



## **APPOINTMENT OF A SERVICE PROVIDER TO PROVIDE MECHANICAL ENGINEERING SERVICES FOR FIRE SYSTEMS AT CEF**

### **1 INTRODUCTION**

CEF SOC Ltd is a state-owned company involved in the search for appropriate energy solutions to meet the energy needs of South Africa and the sub-Saharan African region. It also manages the operation and development of the oil and gas assets of the South African government. The company falls under the auspices of the Department of Mineral Resources and Energy (DMRE). For more information on the company, you can visit our current website: [www.cefgroup.co.za](http://www.cefgroup.co.za).

### **2 BACKGROUND AND OVERVIEW**

CEF requires a Mechanical Engineering Service Provider to specify engineering works required to upgrade the current fire systems for its office premises. The service provider will need to make submissions and obtain approvals from the municipal authority (City of Johannesburg, "COJ") for the building plans where current approvals are outdated. During execution of the project, the Service Provider will be responsible for construction supervision, quality control, and SHEQ services. The Service Provider is required to provide a team comprising of a Mechanical Engineer, Construction SHEQ Specialist and construction supervision.

The scope of work has been broken down into six distinct stages. CEF will require quotations from suitable service providers to conduct the work shown in Stage 1 to Stage 6 inclusive of the construction supervision and SHEQ services, see annexure A. It must be noted that the project execution will be done in a working office or live environment.

### **3 SITE VISIT**

Interested bidders are required to attend a mandatory site visit to appreciate the building in its current form in relation to the required scope of work. See Mandatory Site Visit Date on the cover page of the tender.



## **4 SCOPE OF WORK**

The Service Provider is expected to provide the following services which are split over six stages as defined below:

### **4.1 STAGE 1 – INCEPTION - REVIEW**

#### **4.1.1 Definition**

Agreeing to CEF requirements and preferences, assessing user needs and options, objectives, priorities, constraints, assumptions, and strategies in consultation with CEF. Finalise project structure, human resource allocation, and reporting lines. Define and finalise project deliverables and milestones. Provide the Project viability assessment sign-off.

#### **4.1.2 Standard Services**

- a. Development of a Clear Project Brief.
- b. Align on services and scope of work required.
- c. Implement project weekly meeting with CEF.
- d. Advise on the procurement strategy for the project.
- e. Advise on the rights, constraints, consents, and approvals.
- f. Inspect the site, advise on the necessary surveys, analysis, tests and/or site investigations where such information will be required for stage 2 (as defined below) including the availability and location of infrastructure and services.
- g. Determine the availability of data, drawings, and plans relating to the Project.
- h. Ensure that project team outputs address all CEF project requirements and is reported on the Project life cycle cost with cost option analysis.
- i. Provide necessary information within the agreed scope of the Project within the other disciplines/specialists i.e., electrical engineering and SHEQ.
- j. Establish in conjunction with CEF, consultants, and all relevant authorities the site characteristics necessary for the proper design and approval of the intended Project.
- k. Manage the integration of the preliminary design to form the basis for the initial viability assessment of the Project.
- l. Prepare, co-ordinate and monitor a Project Initiation Programme.



- m. Facilitate the preparation of the Preliminary Viability Assessment of the Project, where applicable.
- n. Facilitate CEF approval of all Stage 1 to Stage 6 documentation.

Summary of the deliverables on stage 1

- Project Brief: agreed services and scope of work.
- Project Initiation Programme.
- Report on project, site, and functional requirements.
- Schedule of required surveys, tests, analysis, site, and other investigations.
- Record of meetings with CEF and other approvals granted by CEF during this stage.
- Approval by CEF to proceed to Stage 2.

## **4.2 STAGE 2 - CONCEPT AND VIABILITY - REVIEW**

### **4.2.1 Definition**

Preparation and finalization of the project concept in line with the brief, inclusive of scope, scale, character, form and function, preliminary programme, and viability.

