



ऑयल इंडिया लिमिटेड
(भारत सरकार का उद्यम)
Oil India Limited
(A Government of India Enterprise)

Business Development Department
Plot No. 19, Sector 16A,
Noida – 201301, U.P.
Phone: 0120-2419160
E-mail: bddomestic@oilindia.in
Website:www.oil-india.com

Date: 06.03.2024

CORRIGENDUM NO.4 TO OIL e-tender NO.: CQI4810P24

DESCRIPTION OF WORK: Establish a plant of 1 MW capacity in Himachal Pradesh for production of High Purity (99.999%) Green Hydrogen for commercial use.

This Corrigendum is issued to notify the following changes in the tender:

1. Annexure – I (Amendments to the Scope of Work) (enclosed)
2. Annexure – II (Clarifications to bidders queries) (enclosed)
3. **Bid Submission Date – 27.03.2024 (11:00 AM server time)**

All others terms and conditions of the Tender remain unchanged.

Sd/-
Jyoti Sarkar
Senior Manager (BD)

Annexure – I
Amendments to the Scope of Work

Amendment / additions / changes in Scope of Work

OIL Tender -CQI4810P24 - Inviting bids for establishing a plant of 1 MW capacity for producing Green Hydrogen in Himachal Pradesh

Sl No.	Existing Clause	Amendment
1.	<p>Part -V Scope of Work</p> <ul style="list-style-type: none">• <u>Bidder's Responsibility:</u> <p>The Hydrogen Storage system should have a cumulative capacity to store a minimum of two (2) days worth of hydrogen production at minimum 350 bar. The total storage requirement shall consist of minimum two or more units of mobile cascade storage system.</p>	<p>The Hydrogen Storage system should have a cumulative capacity to store a minimum of two (2) days' worth of hydrogen production at minimum 200 bar. The total storage requirement shall consist of minimum two or more units of mobile cascade storage system.</p>

Amended - ANNEXURE-C

(To be filled by the manufacturer or channel partner with whom EPC contractor is having a valid Deed of Joint Undertaking)

We, M/s..... hereby confirm that we meet the qualifying requirements specified in 5.1.2 of BQC. In this regard, we declare that we are a manufacturer/authorize to manufacture electrolysers through a valid technology licensing or sublicensing arrangement with M/s (Technology Owner)..... of Water Electrolyser hydrogen generator system based on AEL/AEM/PEM /AMSE/SOE technology.

We/ (Technology owner)/ Entity Name (entity associated with such technology owner) have supplied a Water Electrolyzer hydrogen generator system based on AEL/AEM/PEM/ AMSE/SOE technology (same technology which is being supplied to OIL) of hydrogen production capacity and the system is installed, commissioned and is in operation satisfactorily for atleast three months prior to the bid due date. The above electrolyser system was supplied in the last ten years (from the original bid closing date) and should have been in successful operation for at least 3 (three) months prior to the original bid closing date.

The details of system are given below:

S. No.	Description	Data / details
1.	Name of client with full Address, Telephone No. and e-mail address	
2.	Name of Plant (Location and Address)	
3.	Name of Package / Contract along with Order/ LOA No. & Date	
4.	Capacity of Plant	
5a.	Scope of work included in the order	Indicate Yes / No
i.	Design	
ii.	Engineering	
iii.	Manufactured	
iv.	Supervised Erection	

v.	Supervised Commissioning	
5b.	Actual date of commissioning	
5c.	No. of years in successful operation prior to bid due date	
6.	Following documents are enclosed in support of meeting the stipulated qualifying Requirements	Indicate Yes / No
6a.	Letter of Award/ Contract Agreement /Order	
6b.	Proof towards Water Electrolyser Manufacturer for AEL / AEM / PEM / AMSE / SOE based hydrogen generation system (the same technology which is being supplied to OIL)	
6c.	Completion certificate from end customer for supply of the water electrolyzer based hydrogen generation system.	
6d.	Certificate/letter/e-mail from end customer for satisfactory operation of water electrolyzer system for at least three months prior to the bid due date. (The certificate shall indicate the type of water electrolyzer, its capacity, start-up date and current system operating status)	
6e.	Any other relevant documents	
7.	Whether order received directly from the Owner of Plant	

Note:

1. Bidder has to strictly fill detail as above while filling this Attachment to establish meeting the Qualification Requirement.
2. Copies of documents in support of above information shall be submitted as per BQC of Tender Document.

