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GENERAL NOTICE

NOTICE 1847 OF 2001



INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

REQUEST FOR PROPOSAL

RFP 0001

**PROVISION OF SPECTRUM MANAGEMENT SYSTEM AND
RELATED SERVICES TENDER**

CLOSING DATE: 25 September 2001

Summary

The Government of South Africa is committed to modernising and liberalising its Telecommunications and Broadcasting sectors and as part of the process a new Law was promulgated in 2000 merging the former Independent Broadcasting Authority (IBA) and South African Telecommunications Regulatory Authority (SATRA) to established an Independent

Communications Authority (hereafter referred to as ICASA). Amongst other functions, ICASA is responsible for managing and planning the radio frequency spectrum in order to promote the delivery of quality telecommunications and broadcasting services to the nation. ICASA is also empowered to issue licences to establish, operate and manage telecommunications and broadcasting networks while ensuring that fair competition prevails within these industries.

ICASA is seeking proposals for technical support in order to analyse existing methodologies and procedures for spectrum management and monitoring. In addition, ICASA requires support to implement and establish an advanced automated radio frequency spectrum management system. ICASA requires new equipment and computer systems that will allow it to effectively manage the use of all radio spectrum, enforce licence conditions and generally improve efficiency in the administration of licence regulations by developing accurate and complete frequency management data files.

This project will provide critical resources for ICASA's efforts to instill fair and open competition, and implement the objectives of the Telecommunications and Broadcasting Acts in the Communications sector and manages ongoing spectrum and policy concerns on a systematic and data-driven basis. In addition, this project has the potential to stimulate new licensing and increased investments in the Communications sector resulting in additional revenue for the country, increased communication for South African citizens, and additional infrastructure support for the nation's other economic and social development activities.

Scope of Work

Background

Technical support is required to professionally implement and establish an advanced spectrum management system, and to determine the necessary requirements to accomplish the spectrum management objectives.

South Africa has taken a lead in building economic bridges with its neighbours in the region, and is well positioned to benefit from development potential afforded by this leadership role and the atmosphere of co-operation. In an effort to support broader national development plans and to stimulate regional cooperation, the government is taking strategic steps to improve its Communications infrastructure, including improving its spectrum management systems policies and procedures.

ICASA also requires that its staff is trained in the operating principles and procedures associated with state-of-the-art radio spectrum management technologies.

All spectrum management responsibilities have recently been transferred to ICASA. This effort is intended to help ICASA assume its new role effectively.

Scope of Work

The plan and design for an improved spectrum management system will be based on requirements of ICASA, developed by the consultant during the course of performing the following assignments.

The South African *Spectrum Management System Project Tender* includes but is not limited to the following:

Examining existing legal/regulatory statutes

First, the team must become familiar with existing law and regulations governing the use of radio spectrum in South Africa and the extent to which South Africa co-operates with the ITU and other international regulatory bodies.

Review existing methodology and procedures

The team has to review the organisation and spectrum management operations of ICASA, and to gain an understanding of workflow patterns in handling requests for licences and for frequency use. Also, the team should review existing record keeping methods and type of records maintained.

System Configuration

ICASA require a central server, which should be accessed from various user terminals in the organisation including the regional offices. Additionally the administration section for licensing and invoicing functions should access the central server. The system must initially have links to the existing databases to have a smooth migration of the operations.

Development of databases based on ICASA requirements

A set of databases is required to manage the spectrum in South Africa effectively. Storage requirements will be determined for each database, both for the present number of records and for future growth. Each database will be quantified in terms of file requirements, characters per record, number of records, present storage requirements in Mbytes, growth factors, and future storage requirements. Databases required would generally follow those, which appear in the ITU Handbook of Recommendations for computer-aided Spectrum Management systems modified to meet South Africa's requirements.

- Accounts databases to record fee payments and for tracing and collection.

- Certificate records file to record legal certificates to operate transmitting stations
- Equipment characteristics database
- Field inspection database
- Interference database
- Licence database
- Manufacturer and Supplier database
- Monitoring database
- Geographical database.

The databases should be determined in a view to minimising paper use and paper storage.

Develop analysis requirements

This task requires the team to implement the engineering analysis programmes necessary to be combined with the data files for effective spectrum management. The size of each programme will be determined (in Kbytes) and a software programme source identified.

The system should be able to provide interference calculations between terrestrial links, multiple interference between terrestrial links and satellite links, field strength, coverage and profile plots.

DTM Implementation

ICASA require the implementation of South African DTM that consists of 50m x 50m, 200m x 200m and 400m x 400m resolution. Additionally the system should allow for the implementation of 20m x 20m DTM data in the same format. The team need to indicate the cost and should obtain a licence for the use of the DTM by ICASA.

