

## **Evaluation Criteria for the Hydrogen Nitrogen Plant Tender LPPS0011GCD**

### **STEP 1**

#### **Commercial - Basic Compliance (Mandatory Requirements)**

- CIDB rating: 8 ME, Source of evidence:  
CIDB certification, Motivation for use of Criteria: Construction Integrity
- Original, one (1) identical copy of the original (hard copy) and an electronic copy (USB only).
- Declaration of Authority
- Completed un-amended Declaration of Fair Tendering Practice
- The Tender will be open to B-BBEE Level 1-4 compliant entities only. Entities that do not meet this criterion will be disqualified; therefore, the B-BBEE Certificate from a SANAS Accredited Verification Agent will be a mandatory Tender returnable before the closing date of the Tender.
- Commits to sub-contract at least thirty percent (30%) to Local-to-site, that is locally based EME or QSE that are at least 51% Black Owned, living in the rural areas and / or townships. Local content and production

## **STEP 2**

### **Technical Evaluation**

Table 1: Scoring Method

#### **SCORE PERCENTAGE DESCRIPTION**

##### **5 - 100 COMPLIANT**

- Meet technical requirement(s)/AND;
- No foreseen technical risk(s) in meeting technical requirements.

##### **4 - 80 COMPLIANT WITH ASSOCIATED QUALIFICATIONS**

- Meet technical requirement(s) with;
- Acceptable technical risk(s) AND/OR;
- Acceptable exceptions AND/OR;
- Acceptable conditions.

##### **2 - 40 NON-COMPLIANT**

- Does not meet technical requirement(s) AND/OR;
- Unacceptable technical risk(s) AND/OR;
- Unacceptable exceptions AND/OR;
  - Unacceptable conditions.

##### **0 - 0 TOTALLY DEFICIENT OR NON-RESPONSIVE**

The evaluation scores will be weighted as follows according to disciplines:

#### **Table 2: Evaluation Scores**

##### **Technical (100%)**

6.1 General 10%

6.2 Mechanical 40%

6.3 Control & Instrumentation 15%

6.4 Electrical 10%

6.5 Civil 15%

6.6 Configuration – and Documentation Management 10%

##### **TOTAL (100%)**

**Overall minimum threshold for qualification (70%)**

## **MANDATORY TECHNICAL EVALUATION CRITERIA**

To be eligible for evaluation the tenderer shall meet the gatekeepers specified on the table below:

### **Mandatory Evaluation Criteria**

#### **Mandatory Technical Criteria Description Source of Evidence Motivation for use of Criteria**

1. CIDB rating: 8 ME CIDB certification Construction Integrity

2. ECSA Professional Engineering Certification:

- Mechanical
- Civil
- Copy of ECSA Professional Certification or verifiable evidence (copy of ECSA certificate, Letter from professional body indicating active status) for Professional Engineer/Technologist who is accountable for the design, construction monitoring and certification of applicable scope.

- Completed/Submitted Competency Declaration Form

(refer to Appendix A)

Design Integrity

3. Original Equipment Manufacturers of the Nitrogen Generating Plant and Hydrogen Generating Plant represented by Company proof of background and experience on design, construction and commissioning of Nitrogen and Hydrogen generating plant.

Overview of company with proof of background and experience on design, construction and commissioning of Nitrogen and Hydrogen generating plant.

Access to local company for ongoing support post contract completion

## **QUALITATIVE TECHNICAL EVALUATION CRITERIA**

Notes to tenderer:

1. An undertaking is required that resources identified would not be changed on award of the Contract.
2. The CV's of Key Personnel should have experience which is comparable in nature to the Works specified in this tender.