Annexure – II

Clarifications to Bidder's Queries

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
1	3.2	Sl. No. 1 of Corrigendum 3 Pg. 1 of 9	Hydrogen production shortfalls and excess energy consumption will be assessed quarterly, and the amount of the above price discount will be calculated and deducted from the operation and maintenance bill payable to the contractor on a quarterly basis. subject to a maximum 70% of the annualized O&M cost on annual basis.	Bidder submit that energy consumption of the hydrogen production facility will increase every year due to ageing / degradation. Accordingly, year on year increase in the energy consumption shall be allowed and excess energy consumption (if any) shall be derived post accounting for the ageing / degradation rate.	Tender is technology agnostic so power consumption increase coefficient will vary depending upon technology offered. Bidder to bid accordingly
2		Sl. No. 6 Pg. 4 of 9	The power consumption of the Electrolyser system (Including BOP) shall not be more than 60 kWh/ Kg of Hydrogen produced.	Bidder understands that the power consumption value of 60 kWh/kg is applicable for the PG Test and not during operation phase, as power consumption of Electrolyser system is bound to increase due to the ageing / degradation. Accordingly, bidder requests to allow year on year increase in the power consumption during the operation phase as mentioned in Sr. No. 1 above.	
3	2.20	Sl. No. 7 of Corrigendum 3 Pg. 4 of 9	The capacity of Electrolyser module/s to be supplied shall be minimum 17 Kg/hr or more. Bidder's to quote the capacity of electrolyzers module/s to be supplied.	Bidder requests OIL to kindly specify the upper limit of Hydrogen production capacity to be supplied in kg/hr. Also, such capacity quoted within the range of 17 kg/ hr to the upper limit should be considered for LCOH	Tender Clause Prevails

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
4	1.1	Annexure – II (Amendments to the BEC/BRC) Corrigendum 3 Pg. 9 of 9	<p>1.0 Eligibility Criteria</p> <p>1.1 Bidder shall be a manufacturer or a channel partner of the manufacturer of Water Electrolyser technology (Alkaline Water Electrolyser (AEL) or Anion Exchange Membrane (AEM) or Proton Exchange Membrane (PEM) or Alkaline Membrane Solid Electrolyser (AMSE) or Solid Oxide Electrolyser (SOE) technology). The Manufacturer or the Channel partner should have supplied at least one unit of electrolyser of minimum 500 KW capacity based on Water Electrolysis technology in last 10 years and should have been in successful operation for at least 3 (three) months prior to the original bid closing date.</p> <p>"Manufacturer" refers to an entity which is an original equipment manufacturer/Technology owner or authorized to manufacture electrolysers through a valid technology licensing or sublicensing arrangement with the technology owner.</p> <p>The qualifications of the manufacturer's technology owner or any entity associated with such technology owner shall also be considered.</p>	<p>Bidder understands that "ANNEXURE-A: QUALIFICATION DATA TO BE FILLED IN BY BIDDERS WHO ARE SEEKING QUALIFICATION AS PER CLAUSE NO. 1.1 in BEC" (pg. no 49 of 225) and "ANNEXURE-C: (To be filled by the manufacturer or channel partner with whom EPC contractor is having a valid Deed of Joint Undertaking)" should be suitably modified to take care of the latest amendment.</p> <p>Please confirm.</p>	Refer corrigendum 4
5	4.23	Sl. No. 16 of Annexure I of Corrigendum 1 Pg. 10 of 33	<p>Bidder will provide on line process analyser to monitor and control variables such as Hydrogen Purity, Gas Composition, Pressure, Temperature, Moisture content and Impurities for optimization, safety and quality assurance.</p>	<p>Bidder submits that for monitoring and control purpose online measurement of H2 purity, moisture, pressure & temperature are sufficient for optimization, safety and quality assurance. Additionally, Hydrogen in Oxygen measurement is required for safety purpose. Gas composition measurement is not required. Please confirm.</p>	Gas composition not required.

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
6		Sl. No. 7 of Annexure IV of Corrigendum 1 Pg. 20 of 33		As bidder will be responsible for the O&M and providing the guarantees for the 8000 hrs of operation, bidder shall be free to choose & provide the optimized Electrolyser System having standard Control & Instrumentation, equipment configuration & redundancies as per OEM recommendations meeting the safety and reliability requirement. Please confirm.	Bidder's Design Consideration
7		Clause No. 1.2 Specification & Requirements of PLC System, Page No-121 & 122	SOW SIL 2 Bidder shall assess the SIL level requirement as per the Hazop. However, the offered PLC systems (comprising CPU, Power supplies, its associated subcomponents and IOs) shall be minimum SIL2 certified from TUV as per standard IEC-61508/61511	The PLC specifications mentioned is SIL -2 which is required for refinery application due to criticality. We propose that OIL considers SIL-1 standard PLC configuration for this project as bidders already need to provide Hot standby CPU, RAM, Power Supply and Communication cards within SIL PLC. In all the installations that OEMs have in India for various sectors such as Steel, Power, Float Glass, Semi conductor, Pharma, Optial fibre etc., none of these plants has SIL-2 PLC requirements and redundancy in instruments. All critical instruments like for measuring pressure, temperature and level has switches and Transmitters.	Refer Corrigendum 1, under Annexure II (Instrumentation & Control system Requirements)
8		Clause No.4.14 Page 119	The suitable Hydrogen Dryer with a standby shall be provided to remove moistures from Hydrogen	We recommend 1 No. of Dryer system with no standby. For the dryer, it already has spare changeover Valves, Heaters and Molecular Sieve, which can be replaced immediately, in case replacement required. Without a standby Dryer, availability of more than stipulated 8000 hours operation per year is possible.	Bidder's Design Scope

