

3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

The qualitative criteria that will be assessed during tender evaluation are detailed in Table 4Table 1. Scoring of each criterion will be on a 1 – 5 scale based on the level of compliance with the scope, as detailed in Table 3 (unless detail are provided in Table 4). The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is 80%. In addition, Criteria 2.1 and 2.2 have a criteria threshold of 80%. I.e. A score of 80% for Evaluation Criteria 2.1 and 2.2 must be achieved as well as an overall weighted score of 80% in order to pass the technical evaluation. (If the final weighted score is above 80% but the tenderer scores below 80% on Evaluation criteria 2.1 or 2.2, the tenderer will fail)

Table 3: Scoring Criteria

SCORE	PERCENTAGE	DESCRIPTION
5	100	COMPLIANT <ul style="list-style-type: none">• 100% of Tender Returnable with relevant information received AND• Meet technical requirement(s)/AND;• No foreseen technical risk(s) in meeting technical requirements.
4	80	COMPLIANT WITH ASSOCIATED QUALIFICATIONS <ul style="list-style-type: none">• 80% of Tender Returnable with relevant information received AND• Meet technical requirement(s) with;• Acceptable technical risk(s) AND/OR;• Acceptable exceptions AND/OR;• Acceptable conditions.
2	40	NON-COMPLIANT <ul style="list-style-type: none">• 40% of Tender Returnable with relevant information received AND• 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

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Table 4: Qualitative Technical Evaluation Criteria

Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Scoring Criteria	Criteria Weighting (%)	Sub Weighting (%)
1	General - Company Profile and Experience			Total: 20%	
1.1	<p>1.1.1. The Company Profile, Core Business Expertise and list of Experience will be evaluated to ensure that:</p> <ul style="list-style-type: none"> The tenderer has 5 years' experience or has completed 5 or more EPC contracts. <p>1.1.2. Reference Letter, Testimonials or Completion Certificates for completed hydrogen generations and balance of plant (BoP) projects will be evaluated to ensure that:</p> <ul style="list-style-type: none"> The tenderer has demonstrated that they have designed, constructed and commissioned a full hydrogen plant. That this plant has been in operation for a period of more than three years from the date of commissioning without a significant failure? Eg cell stack <p>1.1.3 Contactable references must be provided. Project details with name of company and location, project description, size of electrolyser, contract value, construction period and operations performance of the plant.</p> <p>Should the tenderer choose to subcontract section of the scope this needs to be clearly stated. The company profile and work experience</p>	240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 1.1	<ul style="list-style-type: none"> 5 = more than 5 years' experience or 5 projects where the tenderer was the main EPC contractor AND 1 or more of these projects was for the installation of H₂ generation and BoP AND that plant has run for more than 3 years. (all subcontractors have 5 or more years' experience in their respective field) 4 = 3 to 4 years' experience or projects where the tenderer was the main EPC contractor AND 1 or more of these projects was for the installation of a H₂ generation and BoP where operational performance has been submitted. (some subcontractors have 3 to 4 years' experience in their respective field) 2 = 1 to 2 years' experience or projects where the tenderer was the main EPC contractor OR 1 or more projects for the installation of a H₂ generation and BoP (could still be in execution phase) (some subcontractors have 1 to 2 years' experience in their respective field) 		30 %

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	of the subcontractor must be submitted. The subcontractor will be evaluated on their experience based on the section of the scope they will be executing.		<ul style="list-style-type: none"> • 2 = more than 5 years' experience or 5 projects where the tenderer was the main EPC contractor but no experience in H₂ generation or BoP. • 0 = less than 1 year experience or project where the tenderer was the main EPC contractor AND no experience with EPC of H₂ generation and BoP. References that are confidential. 		
1.2	<p>Evaluation of the CV's will be to ensure that qualified personnel with the relevant experience (experience must be relevant to H₂ generation and balance of plant (BoP) design and construction) are included during the design, construction, commissioning, and operation of the plant. The CV's must show 5 years related experience and projects executed while performing at the level required by the scope (i.e 5 years' experience as a lead discipline engineer), work performed on H₂ generation and balance of plant (BoP), relevant qualifications (certified copies of certificate to be provided) and registration statue where relevant. The following CV's must be provided as a minimum</p> <p>1.2.1. Engineering Work Design Lead (who has designed a hydrogen plant or has experience on hazardous works installation)</p> <p>1.2.2. Expert on Hydrogen plant and BoP design, installation, commissioning and integration.</p> <p>1.2.3. Mechanical Engineer</p> <p>1.2.4. Electrical Engineer</p> <p>1.2.5. C&I engineer</p>	240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 1.2	<ul style="list-style-type: none"> • 5 = 5 or more years' experience with qualifications and professional registration • 4 = 3 / 4 years' experience with qualifications and professional registration. • 2 = 1 / 2 years' experience with qualifications and professional registration. • 2 = 5 or more years' experience with qualifications, and working under the guidance of a person with professional registration • 0 = No experience or no professional registration. <p>Note: EWDL (5) Hydrogen Expert (5) Mechanical Engineer (5) Electrical Engineer (5) C&I engineer (5) Civil Engineer (5)</p>		40 %