### **4.2.2 Standard Services**

- a. Agree documentation programme with the Project Lead, after the Project Lead has consulted with the other project specialists/disciplines.
- b. Attend to design and specialists' inputs.
- c. Establish the concept design criteria.
- d. Prepare initial concept design and related documentation.
- e. Advise CEF regarding further surveys, analysis, tests, and investigations, which may be required.
- f. Establish regulatory authorities' requirements and incorporate into the design.
- g. Refine and assess the concept design to ensure conformance with all regulatory requirements and consents.
- h. Establish access, utilities, services, and connections required for the design.
- i. Coordinate design interfaces with other specialists involved.



- j. Prepare preliminary process designs, preliminary designs, and related documentation for approval by authorities and CEF and suitable for costing.
- k. Provide cost estimates and comment on life cycle costs as required.
- l. Liaise, co-operate, and provide necessary information to CEF and other consultants involved.
- m. Coordinate design interfaces.
- n. Facilitate CEF approval of all Stage 2 documentation.

#### Summary of the deliverables on stage 2

- Concept design.
- Schedule of required surveys, tests and other investigations and related reports.
- Process design.
- Preliminary design.
- Costs estimates.
- Record of meetings with CEF and other approvals granted by CEF during this stage.
- CEF approval to proceed to Stage 3.

### **4.3 STAGE 3 - DESIGN DEVELOPMENT – REVIEW, REVISE AND FINALISE**

#### **4.3.1 Definition**

Development of the approved concept to finalised design, outline specifications, cost plan, financial viability, and programme for the Project.

#### **4.3.2 Standard Services**

- a. Review documentation programme with CEF and all stakeholders.
- b. Attend to design and specialists' inputs.
- c. Incorporate CEF's and authorities' detailed requirements into the design.
- d. Incorporate other specialists' designs and requirements into the design.
- e. Prepare design development drawings including draft technical details and specifications.
- f. Review and evaluate design and outline specification and exercise cost control.
- g. Prepare detailed estimates of construction cost.



- h. The Project Lead to liaise, co-operate, and provide/receive necessary information to other specialists involved.
- i. Submit the necessary design documentation to local and other authorities for approval.

Summary of the deliverables on stage 3:

- Record of meetings with CEF and other approvals granted by CEF during this stage.
- Design development drawings.
- Outline specifications.
- Local and other authority submission drawings and reports.
- Detailed estimates of construction costs.
- Approval by CEF to proceed to Stage 4.

#### **4.4 STAGE 4 - DOCUMENTATION AND PROCUREMENT - IMPLEMENT**

##### **4.4.1 Definition**

Preparation of procurement and construction documentation, confirm and implement the procurement strategies (having due regard to PFMA requirements) and procedures for effective and timeous procurement of necessary resources for execution of the Project. **The procurement strategy must consider that the Project will be implemented in a working office space or live site.**

##### **4.4.2 Standard Services**

- a. Prepare specifications and preambles for the works.
- b. Accommodate services design.
- c. Check cost estimates and adjust designs and documents if necessary to remain within budget.
- d. Formulate the procurement strategy for contractors or assist CEF where relevant.
- e. Prepare documentation for contractor procurement.
- f. Review designs, drawings, and schedules for compliance with approved budget.
- g. Call for tenders and/or negotiation of prices and/or assist CEF where relevant.



- h. The Project Lead to liaise, co-operate, and provide/receive necessary information to other specialists involved.
- i. The service provider may form part of the evaluation team with no voting rights during the evaluation of tenders.
- j. Provide project specific information and verification in the preparation of contracts for the implementation.
- k. Assist in construction cost estimates, tender documentation preparation and tender evaluation as required to support the construction implementation.
- l. Assess samples and products for compliance and design intent.

Summary of the deliverables on stage 4:

- Specifications.
- Services co-ordination.
- Working drawings.
- Budget construction cost.
- Tender documentation.
- Tender evaluation report.
- Tender recommendations.
- Priced contract documentation.
- Contractors, subcontractors, and suppliers Procurement Strategy.
- Project Procurement Programme.
- Project Tender/Contract Conditions.
- Approval by CEF of tender recommendation(s).
- Record of all meetings with CEF and other approvals granted by CEF during this stage.
- Approval by CEF to proceed to Stage 5.