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
9		Corrigendum 3, Annexure I Amedment to the Scope of Work Point No. 8	Hydrogen generation 17kg/hr (min) to 19kg/hr maximum. Hydrogen generation min 17kg/hr or more.	Value of Hydrogen output revised to minimum 17kg/hr, but no restriction of AC Power to be withdrawn from grid has been mentioned. To reduce the LCOH, any bidder can propose a plant of 50 Kg/hr capacity or equivalent, as the Capex increase is not proportionate as per Plant capacity increase. Bidder can give reference for 1MW / 1.2MW or 5 MW or any higher capacity MW making it non comparable level field among bidders and ambiguity in evaluation for owner . We request to either restrict the Power or alternatively redefine per Kg of Hydrogen generation with more broader/higher capacity range.	1 MW input Power
10		Corrigendum 3, Annexure I to the Scope of Work Point No. 4	Electricity power consumption for BOP	Please provide clarity for what all equipments to be considered in BOP for Power Guarantee. Utilities like Lighting, Ventilation, Water Plant/Water Treatment plant, Instrument Air, Cooling water system, Compressor for storage compliance etc., are to be considered or not part of BOP Power calculation per Kg of H2.	Refer 3.1 of Page 117 of 225
11		PBQ reply S.No. 6 Part of Corrigendum 1	Plant Location	Request OIL to define Upper Limit of area available as Bidder can offer higher capacity of Hydrogen Plant to lower LCOH, which shall require higher area Cost incurred due to area increase is not part of LCOH. Thus extra land will result into OIL Expense, although not part of LCOH for bidder.	Tender clause prevails

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
12		Corrigendum 3 Amendment to Price Bidding format	Clarity on Price Bidding Format	<p>The Price bidding Format provided has following issues -</p> <p>1. Column G - Applicable GST(Select from Drop down List) The cursor is not providing any option to select</p> <p>2. Similarly to "Select the Benefit sought under the policy" there is no option displayed to select.</p>	<p>1. Please enter applicable GST- Whether IGST or CGST + SGST/UTGST</p> <p>2. Mention the benefit in commercial Checklist</p>
13		NIT	LCOH	<p>We understand only Power consumed, total EPC cost, O&M cost only to be considered. No cost of water, chemical is part of LCOH Hope Bidder's understanding is correct</p>	<p>Comprehensive O&M cost to be considered</p>

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
14				<p>With reference to the OIL reply received in corrigendum-2(CORR2_CQI4810P24 Annexure-I, Sr No.7 Page No. 3 of 20), Electrolyser manufacturer / Channel partner can make DJU with only one EPC bidder.</p> <p>Above clause is restricting electrolyser manufacturer / Channel partner to tie up with more than one EPC bidder.</p> <p>As, there are very few Electrolyser manufacturer, it is very difficult for every EPC bidder to tie up with the different agency. On the other side, if Electrolyser manufacturer is allowed to make DJU with multiple EPC bidder, it will help more EPC bidders to participate and create a healthy competition. It will provide EPC bidder to select the technically & commercially competitive electrolyzer manufacturer.</p> <p>We request you to kindly revise the above response with the following: "The manufacturer/channel partner may tie up with multiple EPCs through separate Deed of Joint undertaking".</p> <p>Many PSUs have also allowed one electrolyzer manufacturer to tie up with mutiple EPC in their recent green hydrogen project. So we kindly request to amend the above clause for mutual benefit.</p>	Tender Conditions Prevails

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
15	Corrigendum 3	Sl. No. 2 / Page 3 of 9 Table 1	The Hydrogen Storage system should have a cumulative capacity to store a minimum of two (2) days' worth of hydrogen production at minimum 350 bar. The total storage requirement shall consist of minimum two or more units of mobile cascade storage system.	Configuration of number of compressor is to be decided and informed by OIL. i.e. 1 x 100% or 2x 100%, etc.	Bidder's Design scope
16	Corrigendum 3	Sl. No. 4 / Page 3 of 9 Table 1	Electricity power consumption excluding electrolyser system (BOP) at guaranteed rate	As per NIT, Page no. 108 of 225, Part-II Schedule of Work, Unit and Quantity (SOQ), definition of electrolyser System and BOP are as Electrolyser system (means stack, Feed water preparation section, rectifier, separator, dryer/ purification section and its pump, Exchangers & Compressor (as applicable)) BOP includes all other equipment and instruments excluding electrolyser system. Further, Compressor of 350 bar pressure for Hydrogen system and Borewell has been added in corrigendum. However, this compressor and borewell pumps are included in BOP or not, is not clarified. Further, depending upon water quality, water treatment system may come, if required. This may increase power consumption in BOP area. Query: It is not clear from this point, which electricity power consumption is being asked. Please clarify.	compressor and borewell pumps are included in BOP

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
17	Part -IV BIDDER'S SCOPE OF WORK & SUPPLY FOR BOP	Sl. No. 6 / Page 4 of 9	The power consumption of the Electrolyser system (Including BOP) shall not be more than 60 kWh/ Kg of Hydrogen produced.	As per NIT, Page no. 108 of 225, Part-II Schedule of Work, Unit and Quantity (SOQ), definition of electrolyser System and BOP are as Electrolyser system (means stack, Feed water preparation section, rectifier, separator, dryer/ purification section and its pump, Exchangers & Compressor (as applicable) BOP includes all other equipment and instruments excluding electrolyser system. Query: Further, Compressor of 350 bar pressure for Hydrogen system and Borewell has been added in corrigendum. However, this compressor and borewell pumps are included in BOP or not, is not clarified. Further, depending upon water quality, water treatment system may come, if required. This may increase power consumption in BOP area. Considering the above, we request you provide the updated definition of BOP and Electrolyser system. And also, power consumption requirement as applicable may be asked accordingly from bidders.	
18	2.5	Page 117/225	The green H2 with 99.999% purity shall be produced at 25 Kg/cm2 min, at the B/L.	Bidder requestss OIL to inform the end use of Hydrogen gas generated from the proposed plant, so that Bidder can give due consideration while design the plant.	Cannot be Provided

