

 Eskom	Tender Questions and Answers	Document Identifier	240-7124948	Rev	1
		Effective Date	01 April 2023		
		Review Date	April 2026		

To whom it may concern	Date	25 JUNE 2025
	Enquiries	JEANETTE MAKUME
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Dear Sir/Madam

Request for Enquiry Number	E1256CXMWP
Description / Project Title	TO ENGINEER, PROCURE AND CONSTRUCT A WATER ELECTROLYSIS HYDROGEN GENERATION PLANT, WHICH MUST BE INTEGRATED WITH THE EXISTING RENEWABLE POWER PLANT FOR “GREEN H2 PRODUCTION” AT ERIC ROSHERVILLE FOR A PERIOD OF THREE (3) YEARS.
Tender Questions Closing Date	25 JULY 2025

Item	Reference:	Questions	Answers	Clarity Published Dates
1.	240-RT&D-151: 3.3.2 (a), 4.2.1	Dew point specification of 50 deg C is not sensible, please verify/clarify. Assume it should be “-50 deg C”.	That is correct the document should read “-50 deg C”.	10/06/2025
2.	240-RT&D-151: 3.3.2 (a)	Please clarify or elaborate regarding the statement: “heated dryer is not a requirement but a deoxidiser with heating element is”	Deoxidiser with heating element must be supplied. A dryer must be supplied, pressure swing dryer will be accepted, heated dryer will also be accepted if opted for.	10/06/2025
3.	240-RT&D-151: 3.3.2 (h)	Incomplete sentence, “Compressor for” Please clarify if a compressor is required and for what purpose	The fifth bullet point in section 3.3.2, h is an error and can be disregarded. ‘compressor for’. No additional compression is required as per the scope.	10/06/2025

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4.	240-RT&D-151: 3.3.2 (h)	<p>Please advise/clarify regarding “five of multicylinder pack connection panels...”</p> <ol style="list-style-type: none"> <li>1. What is the intended use of the multicylinder pack connection panels</li> <li>2. Where are these to be located? Upstream and downstream of the hydrogen storage vessels?</li> <li>3. What cylinders are intended to be connected?</li> </ol>	<ol style="list-style-type: none"> <li>1. Back-up.</li> <li>2. To be connected on the downstream of the metering panel and connection from MCPs hosted in metering panel.</li> <li>3. Hydrogen multicylinder packs.</li> </ol>	10/06/2025
5.	240-RT&D-151: 3.3.2 (k)	<p>Please advise clarity regarding the number of required test points for end-user container.</p>	<p>Five with double block and bleed and N2 purging connection, include 1 x flexible hose and regulator.</p> <p>1 x with flow rate at 200nm<sup>3</sup>/hr</p> <p>2 x with flow rate of 50nm<sup>3</sup>/hr</p> <p>2 x with flow rate 100nm<sup>3</sup>/hr</p> <p>For future end-user applications defined in 4.1.1.</p>	10/06/2025
6.	240-RT&D-151: 4.1	<ol style="list-style-type: none"> <li>1. Basis for purity and contaminant values is not specified.</li> <li>2. Please provide the basis, mass or volume?</li> </ol>	<p>1. As part of safe plant operation:</p> <p>At steady state the hydrogen purity from the electrolyser must be &gt;99.7% minimum production to maximum production rate. After the deoxidizer the hydrogen purity must be &gt;99.9%. Following a Nitrogen purge hydrogen with purity &gt; 99.5% can be bulk stored. The oxygen content of the produced hydrogen must be measured before bulk storage.</p> <p>Plant shall trip and purge automatically on low hydrogen purity with oxygen content ≥ 1%. If oxygen is &lt;1% produced hydrogen must be vented until hydrogen purity is ≥99.5%.</p>	10/06/2025

