



ZAMBIA ENVIRONMENTAL MANAGEMENT AGENCY

**ZAMBIA- MINING ENVIRONMENTAL REMEDIATION AND IMPROVEMENT
PROJECT P154683**

(ZMERIP)

TERMS OF REFERENCE

FOR

**DESIGN, DEVELOPMENT AND DEPLOYMENT OF THE REGISTRY OF
ENVIRONMENTAL INFORMATION
(REI)**

1.0 BACKGROUND:

The Zambia Mining and Environment Remediation and Improvement project (ZMERIP) aims to strengthen the capacity of national and state level institutions, improve enforcement for pollution prevention and address the environmental health impacts associated with lack of sustainable mining practices. The objectives of the project will be achieved through a combination of targeted capacity building, health interventions, promotion of alternative livelihoods and demonstrative investments for environmental remediation.

The Project Development Objectives is to reduce environmental health risks and lead exposure to the local population related to mining activities in critically polluted areas in Kabwe and some towns in the Copperbelt Province. The Project is tailored to achieve the remediation and rehabilitation of contaminated sites and strengthening of the regulatory, monitoring and institutional capacity of Ministry of Mines, Zambia Environmental Management Agency (ZEMA), the Mines Safety Department (MSD), the Radiation Protection Authority (RPA) and Municipal Councils.

The Project has been designed to operate under four components:

- ❖ Component 1 – Remediation and Environmental Infrastructure Improvement;
- ❖ Component 2 - Enhancing Institutional capacity to strengthen environmental governance and compliance;
- ❖ Component 3 - Reducing Environmental Health Risks through localized interventions; and
- ❖ Component 4 – Project Management, Monitoring and Evaluation.

Under Component 2, the project aims at strengthening environmental compliance and enforcement. This component will among others build capacity of ZEMA to carry out its mandate under the Environmental Management Act No. 12 of 2011 (EMA).

Section 90 of the Environmental Management Act (EMA) Number 12 of 2011 mandates ZEMA to develop and maintain a **Registry of Environmental Information (REI)**. The implementation of the Environmental Management Act requires the development of an effective automated electronic system that enables the smooth and transparent public access to the respective environmental information and promotes public participation in consultations and decision-making in accordance with the National Constitution. The REI shall provide open, free access to information to all interested parties via the internet and offline via ZEMA Intranet.

Amongst the information in the REI should be but not limited to the following areas:

- a) a list of the Acts, statutory instruments, international environmental agreements to which Zambia is a party, and any policies, plans, guidelines, studies, reports, decisions, recommendations and other publications relating to the environment published by the Agency, the Minister or the Government;
- b) a list of every environmental management strategy and environmental management strategy review report issued by any Ministry;
- c) every State of the Environment Report and every National Environmental Action Plan;
- d) every National Waste Management Strategy;
- e) a list of each application for a licence or approval under this Act;
- f) a list of each licence, order and approval issued under this Act; and
- g) details of all charges laid and convictions entered for contravention of this Act.

The current system of document management in ZEMA is manual and not consolidated, with some documents stored on different computers located in various locations. Licensing information in form of list of licenses issued, applications are stored both in physical registers in all the ZEMA offices and electronically by the Licensing Officer based in Lusaka.

An updated and electronic REI will enable efficient service delivery by eliminating bottlenecks faced through manual processes of access to environmental information and allow data to be integrated into a single system of electronic document management, which will be timely, efficient while ensuring easy access and transparency. The REI shall provide open, free access to its information to all interested parties via the internet and through the Intranet at the ZEMA Information and Documentation Centre (IDC) for walk in Clients.

2.0 OBJECTIVES OF THE CONSULTING ASSIGNMENT

The objective of the consultancy is to design, develop and implement a user friendly and comprehensive well-functioning automated web-enabled REI in accordance with Section 90 of the Environmental Management Act No. 12 of 2011. The REI will enhance ZEMA's effective management of environmental information and promotion of corporate governance as well access to environmental information through a searchable Directory. The effective implementation of the REI will ultimately contribute to improved environmental compliance by industry, resulting in positive impact on the overall environmental management in the country in particular and incremental benefits to the global community.

The key outcome of the consultancy assignment is a fully functional web-based REI software provided to the ZEMA, as well as technical assistance and communication support for the initial period of populating the REI.

3.0 SCOPE OF WORK

The scope of work for the consultancy will include but not limited to the following:

Task 1: User Requirement Assessment

- i. Gain familiarity of ZEMA operations through various documents such as the EMA and its regulations, and documents that guide the operations of ZEMA.
- ii. Determine detailed user requirements for the REI based on business and operational processes for ZEMA including:
 - a) Various types of reporting content, formats, and frequency.
 - b) Various types of spatial and non-spatial data for storage in the REI.
 - c) Basic information flow requirements (into, within, and out of the REI).
 - d) Identification of requirements for establishing interface compatible with applications such as the Continuous Environmental Monitoring System (CEMS) and link appropriate data structures for exchange of data between the REI and CEMS.