3. It is a requirement that the key personnel have good communication skills in the English language.

4. Where no information is offered by the Tenderer no points shall be scored.

<b>1. GENERAL EVALUATION CRITERIA</b>		
	<b>Description</b>	<b>Tender Returnable(s)</b>
1.1	<p>Company's background and experience on design and construction of Nitrogen and Hydrogen Generating Plant and distribution plant or similar works.</p> <p>Company's background and experience shall be a minimum of 5 years on design, construction and commissioning of Nitrogen and Hydrogen generating and distribution plant works. The sub-contracted companies as part of main tenderer shall have experience of minimum 5 years on design construction and commissioning of the main aspects or disciplines of the of the project including but not limited to:</p> <ul style="list-style-type: none"> <li>- Hydrogen generating plant</li> <li>- Nitrogen generating plant</li> <li>- Civil design and professional accountability</li> <li>- Civil construction</li> <li>- Electrical</li> <li>- Hazardous installations</li> <li>Control and Instrumentation</li> </ul>	<p>Demonstrate experience on similar projects.</p> <p>Provide Testimonials or Completion Certificates for completed projects consisting of the following information:</p> <ul style="list-style-type: none"> <li>· Name of company where project was executed</li> <li>· Project Description</li> <li>· Construction period</li> <li>· Contract value</li> <li>· Contact person</li> </ul>

1.2	Compliance to the full scope of work of the Nitrogen and Hydrogen Generating Plant	Comprehensive overview of offered solution and concept for integration to existing infrastructure · List of exclusions from the Tender requirements
1.3	Project Execution Plan and Project Programme	· Comprehensive overview of offered solution and concept for integration to existing infrastructure · List of exclusions from the Tender requirements
1.4	CV's of key personnel	Provide CV's of key personnel as specified below: Minimum 5 years' experience for all. *ECSA or equivalent Mechanical Engineering: · Professional ECSA registered Mechanical Engineer/Technologist (Design and Construction) C&I and Electrical Engineering: · Professional ECSA Registered Electrical Engineer/Technologist (Design and Construction) OR declaration that an ECSA registered consultant will be appointed Civil Engineering (professional accountability): · Professional ECSA Civil Engineer/Technologist (Design and Construction monitoring) Construction Management Professional: · Experienced Construction/Project Manager
	<b>2. MECHANICAL EVALUATION CRITERIA</b>	

	<b>Description</b>	<b>Tender Returnable(s)</b>
2.1	<p>The Hydrogen Generating Plant meets the requirements listed standards and specifications. Excellent response which demonstrates the ability to deliver the Hydrogen Generating Plant scope far in excess of minimum requirements.</p>	<p>Data Sheets for proposed equipment, plant &amp; instrumentation (valves, piping, pressure gauge, storage tanks dryers and monitoring station).  stack life expectancy of &gt;8 years. Mean time between failures on cell stack. OEM response time to rectify plant failure &lt; 21 days.  Track record of the specific technology offered and specified being in service in an application similar stipulated for &gt; than 3 years without significant failure i.e. cell stack failure.  Reference list with contact details (including e-mails) of project managers and responsible engineer to be provided.</p>
	<p>Review, evaluation and acceptance of the Nitrogen Generating plant capacity, pressure, purity and dew point as compliant to requirements</p>	<p>Professionally certified/signed design calculations by the design engineer</p>
2.2	<p>The storage tanks meet the specified capacity and PER of OHS Act 1993.</p>	<p>Basic design of the tanks</p>
2.3	<p>The firefighting system meets the provisions of SANS 10089 and listed standards. Full achievement of the requirements specified in the enquiry, demonstrated strengths, no errors, weaknesses, or</p>	<p>Fire protection Concept design. Technical Data Sheets for proposed equipment, plant &amp; instrumentation</p>

	omissions. Excellent response which demonstrates the ability to deliver the Fire Protection scope far more than minimum requirements.	
2.4	Hydrogen and fire Detection meets the provision of the listed standards and OHS Act 1993	Hydrogen and fire Detection Concept design. Technical Data Sheets for proposed equipment, plant & instrumentation
2.5	Perform Engineering Risk analysis	Provide a HAZOP, FMECA and RAM Report of similar works.
	Develop design documentation compliant to requirements. Including but not limited to: <ul style="list-style-type: none"> <li>· P&amp;ID and GA's</li> <li>· operating philosophy</li> <li>· integrated design report</li> <li>· spares list</li> </ul>	Examples of reviewed, Updated and Professionally certified/signed design documentation of similar works.
<b>3. CONTROL AND INSTRUMENTATION EVALUATION CRITERIA</b>		
	<b>Description</b>	<b>Tender Returnable(s)</b>
3.1	The control and automation functionality, alarm indication, human machine interface, information system, information archive etc. will be engineered and provided in the Programmable Logic Controller (PLC) by the Contractor.	Technical Data Sheets for proposed equipment Example of reviewed, Updated and Professionally certified/signed Operating philosophy by the design engineer