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			<p>As part of the design and safety, under no circumstance will it be allowed that contamination in the hydrogen and oxygen lines exceeds 1.6% during the transient state, and less than 1% during steady state. The contamination on the hydrogen and oxygen lines will not be able to exceed 1% measured directly after the cell stacks before deoxidizer.</p> <p>For data capturing purposes and not integral to the operation of the plant, the hydrogen purity directly after each individual cell stack shall be measured in ppm. The hydrogen content within the oxygen stream shall be measured in ppm. These values shall be through on-line instrumentation for data capturing.</p> <p>2. The configuration could be at maximum 1 x 50kW electrolyser, with multiple cell stacks (minimum two) or smaller electrolyzers, that provides a total hydrogen output of approximately 24kg/day at a 99.9% purity</p>	
7.	240-RT&D-151: 4.7.2.1	Please provide the unit of measure for the pump head. It is specified as 69H	69 H – meters head – which translates to approximately 690 kPa.	10/06/2025
8.	N/A - General	Please provide the potable water specification or can it be assumed SANS 241 is applicable.	SANS can be assumed as it will be municipal water.	10/06/2025
9.	240-56227413: 3.1.1	Are the site conditions stated in the standard applicable as site conditions for the design of the RHF at ERIC?	Yes – applicable to RHF at ERIC.	10/06/2025
10.	240-56227413: several	The word “generator” has not been defined in the standard. In some instances, it is used in the	In case of reference to ‘hydrogen generator’ it will be applicable to the electrolyser and in case of “generator” it will	10/06/2025

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		context of a gas generator which produces hydrogen, and in other instances it is used in the context of a device that is an electricity generator. Examples: 3.6.1 (e) “Purging of the entire generator within 30 minutes” – does this refer to the electrolyser or the electrical generator or both? 3.17.5 “Storage vessel pressure and reticulation monitoring, which shall be maintained at a minimum pressure of 500 kPa gauge or 100 kPa above Generator pressure, whichever is the greater, at all times.”	be applicable to power generator which is excluded from the scope.  3.6.1 (e) Applicable to power generator.  3.17.5. 500kPa is applicable to the scope.	
11.		Will deviations be allowed?	All deviation must be declared as part of the tender returnables. Where deviation are declared, provide an alternative proposal, which will be evaluated.	10/06/2025
12.		After closing, when can we expect the contract to be awarded?	Eskom’s procurement processes will be followed, however as this is a ‘Flagship Project’ unnecessary delays will be minimized.	10/06/2025
13.		Would you be interested in a long-term offtake agreement? A contractor would build, own, operate and maintain the plant. They will supply you with hydrogen.	No.	10/06/2025
14.		Will the pipe for gas supply be constructed by a contractor / be provided?	The scope of work is for engineer, procure and construct a water electrolysis hydrogen generation plant, which must be integrated with the existing renewable power plant for “Green H2 Production”. The plant must draw power from the local network, produce hydrogen and provide a tap in point for hydrogen offtake.	10/06/2025

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15.		Are there CIBD requirements for this contract?	Yes, CIBD requirement are given in the Invitation to Tender: Level 7ME / 7EP	10/06/2025
16.		For the fire detection system are their drawings for the tie-in points?	The drawings that are available are provided in the tender pack. Tie-in points will also be identified during the site walk.	10/06/2025
17.		In terms of the requirement for compression there is a discrepancy in the documents. In the Specification document, section 3.3.2, h, there is an incomplete sentence.	No additional compression is required as per the scope. The primary document that defines the scope is 'Annexure A Technical Specification for Renewable Hydrogen Facility'. The other documents provided in the pack, such as the Stakeholder Requirement Definition and Concept Design, are provided as Informative Documents and therefore provide background information. The fifth bullet point in section 3.3.2, h is an error and can be disregarded. 'compressor for'.	10/06/2025
18.		Are the BESS and Solar PV systems operational?	These plants are under maintenance. It is planned that they will be up and running at the time of commissioning.	10/06/2025
19.		In terms of plant / production specifications, what are the key performance parameters that needs to be met?	A maximum power consumption of 50kW was specified so that the plant can be classified as 'Green' based on the existing infrastructure. The production volume is provided as an indication.	10/06/2025
20.		Why is the system 'so small'?	The sizing is based on our needs.	10/06/2025
21.		Will you consider other electrolysis technologies.	Other electrolysis technologies may be considered as long as they meet the specification and comply with the Hydrogen System Standard (Annexure A & B)	10/06/2025
22.		What if the electrolysis technology does not have a 3-year track record?	This is a qualitative criterion therefore will be scored according to the evidence that is provided. Should one of the qualitative criteria not be met, a score of 0 will be given for that criterion, however should all other criteria be adequately met the tender may still pass the overall evaluation.	10/06/2025