## **4.5 STAGE 5 – CONSTRUCTION – IMPLEMENT AFTER AWARD**

### **4.5.1 Definition**

Manage, administer, and monitor the construction contracts and processes including preparation and coordination of procedures and documentation to facilitate practical



completion of the works. The construction management must consider that the Project will be implemented in a working office space or live site.

#### **4.5.2 Standard Services**

- a. Attend site handover considering that it is a live site.
- b. Issue construction documentation in accordance with the documentation schedule including, in the case of structural engineering, reinforcing bending schedules and detailing and specifications of structural steel sections and connections.
- c. Carry out contract administration procedures in terms of the contract.
- d. Prepare schedules of predicted cash flow.
- e. Prepare pro-active estimates of proposed variations for CEF decision making.
- f. Attend regular site, technical and progress meetings.
- g. Review the Contractor's quality control programme and advise and agree a quality assurance plan.
- h. Inspect the works for quality and conformity to contract documentation, on weekly basis during the works.
- i. Review the outputs of quality assurance procedures and advise the contractor and CEF on the adequacy and need for additional controls, inspections, and testing.
- j. Adjudicate and resolve financial claims by contractor(s).
- k. Assist in the resolution of contractual claims by the contractor.
- l. Establish and maintain a financial control system.
- m. Clarify details and descriptions during construction as required.
- n. Prepare valuations for payment certificates to be issued.
- o. Instruct, witness, and review all tests and mock ups carried out both on and off site.
- p. Check and approve contractor drawings for design intent.
- q. Update and issue drawings register.
- r. Issue contract instructions as and when required.
- s. Review and comment on operation and maintenance manuals, guarantee certificates and warranties.
- t. Inspect the works and issue practical completion and defects lists.



- u. Arrange for the delivery of all test certificates, statutory (regulatory) and other approvals, as built drawings, and operating manuals.

Summary of the deliverables on stage 5:

- Schedules of predicted cash flow.
- Construction documentation.
- Drawings register.
- Estimates for proposed variations.
- Contract instructions.
- Financial control reports.
- Valuations for payment certificates.
- Approval by CEF of tender recommendation(s).
- Record of all meetings with CEF and other approvals granted by CEF during this stage including contract variations if any.

## **4.6 STAGE 6 - CLOSE OUT - IMPLEMENT**

### **4.6.1 Definition**

Fulfil and complete the project close-out including necessary documentation to facilitate effective completion, handover, and operation of the Project.

### **4.6.2 Standard Services**

- a. Inspect and verify the rectification of defects.
- b. Receive, comment, and approve relevant payment valuations and completion certificates.
- c. Facilitate and/or procure final operations and maintenance manuals, guarantees and warranties.
- d. Prepare and/or procure as-built drawings and documentation.
- e. Conclude the final accounts where relevant.

Summary of the deliverables on stage 6:



- Valuations for payment certificates.
- Works and final completion lists.
- Operations and maintenance manuals, guarantees and warranties.
- As-built drawings and documentation.
- **An Electronic copy of all as built drawings** super imposed to exiting office drawings.
- Final accounts.
- Prepare and present the Project Close-out Report.

## 5 CEF RESPONSIBILITIES

CEF will be responsible for the following activities:

- 5.1 Manage and monitor the project.
- 5.2 Appoint a Project Manager to whom the service provider will report.
- 5.3 Convene the Project Steering Committee for project oversight and monitoring.
- 5.4 Review the project design process for adherence to CEF compliance to scope requirements. e.g., access control, fire suppression, etc.
- 5.5 Process payments in accordance with the signed agreement.
- 5.6 Provide the service provider with the necessary supporting documentation available at CEF, such as the existing building plans and specific design requirements.
- 5.7 Implement and direct all subsequent Bid Specification, Bid Evaluation, and Bid Adjudication Committees.