Task 2: Draft Design Specifications

- i. Based on the needs assessment, produce draft detail design recommendations [Software Requirements Specifications (SRS)] for the proposed REI.
- ii. Recommend basic additional hardware/software/dataset requirements to complement existing hardware and software available.
- iii. Validate detailed design recommendations with the ZEMA users and a sample of external users.
- iv. Based on feedback received, produce final detailed design recommendations for the proposed Registry.

Task 3: Design, Development and Deployment of the REI

Once the Software Requirements Specifications Document has been finalized, the Consultant will produce the following deliverables:

- (i) REI Database:** This is the first component of the REI. This database is intended to store documents and information specified under Section 90 of the EMA and shall have back-end interface with the CEMS.
- (ii) REI Client Interface:** This is the Online interface module of the REI, also called the REI Search Directory which will be accessed by the general public. This is the interactive face of the REI database that allows users to search or interact with the REI.

- (iii) Administrator/Management Module:** This is the back-end Interface of the REI where information that is displayed on the Client Interface will be Managed. The interface should also be password protected with appropriate and modern security enforcement and should encompass the qualities of a modern User Interface.

Task 4: Institutional Capacity Building for Implementation Support

- i. Institutional Arrangements: The Information Communication and Technology Department alongside the Information and Documentation Unit will anchor the REI.
- ii. Propose and recommend systems storage and backup strategies for REI including internet bandwidth requirements for effective access to the system by all ZEMA users across the country, and users/stakeholders who will have access to the system.
- iii. Develop Operations Manual for all aspects of the REI.
- iv. Provide training to relevant staff especially in Information Technology Department and Information Documentation.

4.0 DELIVERABLES AND TIMING

The Consultant Firm is required to prepare and deliver the following to ZEMA:

Deliverable	Description	Duration
Inception Report	Inception report (detailing schedule of work, Key-staff deployment, methodology, etc.) and Inception Workshop to discuss with Client.	0.5 months
Systems Requirements Study	All key aspects of design (REI structure, report formats, information flow, hosting arrangements, additional, hardware/software/ data/ connectivity/Directory/Search engines and bandwidth requirements, institutional arrangements, etc.)	1 month
Complete REI installed at ZEMA Servers	Piloting Stage: software testing, full data entry and roll-out for selected modules Full Roll-out Stage: deployment of system (all modules)	1 month
Respective source code	Source Code to the developed full system including database structure.	1.5 months
Documentation and Training	REI documentation (design, use, and training manuals, organizational roles, etc.), Workshops & on-the-job training.	0.5 months

Post Roll-out reports and updates	Handholding support, proactive use surveys, customization of reporting module based on user requests, bug fixes & updates till end of assignment. Implementation of external audit finding.	1 month
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5.0 DURATION OF ASSIGNMENT

The Consultant Firm is expected to complete the work within a period of 6 months.

6.0 DATA, LOCAL SERVICES, PERSONNEL AND FACILITIES TO BE PROVIDED

ZEMA will provide the following to the Consultant Firm:

- i. the EMA No. 12 of 2011 and subsidiary legislation;
- ii. Documents specified in Section 90 of the EMA
- iii. Ongoing feedback on user interface and deliverable developments
- iv. Any other document required for system development

7.0 QUALIFICATION OF THE CONSULTANT FIRM

The consultant firm should have prior experience in designing, developing and supporting implementation of a computerized and web-enabled registry or Management Information Systems (MIS).

The Consultant Firm will provide a team of experts with the following skill sets who shall be adequately qualified and experienced in both Development projects and IT related Field to satisfactorily and timely deliver the expected outputs.

Name of Position	Key qualification	Experience
Team Leader	Post Graduate in IT/Computer Science, Intelligence Systems.	Minimum of 10 years' experience in systems and software development which includes at least 6 years of experience in web enabled MIS development of comparable projects. Demonstrated experience in requirements gathering.
Registry Developer	Advanced university degree in Computer engineering, Program development, Intelligence Systems,	Minimum of 5 years' experience in development of internal and external secure web based Intelligent Systems, Registry systems for large projects and added experience in creative designing and art would be desirable.

	Registry/Search Engines and other related subjects	
Database Expert	A minimum of Bachelor of Science Degree IT or Computer Science	2 years post qualification work experience in Database Development
Software Developers	Bachelor of Computer Science	Minimum 2 years of experience in software development

8.0 Intellectual Property

All Registry, ER-Diagrams, User Story, databases, systems, source codes and documents prepared under this consultancy will be the sole property of ZEMA.

9.0 Contact Person

The Consultant Firm shall report to the Director Planning, Information and Research at ZEMA