Implementation of raster background maps

ICASA want the 1:50 000 and the 1:250 000-raster maps included as background maps. Colour matching need to be performed to ensure minimum visibility of map joints for the 1:250 000 maps. An overview map of South Africa is also needed to include for national projections. All maps must have the options of being printed and displayed by the operator, who includes the scale, which should always be displayed on the map. Costs for implementation should be included.

Establish the general computer requirements and database management system

The team has to establish the overall computer hardware requirements of ICASA, which will provide an effective spectrum management system. It will establish and implement all of the factors necessary for a totally integrated system that will meet ICASA's total requirements for the spectrum management system.

The task will take into account the plans of ICASA to decentralise functions to its regional offices around the country.

Provide ICASA with software contract specifications and service level agreements.

Review existing ICASA radio monitoring process management requirements

Review existing ICASA Radio monitoring requirements and capabilities and determine the requirements for improving and, if necessary, expanding the Spectrum Management System to link and include a radiomonitoring database. Prepare technical management specifications for the system, including technical performance standards to be achieved in compliance with ITU recommendations.

Evaluate equipment type approval processes and implement related structures in system

The team will be required to evaluate equipment type approval processes and to implement related structures in the system. Ensure that equipment that is type tested for connection to the public switched telephone and radiocommunications networks could be entered on the central database.

Provision of implementation plan

ICASA may wish to implement the spectrum management systems in stages, the implementation plan will identify modular costs of the various systems and define the most practical implementation states with objective and basic requirements of each stage. Issues that must be addressed include:

- Data management and automation requirements;
- Personnel and training requirements;

Training

The proposal should include adequate training for personnel in South Africa, and overseas where required.

Deliverables and Reports

In addition to the deliverables identified within each of the Tasks, the following are the contractor's project deliverables.

The contractor will submit a report covering, but not limited to, the following aspects of work: [I miss the most important requirement in this list, i.e. the establishment of a user requirement specification. – It has to be put in! and must be a deliverable – otherwise the tenderers will only present what their own systems can do and it will be very difficult to afterwards get what we want or get what makes life better for ourselves. This user requirement spec must be based on a research of our requirements, together with a statement of features required that do not yet exist in the proposed and existing system. Of course, we expect them to offer much more]

- An analysis of the required equipment and computer systems;
- A detailed user requirement specification;
- An implementation plan for the spectrum management system;
- A recommended system architecture.
- Recommended technologies and implementation approach to support both current needs and future growth;
- Modular costs of various sub-systems;
- Recommended implementation stages with objectives and basic requirements for each stage.
- Handbooks hard and softcopies need to be provided with the system and update of software must be well documented.

The contractor must obtain written approvals from ICASA for all completed project deliverables. Delivery need to take place on the agreed date and penalties will be applicable as agreed in the contract.

Team Qualifications

The ideal team will present qualified individuals to conduct the work. The addition of expertise in the legal, regulatory or human resources fields or in other related specialities would be viewed as an asset as long as it is clear how these additional individuals and/or the institutions they represent would add value to the project. The use of locally-based South African personnel, particularly from the historically disadvantaged community, within the project will be considered a prudent use of resources and will be viewed as adding or developing important sector and national expertise to the project team's background and work task.

The team must be experienced in all aspects of radio spectrum monitoring, management and procurement and should have extensive familiarity with aspects of telecommunications systems development, including concept formulation, technical support, implementation management, and extensive exposure to all components of public switched networks, including switching, transmission, network planning and design, and operations support systems.

The team should be experienced in assessing radio licence markets from a financial (revenue) and marketing (business development) perspective. Ideally, this individual will have experience analysing and valuing differing business ventures within the telecommunications and broadcasting fields, and have project experience planning and evaluating differing forms of licensing, auctioning and concessioning methodologies within the world-wide communications sector. Familiarity with developing emerging country telecommunications networks and country economics would be a plus.

The team should be acquainted with computer systems used in spectrum monitoring, both in field enforcement operations and in data base management. In addition they must be familiar with software utilised to support effective spectrum management.

Tender Conditions and Form of Proposal

This is an invitation for the submission of qualifications and proposal data (collectively referred to as the Proposal) from interested South African and international firms, which are qualified on the basis of experience and capability to analyse spectrum needs, quantify the spectrum market. ICASA requires technical support to analyse existing methodologies and procedures for spectrum management and monitoring and to assess the current market for radio licences. ICASA additionally requires support to professionally prepare establish and implement an advanced radio spectrum management systems.