## 6 TIME FRAME & LOCATION

- 6.1 The project stage 1 to stage 4 should be completed within eight (8) weeks or less.
- 6.2 Stage 1 to 4 will be primarily carried out at the premises of the service provider except when necessary to engage with the CEF team as well as site visits to the CEF offices.
- 6.3 The supervision of Stage 5 (construction) will require on site presents including the SHEQ oversight by the service provider.
- 6.4 Draft work and the final outputs of the project that will be delivered to and discussed



with the Project Manager and Project Team at CEF.

## **7 PROPOSAL REQUIREMENTS**

The project proposal should include:

- 7.1 A comprehensive outline of how the service provider intends to deliver the scope of work and deliverables enumerated in this Terms of Reference.
- 7.2 Comprehensive Curriculum Vitae of all members of the bidding team. The CVs should indicate that the bidder has the requisite experience and expertise to undertake this project within the specified timeframe. For the minimum qualification requirements – see the evaluation criteria given in this RfQ.
- 7.3 Comprehensive costing that detail, from the perspective of the bidder, all budgetary considerations. Please ensure VAT inclusively.
- 7.4 In addition, proposals must be accompanied by Company profile.
- 7.5 The due date for proposals is as per cover page. Proposals should be submitted in line with the bid submission protocols as specified by the CEF Supply Chain Management.

## **8 REPORTING**

The service provider will have regular feedback sessions with the CEF Project Team during which they will present a progress report on the redesign and development of the project. The service provider will within one (1) week of assumption of duty provide CEF with a Project Matrix. Interim and final project reports as required should be in hard copy and electronic format in a template provided by CEF. All documents submitted by service providers will include the service provider's name, project title, date of draft and draft number.

## **9 INTELLECTUAL PROPERTY**

Copyright for all material produced because of this assignment is vested in CEF. The CEF logo should appear on all documentation in line with CEF branding.



## **10 PAYMENTS**

### **10.1 Financial Proposal**

The proposal and quotation for this Mechanical Engineering Fire System Upgrade Project should cover all the project activities and outputs enumerated in 11.3 below. Bidders should complete the Budget Breakdown according to project breakdown structure.

### **10.2 Submission**

All documents submitted by service provider throughout the duration of the project must include the service provider's name, project title and date of draft. The service provider will submit final project deliverables electronically.

### **10.3 Approval of Payment**

A payment schedule together with all delivery requirements associated with the release of payments will be agreed upon up-front with the successful provider. CEF does not pay any amount in advance. All reports and documents needed for the processing of payment should be forwarded to CEF. No invoice shall be paid if it is not accompanied by the necessary documentation and deliverables. The CEF Project Manager and relevant Senior Manager must approve the documents before payment can be recommended. Payment will be made electronically within 30 days after certification of documents by the Project Manager and relevant personnel at CEF. If revisions are required, they need to be requested within 30 days.

## **11 GENERAL**

The service provider appointed for this project shall do so for and on behalf of CEF. They will act as a representative of CEF and will do everything reasonable to promote CEF's programmes, image, and best interest.



## 12 EVALUATION CRITERIA

### 12.1 Phase 1- Mandatory Requirements

The bidder must comply with the requirements listed below and it must be noted that failure to comply with any of these requirements will lead to bidder being disqualified from further evaluation.

No	Mandatory	Comply	Not Comply
12.1.1	The Project Leader must be a mechanical engineer registered with the Engineering Council of South Africa (ECSA) and must provide a valid Professional registration certificate		
12.1.2	The Project Team must include a safety practitioner with a valid Professional registration certificate from The South African Council for the Project and Construction Management Profession (SACPCMP) PrCHSA or equivalent.		