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	1.2.6. Civil Engineer 1.2.7. Person responsible for issuing the CoC for H2 installations. 1.2.8. Master Installation Electrician		CoC (5) MIE (5)		
1.3	1.3.1 Project Execution Plan will be evaluated to ensure that: <ul style="list-style-type: none"> The project scope is fully understood by the EPC contractor. Recourse have been assessed and are available for the execution of the project. Preliminary risks have been identified. 1.3.2 Project Program / Schedule will be evaluated to ensure that: <ul style="list-style-type: none"> Key milestones have been identified, and project timelines have been assessed, and are comparable with the Eskom timeline for project delivery. 	240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 1.3	<ul style="list-style-type: none"> Assessed as per Table 3 		30 %
2	Functional and operational Specification of major plant and equipment.			Total: 25%	
2.1	Level of compliance to the 240-RT&D-151 Specification for Renewable Hydrogen Facility and 240-56227413 Eskom Hydrogen System Standard will be assessed based on design information submitted (including but not limited to data sheet, drawings, P&IDs, control philosophy and maintenance manuals) to prove compliance to the Eskom standard for Hydrogen systems and on the completed 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility.	240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 2.1 & 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility (All Schedules)	<ul style="list-style-type: none"> Assessed as per Table 3 		25 % (This criterion has a pass/fail threshold of 80%)
2.2	All technical data sheet, drawings, P&IDs, control philosophy and detailed maintenance manuals of the electrolyser and information provided from the OEM on the electrolyser will be evaluated to assess if the following functional specification are met:	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 2.2 240-RT&D-782 	<ul style="list-style-type: none"> Assessed as per Table 3 Sub-note for Electrolyser technology: 5 = PEM & AEM 3 = Alkaline		25 % (This criterion has a pass/fail threshold of 80%)

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	<ul style="list-style-type: none"> Electrolyser Technology to be supplied: Proton Exchange Membrane (PEM) or Anion Exchange Membrane (AEM) water electrolysis technology (preferred). Pressurised Alkaline Electrolyser (alternative) Plant operational parameters of 50kW – 65kW, 99.9% H₂ purity, and production pressure of 27 bar. Capability and control philosophy for load following provided, with the ability to exceed the specified turndown ratio during testing (without compromising safety control mechanisms). Cell-stack life expectancy of >8 years. Minimum mean time between failures on cell stack. Warranty of 2 years on the cell stack and 2 years on the balance of plant. 	<p>Technical Schedule for Renewable Hydrogen Facility (Schedule B & Schedule C)</p> <p>Note: Electrolyser Technology selection (5) Operational Parameters (5) Load following (5) Cell Stack Life and mean time between Failure (5) Warranty (5)</p>			
2.3	<p>Operational experience of the plant must be supplied by the tenderer. This will be evaluated to confirm that:</p> <ul style="list-style-type: none"> Reference plant is of a similar size and application (industrial application) to the scope of work The plant has been in operation for a minimum of 3 years. (operation hour must equate to 3 years in service, approximately 18 000 hour) The tenderer has provided a contactable reference employed at an operational plant clearly indicating plant location, date of construction and commissioning. 	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 2.3 	<ul style="list-style-type: none"> Assessed as per Table 3 <p>Note: Contactable Reference (5) Plant application (5) Duration of operation (5)</p>		15 %

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2.4	<p>The tenderer is to supply detail of the local agent which will be evaluated to ensure that the following criteria are met:</p> <ul style="list-style-type: none"> the local agent or VAR has personnel in South Africa that are trained and able to offer technical support, fault finding, routine maintenance and supply spares OEM / authorised Local South African agent has a response time to rectify plant failure of < 21 days Direct communication channel between the end-user and OEM for technical support are possible (and facilitated by the contractor.) The OEM's visits South Africa regularly to audit end-user satisfaction with Local Agent. 	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 2.4 	<ul style="list-style-type: none"> Assessed as per Table 3 		15 %
2.5	<p>All technical data sheets, specification, OEM data, designs and drawing for other key component will be evaluated to determined compliance to the technical specification. This evaluation will be done on a component level for:</p> <ul style="list-style-type: none"> H₂ Electrolyser balance of plant (heaters, dryers, etc) Demineralising water treatment plant. H₂ storage tanks H₂ end use station. 	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 2.5 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility (Schedule B & Schedule C) 	<ul style="list-style-type: none"> Assessed as per Table 3 		10 %
2.6	<p>To ensure that the tenderers are certified to work on Hazardous Locations. The following must be provided:</p> <ul style="list-style-type: none"> A letter or a certificate confirming that the company is certified to work on Hazardous Locations with Ex. Rated equipment received <p>AND</p>	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 2.6 	<ul style="list-style-type: none"> 5 = Both letters or certificates received 4 = only one letter received and a commitment to provide the other during contract 2 = only one letters or certificates received 0 = No letters or certificates 		10 %

