailed, structured methodology covering site inspections, lifecycle analysis, End-of-Life (EOL), End-of-Support (EOS), Remaining Useful Life (RUL) and reporting

Evaluation Criteria	Document as Evidence	Score	Weighting %
Detailed, structured methodology covering site inspections, lifecycle analysis, EOL/EOS, RUL and reporting	Methodology document	5	25%
Adequate methodology covering 2 or more but less than the 4 required criteria items.		3	
Limited methodology covering less than 2 of the 4 required criteria items.		1	
No methodology provided		0	

Quality of Reporting and Deliverables

The bidder must demonstrate ability to produce **decision-support reports**.

Bidder to submit as Evidence (Samples) of structured reports with lifecycle analysis, risk register, and recommendations

	Evaluation Criteria	Document as Evidence	Score	Weighting %
	Bidder submitted Evidence of structured reports with lifecycle analysis, risk register, and recommendations	Sample reports	5	20%
	Bidder submitted Partial reporting capability covering 2 of the 3 required criteria items.		3	
	Bidder submitted Limited reporting quality covering 1 of the 3 required criteria items.		1	
	No evidence provided		0	