## 12.2 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.

Minimum Technical Threshold 70%			
Technical Information	Scoring	Proof of documents	Weighting Percentage
<b>12.2.1 Company Experience</b>			
<p>The bidder should submit a list of past projects accompanied by corresponding reference letters. The bidder must provide <b>signed</b> and <b>dated</b> relevant reference letters from clients in the past 5 years.</p> <p><b>The reference letters must be:</b></p> <ul style="list-style-type: none"> <li>• <b>on a client's letterhead</b></li> <li>• <b>signed, dated, and have contactable details.</b></li> </ul> <p>Further the bidders' list of projects must be accompanied by a corresponding reference letter.</p>		<b>List of past projects and reference letters</b>	<b>30%</b>
Bidder submitted five (5) or more relevant reference letters corresponding with the list of past projects	<b>5</b>		
Bidder submitted four (4) relevant reference letters corresponding with the list of past projects	<b>4</b>		
Bidder submitted three (3) relevant reference letters corresponding with the list of past projects	<b>3</b>		
Bidder submitted two (2) relevant reference letters corresponding with the list of past projects	<b>2</b>		
Bidder submitted one (1) relevant reference corresponding with to the list of past projects	<b>1</b>		
Bidder did not provide any relevant reference letters or submitted only a list of projects with no corresponding reference letter	<b>0</b>		



Technical Information	Scoring	Proof of documents	Weighting Percentage
<b>12.2.2 Resource allocation</b>			
<b>Resource allocation that will address following elements:</b> SHEQ, Construction Monitoring, Electrical engineering services including cost control.		<b>The human resources that will implement the project submission with all the required elements.</b>	<b>35%</b>
Response that addresses all elements	<b>5</b>		
Response that does not address all elements	<b>0</b>		

Technical Information	Scoring	Proof of documents	Weighting Percentage
<b>12.2.3 Experience of the Project Lead</b>			
The Project Lead assigned to the project must have experience in implementing similar projects as per the scope of work. <b>Provide a C.V. of the Project Lead, detailing experience in similar projects.</b>		<b>Company Project Led CV</b>	<b>15%</b>
7 or more years of experience in similar projects	<b>5</b>		
6 years' experience in similar projects	<b>4</b>		
5 years' experience in similar projects	<b>3</b>		
4 years' experience in similar projects	<b>2</b>		
3 years' experience in similar projects	<b>1</b>		
Less than 2 years' experience in similar projects	<b>0</b>		

Technical Information	Scoring	Proof of documents	Weighting Percentage
<b>12.2.4 Methodology</b>			
Bidder must submit a comprehensive Commencement Methodology which details the following: <ol style="list-style-type: none"> <li>Work plan indicating work breakdown structure, schedule, major milestones.</li> <li>Costing per milestone, resource allocation, and logic to reach works completion.</li> <li>Work plan contains information on site works execution integration with other activities.</li> <li>Provision of safety appointments and risk mitigation.</li> <li>Work plan indicates access control resources and management process in a live site.</li> </ol> Note that the following scoring matrix will be used to evaluate these criteria:	<b>Methodology indicating the program, milestones, costing, safety and risk, access control and security.</b>	<b>20%</b>	
Bidder's methodology and approach addresses all the 5 listed areas of focus			<b>5</b>
Bidder's methodology and approach addresses 4 of the 5 listed areas of focus			<b>4</b>
Bidder's methodology and approach addresses 3 areas of the 5 listed areas of focus			<b>3</b>
Bidder's methodology and approach to addresses 2 of the 5 listed areas of focus			<b>2</b>
Bidder's methodology and approach to addresses 1 of the 5 listed areas of focus			<b>1</b>
Bidder's methodology and approach to addresses none of the 5 listed areas of focus			<b>0</b>

Bidders who score a minimum of 70% will proceed to Proof of Concept (Phase 5).

### 12.3 PHASE 3

#### EVALUATION CRITERIA

Bidders also will be evaluated on Price and Preference points.

Evaluation Criteria	Final Weighted Scores
Price	80
Specific goals	20
<b>TOTAL SCORE:</b>	<b>100</b>



#### 12.4 Phase 4 – PRICE Evaluation.

All bidders are required to provide a detailed price schedule showing the costing per Stage of the Project.