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
19	2.5	Page 117/225	The green H2 with 99.999% purity shall be produced at 25 Kg/cm2 min, at the B/L.	<p>a. Bidder understands that H2 outlet pressure at the B/L is 25 Kg/cm2 (a). OIL to confirm the same.</p> <p>b. During the pre-Bid meeting OIL informed that H2 gas shall be compressed at 250 bar and storage shall be provided for 2 days operation of the plant considering 24 hours operation. Bidder requests OIL to confirm the same.</p> <p>c. Bidder understands that Bidder to provide the electrolyser with generation pressure of 16 bar and then compressor will be provided to boost the pressure from 16 bar to 250 Bar. Bidder requests OIL to confirm the same.</p> <p>d. Bidder requests OIL to confirm the B/L distance of Hydrogen line from the electrolyser plant area.</p>	Refer Corrigendum 4
20	2.3	Page 117/225	<p>The quality of hydrogen produced will be as given below:</p> <p>i. H2 purity : 99.999 % min.</p> <p>Note: Third party certification from any NABL accredited / Government approved Laboratories / Agencies to be provided, certifying the purity of produced Hydrogen</p>	Bidder has considered analysers to measure the purity online and on continuous basis. Thus, third party certification is not envisaged by Bidder. Only Analysers will be calibrated at third party from any NABL accredited / Government approved Laboratories / Agencies.	Yes
21	2.10	Page 117/225	ii. Electrical power consumption by electrolyser system in terms of KWh/Kg of H2 produced	AC or DC power.	AC
22	2.10	Page 117/225	iii. Total Power consumption including BOP, in terms of KWhr/ Kg of H2 at 100% t'put	<p>a. Bidder understands that only continuous operation equipment will be considered under this power consumption for BoP with suitable duty factor for 24 hours operation of the plant.</p> <p>b. HVAC, lighting, fire system etc will not be considered under this power consumption for BoP.</p> <p>OIL shall confirm the same.</p>	Refer Corrigendum 1 & 3

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
23	3.5	Page 118/225	The electrolyser system may employ multiple rectifier and cell module (stack) design for added reliability and redundancy	Bidder requests OIL to confirm the acceptance of single stack electrolyser designed to generate the 100% capacity of the plant and 8000 hours of operation per year. This will have significant impact of the CAPEX and LCOH.	Under Bidder scope
24	3.5	Page 118/225	The electrolyser system shall be designed such that one or more modules can be removed online for maintenance, without affecting the plant operation.	Bidder requests OIL to confirm the acceptance of single stack electrolyser designed to generate the 100% capacity of the plant and 8000 hours of operation per year. This will have significant impact of the CAPEX and LCOH.	
25	3.8	Page 118/225	Bidder shall supply the mandatory and commissioning spares, consumables as required for electrolyser system for a minimum period of 3 (three) years. Bidder shall provide the list of the same	Comprehensive O&M for 10 years is in Bidder scope. Thus, Bidder understands that there is no requirement of mandatory spares in bidder scope, instead Bidder will supply all the required spares and consumable for the comprehensive O&M period of 10 years. Bidder requestss OIL to confirm the same.	Refer Corrigendum 3
26	3.12	Page 118/225	Bidder shall provide detail procedure for online removal and its maintenance of defective module/s or stack/s.	Bidder requests OIL to confirm the acceptance of single stack electrolyser designed to generate the 100% capacity of the plant and 8000 hours of operation per year. This will have significant impact of the CAPEX and LCOH.	Under Bidder scope
27	4.5	Page 118/225	The tariff rate shall be applicable as per the schedule of tariffs for industries approved by the Himachal Pradesh Electricity Regulatory Commission (HPERC) tariff order for DISCOM.	a. Bidder understands that tariff rate will be applicable only for construction power drawn by Bidder from the DISCOM. b. Required Green power on round the clock basis for comissioning and operation of the plant shall be provided by OIL on free of cost basis.	Refer Corrigendum 3
28	4.22	Page 118/225	All the rotary equipment like pumps, compressors (if applicable) etc. shall be with standby facility.	a. Bidder proposes to supply Lye pumps and other process pumps which is part of electrolyser OEM scope based on OEM's standard design. However cooling water pumps will be provided with 2x100%. Bidder requests OIL to confirm the acceptance.	Refer Corrigendum 3