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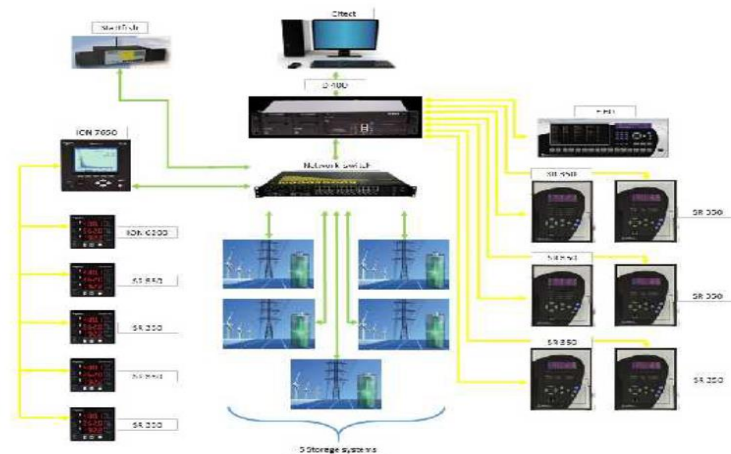
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23.		Must the fire system be connected at the pump room?	No, the fire system can be connected at a point closer to the RHF plant location.	10/06/2025
24.		For plant cooling, can municipal water be used, or must it be demin water?	Please refer to the requirements in the Hydrogen System Standard.	10/06/2025
25.		Does the signal from the BESS plant go to the control room?	No, there is a local control room on the BESS plant.	10/06/2025
26.		Is it permissible for bidders to propose more than one qualified hydrogen OEM—such as Option A and Option B—or must we commit to a single OEM at the time of tender submission?	There is no objection to the supplier proposing more than one hydrogen OEM. We support the request to submit an Option A & Option B.	10/06/2025
27.		The SCADA needs to interface with the PV plant and BESS, we would need to know what the existing control systems are to ensure that we allow for the correct network interface licencing and protocol support functionality. Please could this information be provided.	<p><b>Clarification for the PV Plant:</b></p> <p>The interface to the PV plant will be via the PV Plant Supply LV Panel located in the NW substation. In the panel there's an energy and power quality meter indicating the PV plant production. The meter is PowerLogic ION8650 that supports Modbus, DNP 3.0, IEC61850 protocols, Serial RS485 connections also supported.</p> <p>Also, part of the control system in the PV plant LV panel is the Siemens protection relay for voltage and frequency (7SR158), also supports Modbus, DNP 3.0, IEC60870-5-103 protocols, Serial RS485 connections also supported.</p> <p><b>Clarification for the BESS plant:</b></p>	18/06/2025

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An overview of the communication used between the various instruments and storage systems can be found in block diagram 1. The two communication types used within the battery system are RS485 (depicted in yellow) and Modbus (depicted in green). RS 485 is used between the various protection relays as well as the power meters. The protection meters each have their own dedicated RS485 port on the D400 RTU (remote terminal unit), in the case of the ION 6200 meters, they are daisy chained to the ION 7650's RS485 port 2. From the ION 7650, data is transferred via Modbus to the LAN switch.