Item	Description	Total Fees	Payment Percentage (%) Per Stage
<b>A</b>	<b>Mechanical Engineering including Bill of Quantities</b>		
1	Inception		5
2	Concept and Viability		15
3	Design Development, Documentation and Procurement		40
4	Contract Administration and Inspection		35
5	Close Out		5
<b>B</b>	<b>Electrical Engineering</b>		
1	Inception		5
2	Concept and Viability		15
3	Design Development, Documentation and Procurement		40
4	Contract Administration and Inspection		35
5	Close Out		5
<b>C</b>	<b>Construction Monitoring and SHEQ Compliance</b>		
1	Inception		5
2	Concept and Viability		15
3	Design Development, Documentation and Procurement		40
4	Contract Administration and Inspection		35
5	Close Out		5
<b>D</b>	<b>Disbursements</b>	SUM	
1	Travelling		
2	Printing		
3	OHS		
4	Mechanical		
5	Electrical		
6	Costing		
7	Other costs ( <b>Clearly Specify</b> )		



**PLEASE ENSURE THAT THE BELOW IS FILL CORRECTLY WITH THE LUMPSUM QMMOUNT OF THE PROJECT INCLUDING ALL STAGES.**

<b>SUBTOTAL (EXC.VAT)</b>	<b>R</b>
<b>VAT (@15%)</b>	<b>R</b>
<b>GRAND TOTAL (INC.VAT)</b>	<b>R</b>

## **Annexure – Detailed description of works:**

### **A. Construction Monitoring**

- 4.A.1 Quality assurance (QA) during construction refers to the engineering activities that are implemented to assure CEF that works are highly likely to meet the requirements. This is achieved through a combination of the quality control processes that are put in place by the contractor to control its outputs and the inspection and acceptance testing that is carried out by the consulting engineer to confirm conformance prior to certification. While the contractor takes the ultimate responsibility for quality and meeting the design requirements, the purpose of quality assurance plan and related construction monitoring is to inspect and satisfy CEF and the consulting engineer that the risk of these requirements not being met, is acceptable.
- 4.A.2 This means that the CEF and the lead consultant should agree a satisfactory arrangement in respect of construction monitoring that suits the type of work, the project location, and the duration of the critical aspects of the works. Disagreement regarding the required level of construction monitoring should not be taken lightly and the parties should carefully consider the consequences of non-compliances and related responsibilities, bearing in mind that the consulting engineer has a duty of care while CEF should strive to ensure quality and minimise life-cycle costs.
- 4.A.3 The level of construction monitoring and the frequency and duration of the site visits must be agreed with the CEF prior to commencement of the works and should be recorded in the agreement with CEF. The level of construction monitoring and activities related to the quality assurance plan may change during the works to reduce quality related risks and this will require an amendment of the agreement.
- 4.A.4 The stage 5 construction monitoring services described in above will normally suffice for simple projects where more regular inspections are not required other than during critical stages of the works with less frequent visits once the portion of the works in which the consulting engineer is involved has largely been completed.



However, there are many other situations where more regular construction monitoring is required for quality assurance and certification.

**B. Occupational Health and Safety Act, 1993 (Act 85 of 1993)**

On behalf of CEF provide additional services inclusive of:

- 4.B.1 The lead consultant must arrange, formally and in writing, for the contractor to provide documentary evidence of compliance with all the requirements of the above Occupational Health and Safety Act.
- 4.B.2 The lead consultant must execute the duties of CEF, as his appointed agent, as contemplated in the Construction Regulations to the above Occupational Health and Safety Act.

**C. Quality Assurance System**

Consultation and agreement with CEF on a quality management system or quality assurance services, over and above construction monitoring services, to be applied to the project. This in addition to normal services provided by the lead consultant and to be specifically defined and separately agreed in writing prior to commencement of works.

**D. General Notes**

As these stages might overlap, the Standard Services stated hereunder may be required to be undertaken during any one of the Project Work Stages. The order of the Standard Services does not necessarily reflect the actual sequence of implementation.