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
29	8.6	Page 120/225	8.6 In case it is found that the equipment/ system has failed to meet the guarantees, the Contractor shall carry out all necessary modifications and/ or replacements to make the equipment/ system comply with the guaranteed requirements at no extra cost to Owner and re-conduct the performance guarantee test(s) with Owner's consent. In case the specified performance guarantee(s) are still not met, 10% of the line item 10 & 20 of SOQ shall be kept on hold as per the payment terms (in Part III SCC).	a. Bidder requests OIL to confirm the performance liquidated damage rate for any shortfall in the performance. b. Bidder requests OIL to confirm when the hold on the payment will be released by the OIL.	
30	11.0	Page 120/225	Training: Bidder will provide on-site training on operation, maintenance and troubleshooting of critical equipment like electrolyser system, etc. & control system to Owner's personnel after the Site Acceptance Test (SAT) if desired by Owner. The schedule, nomination & venue for the training shall be confirmed by Owner.	Bidder requests OIL to confirm the number of days for training. Training venue shall be on site only.	Bidders Scope
31	15	Page 148/225	15. Mandatory Instrumentation spares:	Bidder understands that wherever the installed quantity is limited to 1 no. then the spares shall be also limited to 1 no. only. Bidder requests OIL to confirm the same.	Comprehensive O&M under bidders scope
32	2.1	Page 156/225	4) All vents to be fitted with flame arrestor	Bidder understandss that only H2 and O2 vents shall be fitted with flame arrestor and other pipe line vents (for other services) does not require flame arrestor.	Bidders Scope
33	4	Page 160/225	4. Safety and Fire protection Requirements:	Bidder requests OIL to confirm whether the fire water will be provided by OIL at the terminal point or does Bidder need to install the fire water reservior along with jocky pumps etc.	Bidders Scope

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
34	1.5	Page 162/225	1.5. The bidder shall depute operation and maintenance personnel for smooth operation of the green hydrogen plant. The desired manpower is as mentioned below: i. Site in-charge (1no.) in general shift ii. Site shift officers/ operators: 1 no. in each shift (A/B/C shift) iii. Site maintenance technician: 1 no. (General Shift) iv. Helpers for maintenance / Operation: 1 or 2 nos. (General Shift)	Security guard is not mentioned in the manpower. Thus, Bidder understands that security guards are not required during the O&M period of the plant.	Under Bidder scope as O&M is comprehensive
35			Spares	Bidder requests OIL to confirm whether the required spares and consumables can be stored in the existing plant stores or does Bidder need to have arrangement for stores of spares & consumables.	In Plant
36		Page 162/225	COMPREHENSIVE OPERATION & MAINTENANCE (O&M) SERVICE:	Bidder requests OIL to confirm whether the required spares and consumables for O&M of the plant will be in Bidder scope or it will be procured by OIL and provided to Bidder as free issue items.	Bidder's scope
37		Page 162/225	The annual escalation for each completed year of Comprehensive Operation & Maintenance (O&M) of the Green Hydrogen Plant, starting from the date of successful SAT and continuing throughout the initial 10-year contract period, is limited to a maximum of 5% (five percent).	Bidder requests OIL to confirm whether the 5% escalation mentioned in the tender is over and above the Bidder price or Bidder need to consider 5% escalation while quoting in the Price Bid.	Bidder's to quote
38	X	Page 2/225	(x) Bid Security/EMD Amount : ₹ 1.35 Crores (INR One Crore Thirty Five Lakhs) only. Refer Clause No. 9.0 of Instruction to Bidder (ITB)	Bidder requests OIL to consider the EMD amount as 2% of the expected project cost and considering that it should be in the range of 25 to 30 lakhs.	Tender condition prevails
39	XIII	Page 2/225	(xiii) Amount of Performance Security : 10% of Contract value. Refer Clause No. 24.0 of Instruction to Bidder (ITB)	Bidder requests OIL to consider as 3% of the contract value.	Tender condition prevails

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply																								
40	10	Page 44/225	<p>10. Following prices of utilities shall be considered for LCOH calculation only, for all the 10(Ten) yrs.:</p> <table border="1"> <thead> <tr> <th>Sl. No</th> <th>Stream</th> <th>Unit</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Cost of renewable power</td> <td>Rs/kwh</td> <td>5.0</td> </tr> <tr> <td>2</td> <td>DM water</td> <td>Rs/ KL</td> <td>126.6</td> </tr> <tr> <td>3</td> <td>Nitrogen</td> <td>Rs/Nm3</td> <td>12</td> </tr> <tr> <td>4</td> <td>Cooling water</td> <td>Rs/ KL</td> <td>1.34</td> </tr> <tr> <td>5</td> <td>KOH or NaOH etc.</td> <td>Rs/ kg</td> <td></td> </tr> </tbody> </table>	Sl. No	Stream	Unit	Price	1	Cost of renewable power	Rs/kwh	5.0	2	DM water	Rs/ KL	126.6	3	Nitrogen	Rs/Nm3	12	4	Cooling water	Rs/ KL	1.34	5	KOH or NaOH etc.	Rs/ kg		<p>Bidder requests OIL to confirm the below points.</p> <p>a. OIL is not providing the DM water, Nitrogen, Cooling water and KoH for the plant operation and it will be generated/ provided by Bidder. Required power consumption and consumables are already considered for all these utilities under CAPEX and OPEX.</p> <p>Thus, Bidder requests OIL that cost of these utilities (DM water, Nitrogen, Cooling water, KoH) shall not be considered again for LCOH calculation.</p>	Refer Corrigendum 1 & 3
Sl. No	Stream	Unit	Price																										
1	Cost of renewable power	Rs/kwh	5.0																										
2	DM water	Rs/ KL	126.6																										
3	Nitrogen	Rs/Nm3	12																										
4	Cooling water	Rs/ KL	1.34																										
5	KOH or NaOH etc.	Rs/ kg																											
41	11	Page 44/225	<p>11. Bidder shall submit following information required for calculation of LCOH, as per the table given below in the price bid only:</p>	<p>Bidder requests OIL to confirm the below points.</p> <p>a. OIL is not providing the DM water, Nitrogen, Cooling water and KoH for the plant operation and it will be generated/ provided by Bidder. Required power consumption and consumables are already considered for all these utilities under CAPEX and OPEX.</p> <p>Thus, Bidder requests OIL that cost of these utilities (DM water, Nitrogen, Cooling water, KoH) shall not be considered again for LCOH calculation.</p>																									
42	30	Page 92/225	<p>30.0 TIMELY MOBILIZATION AND LIQUIDATED DAMAGES:</p> <p>b) If the contractor is unable to mobilize / deploy and commence the operation within the period specified in sub clause (a) above, it may requests OIL for extension of the time with unconditionally agreeing for levy and recovery of LD. Upon receipt of such a requests, OIL may at its discretion, extend the period of mobilization and shall recover from the CONTRACTOR, as an ascertained and agreed Liquidated Damages, a sum equivalent to @</p>	<p>Bidder requests OIL to delete the Liquidated damage against the site mobilization, since liquidated damage against delay in completion of works & services is already mentioned in the SCC.</p>	Tender condition prevails																								