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	<ul style="list-style-type: none"> The letter or certificate confirming that the company is certified to work on a H₂ plant 		received		
3	Mechanical Specifications			Total: 10%	
3.1	The method statement and deviation schedule together with design detail (technical data sheets, drawings, P&IDs etc.), will be assessed to ensure that the hydrogen generating plant meets the requirements listed in the standards and specifications.	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 3.1 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility (Schedule D & Mechanical Section of Schedule A) 	<ul style="list-style-type: none"> Assessed as per Table 3 		40 %
3.2	The CV of the Lead Discipline Engineer or Technologist (or other CVs of key personnel within the Mechanical Engineering field who are involved during the design, construction or commissioning phase of the project) will be evaluated to ensure a minimum of 5 years' experience and professional registrations with the respective Governing bodies (such as ECSA or Equivalent). CV of key personnel proving hydrogen generating plant and BoP, design, installation and commissioning experience and capability etc.,	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 3.2 	<ul style="list-style-type: none"> 5 = 5 or more years' experience with professional registration 4 = 3 / 4 years' experience with professional registration. 2 = 1 / 2 years' experience with professional registration. 2 = 5 or more years' experience, and working under the guidance of a person with professional registration 0 = No experience or no professional registration. 		40 %
3.3	Maintenance strategy and spares	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 3.3 	<ul style="list-style-type: none"> Assessed as per Table 3 		20 %
4	Control and Instrumentation			Total: 10%	
4.1	The contractor provides a high level C&I architecture drawing, clearly showing all	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical 	<ul style="list-style-type: none"> Assessed as per Table 3 5 = Comprehensive architecture 		40 %

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	<p>interfaces and the different Ex zones. The architectural drawing as a minimum shows the following:</p> <ul style="list-style-type: none"> Interface with electrical systems Interface with the existing PV plant Interface with the existing fire detection system (FDS) Third party interface through the Eskom IT network 	<p>Schedule for Renewable Hydrogen Facility: 4.1</p> <ul style="list-style-type: none"> 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility (Schedule E & C&I Section of Schedule A) 	<p>drawing, showing all interfaces and different zones</p> <ul style="list-style-type: none"> 4 = Architecture drawing with some deficiencies showing different zones 2 = Elementary architecture drawing with significant scope omissions and zone classifications 0 = non-responsive 		
4.2	The Tenderer must provide a minimum of three contactable reference plants where the proposed SCADA solution has been implemented. This can be presented in a table indicating plant name, commissioning date and SCADA used. The plants should be contactable and SCADA availability figures must be provided. The SCADA software and support (in terms of updates) must also be included.	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 4.2 	<ul style="list-style-type: none"> Assessed as per Table 3 5 = 3 or more plants in the last 10 years (green hydrogen) production 4 = 3 or more plants (grey hydrogen production) 2 = less than 2 plants (green or grey hydrogen production) 0 = non-responsive 		40 %
4.3	The contractor provides all datasheets for the equipment that forms part of the C&I works. This includes but is not limited to field equipment, SCADA (All components forming the SCADA system), and HMI (All Components forming the human machine interface).	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 4.3 	<ul style="list-style-type: none"> 5 = Comprehensive coverage of all plant areas with zoning requirements explicitly stated 4 = Substantial coverage of most plant areas including different zones 2 = Coverage of some plant areas 0 = non-responsive. 		20 %
5	Electrical			Total: 10%	
5.1	Level of compliance to 240-RT&D-151 Specification for Renewable Hydrogen Facility will be assessed in terms of the details provided by the contractor on 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility, Schedule F and the method statement.	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 5.1 240-RT&D-782 Technical Schedule for Renewable Hydrogen 	<ul style="list-style-type: none"> Assessed as per Table 3 5 = Full compliant 4 = Compliant with associated qualifications 2 = Non-compliant 0 = Totally Deficient or Non responsive 		100 %