3.2	<p>The level of automation shall be in accordance with the “Plant Control Modes with Local Control Facilities” document listed in section 3.2.4 of the Specific Employers Requirements.</p>	<p>Example of reviewed, Updated and Professionally certified/signed Operating philosophy by the design engineer</p>
3.3	<p>The Contractor shall provide control, operation, protection, interlocking and alarm philosophies together with a rationalised alarm list as per the Alarm Management System Guideline (240-56355466) standard.</p>	<p>Example of reviewed, Updated and Professionally certified/signed Operating philosophy by the design engineer</p>
3.4	<p>The Contractor shall ensure that all equipment provided is suitable for the environment where it is to be located, all instrumentation and C&amp;I equipment shall have an IP rating of IP66.</p>	<p>Technical Data Sheets for proposed equipment</p>
3.5	<p>All controller cubicles forming part of the Works shall be of size (0.9m x 1m x 2.2m) and same appearance further they shall conform to the following:</p> <ul style="list-style-type: none"> <li>· Floor mounted with suitable dust and vermin proofing</li> <li>· Bottom cabling access</li> <li>· Earthing</li> <li>· Front and rear access</li> </ul>	<p>Technical Data Sheets for proposed equipment</p>

	· Temperature monitoring per cubicle Powder coated RAL 7035	
<b>4. ELECTRICAL EVALUATION CRITERIA</b>		
	<b>Description</b>	<b>Tender Returnable(s)</b>
4.1	Explosion prevention techniques for pump motors, light fittings, cable glands and other electrical and electronic equipment to be installed inside Hydrogen Plant	Provide Explosion prevention techniques for pump motors, light fittings, cable glands etc., OR provide a declaration that all Electrical designs and Installations will comply with requirements of SANS 10108
4.2	Nitrogen Plant Power distribution board design review and evaluation	Updated or proposed power distribution board design or Single line for the supply of H2 and N2 plant in both including estimated power consumption in editable format and PDF
4.3	Completed technical schedule A&B LV switchgear (MCC)	Completed technical schedule A&B for LV switchgear (MCC).
4.4	Method statement for manufacture, design, delivery and installation of all electrical equipment.	The method statement should contain the following: a) Typical Quality control plans (e.g. Inspection and Test Plans for electrical distribution board, cable racking, cables, earthing, small

		power and lighting, IP rating certification for outdoor installations etc.)
<b>5. CIVIL EVALUATION CRITERIA</b>		
	<b>Description</b>	<b>Tender Returnable(s)</b>
5.1	<p>Background and experience on Design and Construction similar to the works outlined in the SoW:</p> <ul style="list-style-type: none"> <li>· Civil infrastructure relevant to the SoW</li> <li>· Buildings and other structures relevant to the SoW</li> <li>· Architectural work relevant to the SoW</li> </ul>	<p>1. Provide testimonial certificates or completion Certificates for at least 3 completed projects similar in complexity to the SoW. The testimonial certificates or completion certificates shall consist of the following information:</p> <ul style="list-style-type: none"> <li>a) Name of company where project was executed</li> <li>b) Project Description</li> <li>c) Construction period</li> <li>d) Verifiable reference (Contact person)</li> </ul> <p>Note 1: Appointment letters will not be considered.</p> <p>Note 2: If item b, c and d is not indicated on the testimonial certificate or completion certificates, the Tender shall provide the information as an attachment to the testimonial certificate or completion certificate.</p> <p>Note 3: If the project description is not provided or not comparable to the SoW (348-9975757), the testimonial or completion certificate will not be considered.</p>