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
			0.5% of contract value including mobilization cost, per week or part thereof of delay subject to maximum of 7.5% of the Contract Price.		
43		Page 111/225	Payment Terms:	Bidder requests OIL to kindly consider 10% advance along with purchase order against bank guarantee of 100% of advance amount.	
44		Page 111/225	<p>Payment Terms:</p> <p>1.1 Payment Term for Item sl. no. 10 of SOQ: 35%</p> <p>3. Supply of all the Electrolyser system/Containers along with its accessories at designated site. 35%</p> <p>4. Completion of Installation, Commissioning and Site Acceptance Test (SAT) of the Electrolyser system. 40%</p>	Bidder requests OIL to kindly increase to the 65% payment against SI no.3 and reduce the sl No.4 payment to 10%.	Tender condition prevails
45		Page 111/225	<p>1.2 Payment Term for Item sl. no. 20 of SOQ: 50%</p> <p>2. Successful completion of installation & commissioning of all the works in scope of work in all respects (excluding PGTR). 50%</p> <p>4. Site Acceptance Test (SAT) of the entire Green Hydrogen Plant. 20%</p>	Bidder requests OIL to kindly increase to the 60% payment against SI no.2 and reduce the sl No.4 payment to 10%.	
46	1.0 Bidder's Responsibility	116/223	Fabrication & Installation including all Civil, Electrical, Instrumentation Mechanical works at site	Bidder understands that additional land for fabrication and yard storage will be provided by Owner during project execution.	

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
47	4. BIDDER'S SCOPE OF WORK & SUPPLY FOR BOP, Clause 4.17	119/223	Plant should be design & built to meet all safety/environment/regulatory requirement required by factory Act, PESO, Electricity Act, CPCB/ HPSPCB, and/or all other applicable & relevant guidelines by authorities.	Bidder understands that obtaining Environment Clearance (Consent of Establish) from CPCB/HPSPCB will be under Owner's Scope.	owner's scope
48	2.3 Feed Water Tank	158/223	Optimization of Height & Diameter shall be done during Detailed Engineering with the approval of OIL	Owner to indicate the capacity of the feed water tank or the minimum number of hours of storage required.	Bidder's Design
49			General	Bidder requests Owner to provide Soil Investigation Report of the proposed site	Refer Corrigendum 1
50	1.0 Scope of work	116/225	The offered land will be free of encumbrances and has clear access to accommodate large container traffic required for setting up the 1MW Electrolyser	Bidder understands that 1MW is HT power for which will feed to hydrogen rectifier transformer. Please confirm	Refer Corrigendum 2 & 3
51	1.0 Scope of work	116/226	The offered land will be free of encumbrances and has clear access to accommodate large container traffic required for setting up the 1MW Electrolyser	OIL shall provide voltage level, power factor, fault level and provision of net metering(if any) of 1MW power.	
52	4.5 (BIDDER'S SCOPE OF WORK & SUPPLY FOR BOP:)	118/225	Sub-station requirements for off-taking power shall be constructed in line with state regulations to be connected with DISCOM systems in Himachal Pradesh. The tariff rate shall be applicable as per the schedule of tariffs for industries approved by the Himachal Pradesh Electricity Regulatory Commission (HPERC) tariff order for DISCOM.	Kindly define Scope of Bidder for approval/ liaison for Discom connection with respective Statutory Bodies;	Refer Corrigendum 3
53	4.0 Bidder Scope of work	118/227	Required green energy power of 33 kVA, 3 phase, 50 Hz feeders, each rated for 100% load will be provided from owner's end for electrical system of Green Hydrogen generation plant	Bidder requests to OIL to confirm any modification if required in existing HT Panel feeder or not. If yes, then share feeders details/Drawing for the same panel.	No Details