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		Facility (Schedule F & Electrical Section of Schedule A)			
6	Civil			Total: 10%	
6.1	Provide a detailed method statement and Deviation schedule for the Hydrogen generation plant, in line with the requirements listed in the standards and specifications. This method statement must clearly demonstrate a complete understanding of, and capability to perform the civil scope of work Note: Any other relevant information needed to demonstrate a compliance to civil requirement can be submitted	<ul style="list-style-type: none"> • 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 6.1 • 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility (Schedule G & Civil Section of Schedule A) 	<ul style="list-style-type: none"> • Assessed as per Table 3 		50 %
6.2	The CV's of the Lead Discipline Engineer or Technologist (or other CV's of key personnel within the Civil Engineering field who are involved during the design, construction or commissioning phase of the project) will be evaluated to ensure a minimum of 5 years' experience and professional registrations with the respective Governing bodies (such as ECSA or Equivalent)	<ul style="list-style-type: none"> • 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 6.2 	<ul style="list-style-type: none"> • 5 = 5 or more years' experience with professional registration • 4 = 3 / 4 years' experience with professional registration. • 2 = 1 / 2 years' experience with professional registration. • 2 = 5 or more years' experience, and working under the guidance of a person with professional registration • 0 = No experience or No professional registration. 		50 %
7	Fire Protection			Total: 10%	
7.1	The firefighting system (Protection System) meets the provisions of specified standards. Full achievement of the requirements specified in the enquiry, demonstrated strengths, no errors, weaknesses or omissions. Excellent response which demonstrates the ability to deliver the Fire	<ul style="list-style-type: none"> • 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 7.1 • 240-RT&D-782 Technical Schedule for 	<ul style="list-style-type: none"> • Assessed as per Table 3 		40 %

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	Protection scope far in excess of minimum requirements.	Renewable Hydrogen Facility (Schedule H & Fire Protection Section of Schedule A)			
7.2	Fire Detection System: The fire detection system meets the provisions of specified standards. Full achievement of the requirements specified in the enquiry, demonstrated strengths, no errors, weaknesses or omissions.	<ul style="list-style-type: none"> • 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 7.2 • 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility (Schedule H & Fire Detection Section of Schedule A) 	<ul style="list-style-type: none"> • Assessed as per Table 3 		30 %
7.3	<p>By virtue of the Department of Employment and Labour (DEOL) mandate to the South African Qualifications and Certification Committee (SAQCC), any person designing, installing, commissioning or maintaining Fire Detection System needs to be certified by SAQCC at the appropriate level. The Contractor or the nominated sub-contractor provides proof of paid-up valid registration with the SAQCC-fire. The proof is submitted as the following documents:</p> <p>7.3.1. Fire Detection System: Proof of certification with FDIA (Fire Detection Installers Association) or FSIB (Fire Support Interoperability Board).</p> <p>7.3.2. Person's SAQCC registration card, with visible registration number and category registered for.</p> <p>7.3.3. Signed commitment of undertaking between the Contractor and the nominated sub-contractor if the registered</p>	<ul style="list-style-type: none"> • 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 7.3 	<ul style="list-style-type: none"> • 5 = Proof provided, fully compliant • 2 = Partial proof provided, not fully compliant. • 0= No Proof 		30 %

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	person if associated with a sub-contractor. *Where the Contractor provides certificate(s) of the registered person(s), it is accompanied by the person(s) C.V.				
8	Quality Assurance			Total: 5%	
8.1	Procedures for installation and commissioning show compliance to requirements for Hazloc, Elec. Installation & Motors Testing, with indicated compliance to SANS 10142 (Elec. Installations) and SANS 10108 (Hazloc), as a minimum.	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 8.1 240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility (Schedule I) 	<ul style="list-style-type: none"> Assessed as per Table 3 		40 %
8.2	Quality Control Plan	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 8.2 	<ul style="list-style-type: none"> Assessed as per Table 3 		30 %
8.3	Reference Check Sheets	<ul style="list-style-type: none"> 240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility: 8.3 	<ul style="list-style-type: none"> Assessed as per Table 3 		30 %
			TOTAL: 100		

Notes to tenderer:

1. An undertaking is required that resources identified would not be changed on award of Contract.
2. The CVs of key personnel should have experience which is comparable in nature to the works specified in this tender
3. It is required that key personnel, in particular, have good communication skill in the English language.
4. Where no information is offered by the Tenderer, no points shall be scored.
5. All technical data sheet, designs, operation and maintenance manuals, warranties, agreements with OEM, etc must be provided

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in English.

6. The deviation schedule as completed during tendering will be included as a contractual document
7. An undertaking is required that the electrolyser (make, model, OEM, etc) and other technical specification as presented in the tender will not be changed on award of Contract.

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