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		tendencies are to capture these signals upon change rather, it would be our request for the same allowance to be considered.		
29.		The ability to do firmware updates and configuration tools – it is not specified if this is to be setup from within the SCADA interface to the PLC's or if this is to be done through a portable programming engineering station. Please clarify	The thinking is that with this being a research demo facility; firmware updates can be done from within the SCADA as opposed to having a dedicated engineering station	18/06/2025
30.		Please clarify the "Laboratory" facility connections to which the contractor must make available and the line pressure of these connections- also please clarify the amount of end use connections to be made available.	Five end user connection point, with double block and bleed and N2 purging connection, include 1 x flexible hose and regulator.  1 x with flow rate at 200nm <sup>3</sup> /hr 2 x with flow rate of 50nm <sup>3</sup> /hr 2 x with flow rate 100nm <sup>3</sup> /hr For future end-user applications defined in 4.1.1.	18/06/2025
31.	240-DT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility 2c)	1.3. Project Execution Plan and Project Program evaluation: assessed as per Table 3. Under which reference is Table 3 because we can't see it in the Reference written in the left column?	Table 3 is in the document saved as: 'Qualitative Technical Evaluation Criteria', on page 1, 'Table 3: Scoring Criteria'.  'Qualitative Technical Evaluation Criteria' provides the evaluation criteria and how each criteria will be scored. The scoring is either done according to the criteria provided in column 4 of Table 4 or as per Table 3 (on first page). 'Qualitative Technical Evaluation Criteria' refers to '240-RT&D-783 Tender Returnable Technical Schedule for Renewable Hydrogen Facility 2c)' which provide additional guidance on the information that must be provided in the tender submission for evaluation purposes.	25/06/2025

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32.	240-RT&D-782 Technical Schedule for Renewable Hydrogen Facility (Schedule B & C)	2.2. We have the following 3 questions about the evaluation of 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:	In the document 'Qualitative Technical Evaluation Criteria', in Table 4 under the requirements 2.2. there are 5 bullets. In the last column, you will see the note that states each bullet holds a weight of 5%, which make up a weigh for the criteria under 2.2 of 25%. i.e. The information you provide for each bullet will be assessed out of a score of 5 then added to get a total score out of 25.	25/06/2025
32.1		(i) Electrolyser Technology to be supplied: "Proton Exchange Membrane (PEM) or Anion Exchange Membrane (AEM) water electrolysis technology (preferred)". <b>What about other electrolysers? We intend to bid with Solid Oxide Electrolyser, how will this affect us in the evaluation criteria?</b>	Alternative electrolysis technologies will be assessed and score. A Solid Oxide Electrolyser could receive a passing score provided sufficient information which meets the technical requirements is provided. The evaluation team will use Table 3 when assessing this criterion. Depending on the specific information provided with the tender, the associated risk with the proposed technology will be assessed to determine if it is acceptable risk or unacceptable risk. The score will be assigned accordingly.	
32.2		(ii) Plant Operation parameters of maximum 50kW, 99.9% H2 purity, and production pressure of 27 bar. We can only meet the production pressure of 27 bar with compression. <b>Is it a requirement to meet the production pressure without compression?</b>	It is not a requirement to meet the 27 bar without compression. If your proposed plant requires a compression step to meet the 27 bar production pressure, it should be catered for in your proposal.	
32.3		(iii) Cell-stack life expectancy of >8 years. Minimum mean time between failures on cell stack.	Cell stack life expectancy will be evaluated based on Table 3, the evaluation team will assess how far the proposal is from meeting this particular requirement and the associated risk to	

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		<p><b>If the cell-stack life expectancy is less than 8 years, how will the evaluation look like?</b></p> <p><b>What does the minimum mean time between failures on cell stack mean?</b></p>	<p>determine if it is acceptable risk or unacceptable risk. The score will be assigned accordingly.</p> <p>Based on operational experience, how often does the plant fail? What is the period of time that passes between each plant failure.</p>	
33.				
34.				
35.				
36.				

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