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
54	4.0 Bidder Scope of work	118/229	The bidder shall build infrastructure for a reliable source of electricity to power the green hydrogen generation plant	Bidder understands that all required power supply for Electrolyser and BOP will be provided by OIL. Bidder has not considered any renewable plant like solar or wind etc in our scope.	Refer Corrigendum 3
55			General	Kindly provide soil resistivity of plant area	Bidder's scope
56			General	Cable/ cable trench in the plant will be overhead or buried. Please confirm	Buried
57			General	Provision of emergency power requirement is not mentioned in the tender. Bidder understanding is that it is not required and DG is not envisaged by Bidder. OIL shall confirm the same.	Bidder's Design consideration
58			General	Bidder understands that material of bus bar of LT and HT panel and cable will be Aluminium. OIL shall confirm the same.	Bidder's Design consideration
59			General	As per the tender there is no provision of spare and spare feeder in LT and HT switchgear. Please clarify.	Comprehensive O&M under Bidders scope
60			General	Requirement of transformer tap changer (OLTC or OLTC) is not given in the tender. Kindly provide	Bidder's Design consideration
61			General	Bidder requests to share make list for the electrical & Mechanical item.	Bidder's Design consideration
62	Cl 1.1, Civil & Structural works	152 of 225	Geotech investigation and Soil Bearing Test (SBT), shall be carried out by Bidder	Bidder request to OIL to provide the geotech report for bidding purpose	Bidder's scope
63	Cl 1.1, Civil & Structural works	152 of 225	Leveling and grading of site	Bidder request to OIL to provide clearing, grubbing area of project site.	Bidder's scope
64	Cl 1.1, Civil & Structural works	152 of 225	RCC foundations of at least M35 grade for all modules, utilities, stationary and rotating equipment.	Bidder propose to consider RCC M25 & PCC M10. OIL shall confirm the same.	Bidder's Design consideration

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
65	Cl 1.1, Civil & Structural works	153 of 225	All open unit area shall be designed with motorable flooring (M35 grade) for heavy vehicle movement (minimum 200mm thick RCC) shall be provided.	Bidder propose to consider M25 grade. OIL shall confirm the same.	Bidder's Design consideration
66	General	-	Periphery fencing/ boundary	Bidder propose to consider peripheral fencing of height 2.0m from NGL. OIL shall confirm the same.	Bidder's Design consideration
67	General	-	Road Work	Bidder will propose WBM or compacted roads for Hydrogen plant and thickness shall be as per design. OIL shall confirm the same.	
68	General	-	Underground structures	Bidder request OIL to provide underground structures details to avoid any damages.	Bidder's scope
69	General	-	Below ground corrosion	Bidder request OIL to provide the below ground (soil) corrosion report to consider the galvanization and material thickness in BOM.	Bidder's scope
70	General		Hydrology report	Bidder request OIL to provide the hydrology report.	Bidder's scope
71	General		Topography report	Bidder request to OIL provide the topography report along with contour details.	Bidder's scope
72	General		Corrosion category	For the given location, C2 corrosion category is noted, bidder request to OIL please confirm.	Bidder's scope
73	General		Wind speed	Basic wind speed =39m/s in design as per IS-875(Part-3)-2015 Bidder request OIL to confirm the same.	Bidder's scope
74	General		Seismic zone	Seismic zone-IV & V (Himachal Pradesh) as per IS-1893(Part-1)-2016. Bidder request OIL to confirm the same.	Bidder's scope
75	General		Pipe racks	Bidder request to OIL to confirm any pipe racks are required or not, please confirm.	Bidder's Design consideration

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
76	3.5	118 of 225	The electrolyser system may employ multiple rectifier and cell module (stack) design for added reliability and redundancy. The electrolyser system shall be designed such that one or more modules can be removed online for maintenance, without affecting the plant operation.	Bidder requests OIL to clarify whether redundant electrolyser (2 X 50%) is to be supplied or a single unit (1 X 100%) is envisaged.	Bidder's Design consideration
77	16	150 of 225	Approved makes for instrumentation items:	Bidder requests OIL to provide approved makes for mechanical items also.	Bidder's Design consideration
78	2.2.24	157 of 225	Aluminum canopy cover for all outdoor pumps	OIL to clarify whether the canopy is required for complete assembly of pump or just the motors.	Bidder's Design consideration
79			Addendum SI No 4	Addendum 3 has removed the limit of hydrogen production since the earlier upper limit of 19 Kg/hr now stands withdrawn, however as per Tender document the project is envisaged for a 1 MW electrolyser. These two are contradictory and the bidder is unclear as to which limitation needs to be followed. Consequently, please either confirm that the Electrolyzer capacity cannot be higher than 1 MW, or alternatively please clarify & confirm that if a bidder wishes to offer say 35 Kg/hr Hydrogen production the same would be acceptable and will be evaluated on LCOH basis.	Power consumption capacity of 1MW