5.2	<p>CV of key professional ECSA registered professional(s) and other key personnel:</p> <p>Designer and registered geotechnical professional and all key Construction personnel as shown on the project organogram</p>	<p>1. CV's and relevant experience:</p> <p>a) For key registered professional(s) as defined in the mandatory evaluation section (5)(1). The professional(s) shall have a minimum of 5 years post ECSA registration relevant design and construction monitoring experience with reference to works described in the scope of work (348-9975757).</p> <p>Note 1: The number of years (relevant to this scope) of experience as indicated above must be clearly indicated in the CV</p> <p>Note 2: Based on experience and competency, one individual may fulfil multiple roles. This must be clearly defined in the organogram.</p>
5.3	<p>High level Design methodology</p>	<p>1.High level design methodology that addresses the following:</p> <p>a) High level design methodology (investigation, compliance testing and analysis) establishing whether design intent was achieved for existing works.</p> <p>b) High level design methodology that addresses the design philosophy for new works and all integrated works (integration with existing infrastructure/services and geotechnical assessment and investigative works).</p> <p>c) Indication of construction monitoring measures to ensure design intent is achieved through progressive reviews</p>

		and monitoring during the entire project (in accordance with Construction Regulations.
5.4	High level Construction methodology	<p>1. High level construction methodology that addresses the following:</p> <p>a) Construction methodology encompassing new works and the integrating of existing works as well as any possible repair/defect correction and geotechnical works.</p> <p>b) Provide a typical/sample Inspection Test Plan (ITP)/Quality Control Plan (QCP) for the construction works.</p> <p>c) Quality Assurance plan</p>
<b>6. CONFIGURATION – AND DOCUMENT MANAGEMENT CRITERIA</b>		
	<b>Description</b>	<b>Tender Returnable(s)</b>
6.1	The contractor needs to provide the configuration management plan that will be implemented in line with the ISO 10007 Guidelines for Configuration Management.	Provide Configuration Management Plan
6.2	The contractor must provide a portfolio of evidence that reflects quality of coding. The contractor's portfolio should contain a minimum of 3 years but not limited to evidence	Provide Portfolio of evidence reflecting number of years of Plant Codification experience.

	<p>stating the number of years of experience they have with regards to coding.</p> <p>If a contractor feels they do not meet the minimum requirements, they can submit the portfolio of the subcontractor that they will definitely use.</p>	
6.3	<p>The contractor needs to provide a stipulated Handover Plan, stating when and how they plan, submitting Documentation to Eskom, in line to the agreed Vendor Document Submission Schedule (VDSS).</p> <p>(Documentation submission during project phases)</p>	Provide VDSS

### STEP 3

<p>3.15 Evaluation of price</p>	<p>Prices will be evaluated as follows:</p> <ul style="list-style-type: none"> <li>• Inclusive of VAT</li> <li>• Making the specified correction for arithmetical errors</li> <li>• Excluding contingencies in any bill of quantities or activity schedule.</li> <li>• Making an appropriate adjustment for any other acceptable variations, deviations, or alternative tenders submitted.</li> <li>• Making a comparison of the Net Present Value of each adjusted tender based on the tendered programme (if provided) and prices, on the estimated effect of Price Adjustment Factors and rate of exchange fluctuations (if applicable) and on other evaluation parameters relating to uncertainty and risk, where applicable.</li> <li>• Unconditional discounts must be taken into account for evaluation purposes;</li> <li>• Conditional discounts must not be taken into account for evaluation purposes but should be implemented when payment is effected.</li> </ul> <p>Prices will be scored out of 80 or 90 points</p>
<p>3.17 Evaluation of B-BBEE</p>	<p>B-BBEE status will be scored out of 10 or 20 points in accordance with PPPFA. If a tenderer fails to submit proof of B-BBEE status level, the tenderer will not be disqualified (except if B-BBEE level is a pre-qualification criterion). The tenderer will, however, be awarded 80/90 points for price and will score 0 points for B-BBEE level /status (out of 10/20)</p>
<p>3.18 Ranking of tenders</p>	<p>Suppliers will be ranked by applying the preferential point scoring based on the relevant system as stipulated hereunder]: -</p> <ul style="list-style-type: none"> <li>• 90/10 (for estimated values above R50M inclusive of VAT) or</li> <li>• 80/20 (for estimated values above R30 000 and up to R50M inclusive of VAT) or</li> </ul> <p>state that either 80/20 or 90/10 will apply should there be a degree of uncertainty on which PPPFA Point allocation system will apply; the lowest acceptable tender will be used to determine the applicable preference system</p> <p>Eskom will then add the score from Pricing and the B-BBEE level together and rank the suppliers from the highest to the lowest.</p>