The written proposal must include, but is not limited to, the following information:

- An executive summary, setting forth the major features of the proposal. A description of the company and any of its employees and/or partners' qualifications, background, and experience performing work similar to that described in this solicitation. International experience and work performed analysing telecommunications sector information and producing data, tender documents, and project reports regarding spectrum monitoring and management are particularly important, and client representatives and total project costs and dates should be noted. At least three customer names, addresses, phone numbers (and e-mail addresses if available) must be provided as a reference, together with descriptions of projects worked, cost, location and dates.

- ❑ A description of the technical approach and methodology to be employed performing the work and services for this project, including identification of key work locations for performing key activities. Particular attention should be paid to the description of the firm's research, analytic, market assessment and tender producing capabilities and how it will be applied to meet and/or exceed the project's requirements. The inclusion of additional ideas/concepts beyond those identified in the Scope of Work will be considered a strong plus in the evaluation of keenly competitive proposals.
- ❑ An itemised project budget must be part of the technical approach.
- ❑ A detailed work plan for conducting the tasks of the project must be provided; this work plan must clearly identify each activity's length by work days and define each team member's role within each task. This schedule must show the sequence in which work is to be performed and the estimated time period assigned to each activity. Full biographical data/resumes and experience summaries must be provided for all proposed project personnel (including South African personnel) as well as a chart showing the proposed study team organisation with the names of the consultant's project director and other members of the team. Foreign language abilities of all team members should be noted.
- ❑ It should be noted that in line with the Objects of the Telecommunications and Broadcasting Acts, and for the purpose of development of the capacity in Communications among members of the historically disadvantaged community in South Africa, the Consultant shall consider and include on his team a company, or companies, or individuals in their private capacities, from the historically disadvantaged community.
- ❑ Any additional information may be provided at the tenderer's discretion to enhance ICASA's understanding that the proposer understands the Scope of Work.

Interested firms should submit 5 (five) copies and one softcopy proposal in English for performing the work and services described. Proposals will be competitively evaluated and scored as follows:

- ⇒ *Hands-on experience implementation of international and domestic Communications spectrum infrastructures (legal/technical; developing database, software and hardware products, service and management requirements, reviewing existing frequency monitoring capabilities and determining nation-wide monitoring systems, and developing an implementation plan;*
- ⇒ *The use of persons from the historically disadvantaged communities of South Africa so as to develop their capacity in these types of systems;*

- ⇒ *Experience working internationally and in Africa with at least one team member showing expertise and/or experience working with regional Communications policy and commercial issues;*
- ⇒ *Experience preparing project reports and interfacing with multi-disciplinary Communications managers and officers ;*

The criteria have been tailored to the requirements of this particular solicitation. Offerors should note that these criteria (a) serve as the standard against which all technical proposals will be evaluated (b), serve to identify the significant matters which offerors should address in their technical proposals, and will constitute 100% of the total technical evaluation criteria.

ICASA reserves the right to reject any and/or all proposals. ICASA is not bound to pay for any costs associated with the preparation and submission of proposals. Offerors should be aware that the firm contracted to conduct this Project may not pursue any follow-on activities related to this Project.

Offerors who are able to secure part or all of their fees from non-South African development funding and/or non-South African government grant funding sources will be given preference to offerors without such international funding access.

The ICASA Council will appoint the team and assume general control over the project, with a liaison officer between the team and ICASA. The Council of ICASA will appoint a Project Manager to liaise with the team.

During the course of the project, the team will report directly to ICASA's Project Manager and take instructions from him/her on matters appropriate to fulfil the requirements of the project.

The project must be complete in 8 months after allocation of the tender.

ICASA reserves the right to terminate the services at any time by giving thirty (30) days' written notice.

The Consultant must agree not to disclose any information of a confidential nature that it has obtained in the course of the project. Confidentiality Agreement is required to be executed by the team, and is attached to this document.

The Consultant is required to declare any interest which it or its associate (e.g. firm of accountants) or group company has if that interest is in real or apparent conflict with its duties to be performed and shall not undertake any services which could give rise to a conflict of interest in those circumstances. This will apply during the term of the agreement and for twenty-four (24) months thereafter.

The Consultant will be required to indemnify ICASA against any liability arising out of its negligence in the performance of the services and infringement of copyright. ICASA will not under any circumstances provide an indemnity.

ICASA shall acquire ownership of all reports, calculations, documents and other material supplied or produced by the Consultant in the performance of the project and copyright in all documents shall vest in ICASA.

Tenderers are at liberty to discuss queries or any technical aspect of the tender with ICASA. Enquiries may be directed, in writing only, to:

Mr. Peter Zimri

Tel: +27-11-321 8404

Fax: +27-11-321 8538

Email: zimrip@icasa.org.za

Mail: Private Bag X10002, Sandton, 2146
Physical Address: Block B, Pin Mill Farm
164 Katherine Street
Sandton
2146

Url: <http://www.icasa.org.za>

The following forms shall be completed and submitted together with the tenderer's bid.

Confidentiality Agreement
Tender Form
Declaration of Interest

Tenders shall be open for acceptance for 45 days.

Notwithstanding any possible shortcoming in these specifications, tenderers shall ensure that the service provided form a total solution.

Additional information requested from tenderers by the Chairperson of the ICASA Council shall be submitted within seven (7) days otherwise the Chairperson shall have the option to disregard that applicant's tender.

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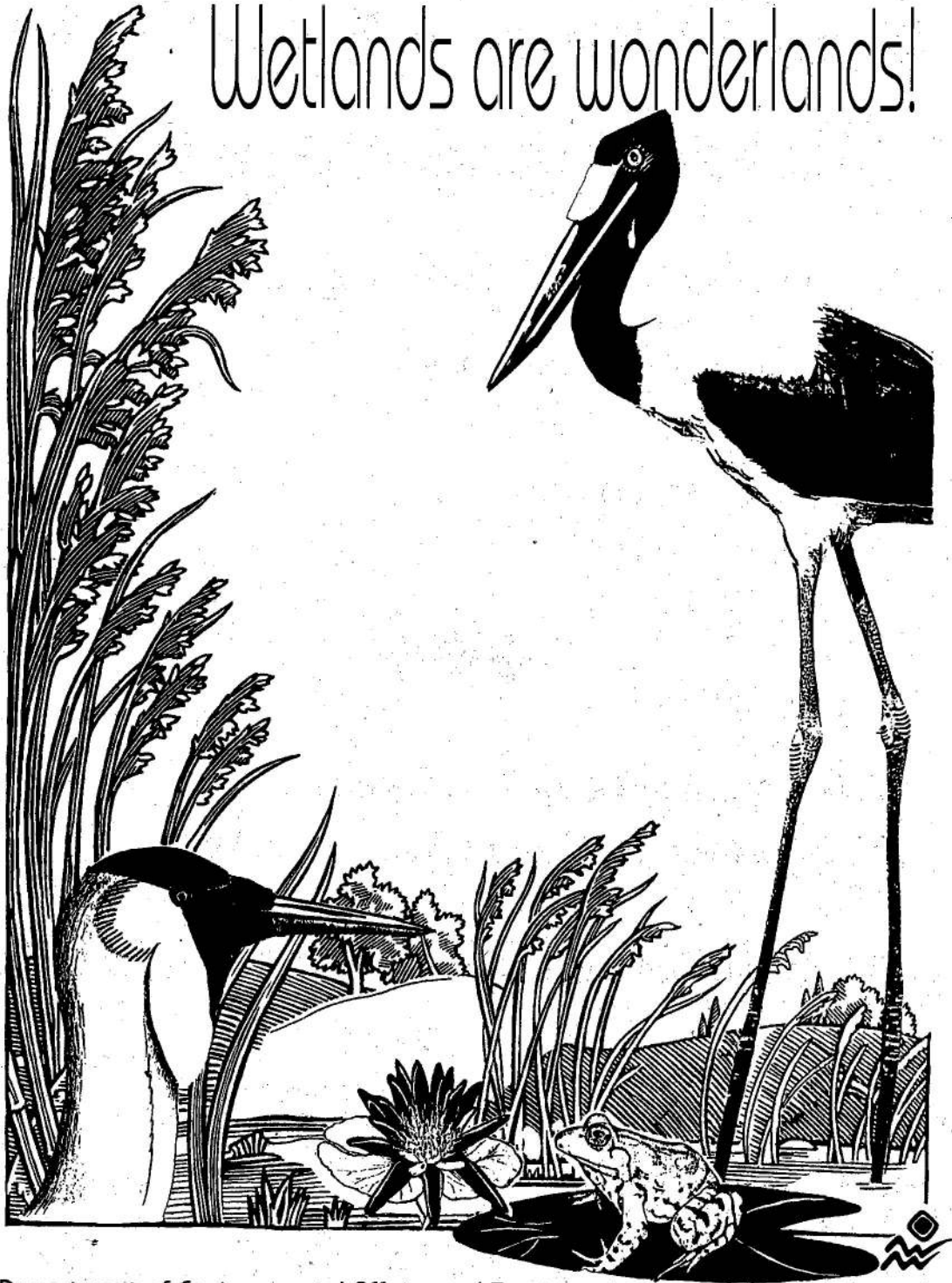
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