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
80				The energy consumption of electrolyser will change during the O&M period. The ageing of the hydrogen generation system is likely to impact the energy consumption per kg of the system over the period. We propose that evaluation criteria have provision of variance on energy consumption with defined tolerance limits. We intend to quote a Year-on-Year Production rate and Power consumption for each of the 10 years of O&M Period, which we request be treated for the LCOH evaluation as well as the benchmark for the O&M Quarterly performance.	Tender is technology agnostic so power consumption increase coefficient will vary depending upon technology offered. Bidder to bid accordingly
81				The hydrogen output of typical electrolyser declines with usage and ageing during the life of the electrolyser. The LCOH calculation considers the same hydrogen production levels for duration of 10 years during. However, electrolyser manufacturer has submitted that there will be natural change/decline of H2 production over the O&M period.	
82			Bank Guarantee	We are participating in the bid for OIL tender in Himachal Pradesh. We had asked our bank IDBI to issue a Bank Guarantee for the project as per the format issued by OIL. Our banker issued the bank guarantee from its branch based in Gurugram. The bank has inserted the below clause in the BG. The bank guarantee can be encashed from a branch based in Gurugram. As per tender, the BG must be payable from a branch based in Noida/Delhi. However, our banker has issued a BG that is payable from branch in Gurugram. Please advise if the BG will be acceptable as it is exercisable from a branch in Delhi NCR region.	Tender Clause Prevails

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
83				Client may please clarify When is the discounting for NPV calculation to be done. For example discounting a cashflow for the year in January/2025 will yield higher Present value compared to discounting considered at December/2025 of the same period	Discounting will be done on yearly basis in the same way for all the bidders
84				Client may please clarify wether a bidder submit a proposal not requiring a change in electrolyser up to 80,000 hrs eg. not required for the entire O&M period	Tender Clause Prevails
85	Corrigendu m Annexure 1 Addition to Clause 2.31		Lower Supply of Hydrogen:" The overall supply of Green Hydrogen will be accounted on quarterly basis vis-à-vis Green Hydrogen" & "If the plant fails to produce hydrogen as per the rate achieved and accepted during PGTR, the O&M contractor is liable to pay the owner the cost of shortfall in hydrogen supply (shortfall quantity in Kg X Rs 350/-) during the quarter. The amount will be recovered from the quarterly bill payable to contractor. "...	Client may please accept & clarify that: Consider the evaluation of performance be conducted on a yearly average basis, since the Tender asks for only 8000 hours of operation in a year which the system needs to be designed & perform at 100% capacity. (refer Page 117/225 of Tender document Clause 2.8 Part IV Technical Scope of Work) and hence on quarterly basis any short fall calculated on a 8670 yearly basis would impose undue commercial impact even though on an annual basis the 8000 hours operational output will be met.	Refer Corrigendum 3
86	Corrigendu m Annexure 1, S No 3 Table 2		Amended Clause 11 Table 2	Client may please clarify Since the O&M Costs given by the bidder covers the consumption of utilites, and the figures sought under Table 2 are not to be used in Bid evaluation, Cleint may please confirm that these figures can be provided by Bidder during detailed engineering stage.	Tender Clause Prevails

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
87	SL No 20 of Corrigendum 1, Amendment to Clause 8		PERFORMANCE GUARANTEE TEST RUN (PGTR): Subclause 8.1.2, 8.1.3, 8.1.4	Client may please clarify the following The Penalty levied for any shortfall in performance is only regarding Production rate to be achieved as per clause 3 given at Page 12 of 33. Please clarify how shortfall if any during PGTR on the following items such as Power Consumption, Hydrogen Purity, and Hydrogen Output pressure will be evaluated.	Refer Corrigendum 3
88	Corrigendum 1 Annexure 1 Clause 3	" If the contractor fails again then for every 0.1 shortfall in hydrogen guaranteed supply rate (Kg/hr) below the committed value, a penalty of 1% of the total Contract Value (i.e., total sum of all the Supply and installation) shall be levied. In case the Contract Performance Security has already been encashed on account of any default/delays, the penalty amount will be recovered from any due payments to the contractor. "	The statement given in Clause 3 is not very clear when compared to the sample sheet calculation given after the statement. Client may please clarify the following 1) Whether a telescopic penalty rate is being applied for shortfall in Hydrogen Production if the production shortfall exceeds the first 0.5 Kg/hr. i.e. the first 0.1 Kg/hr shortfall is levied at 1% of Contract Value and the next shortfall between 0.6 Kg/hr to 1 Kg/hr will be levied at 2% of contract Value per Kg/hr shortfall, 2) and in case there is a shortfall of more than 1Kg/hr than guaranteed the Plant will be rejected. 3) that for Production rates quoted between 18 Kg/hr and 19 Kg/hr the telescopic rates will become applicable. 4) Client may please confirm that for production rate of 17 Kg/hr,	Refer Corrigendum 3
89	Corrigendum 1 Addition to Clause 2.31		In case the hydrogen production Shortfall is more than 0.5 kg/hr than the guaranteed value but above 17kg/hr, then the total plant will be accepted on as-is basis & the total Contract Performance. Security submitted by the contractor will be forfeited & payments linked to PGTR will not be made. "	Please confirm that this sentence in the clause will not be applicable for Hydrogen Production Guarantee figure of 17 Kg/hr. Please also clarify our understanding which is as below; That this provision given in corrigendum indicates that in case say for a 19 Kg/hr guaranteed figure, if PGTR proves capability at 17.9 Kg/hr, the discount levied will be 1) 20% of Contract Value as per Table shown, 2) Performance security encashment of 10% and 3) PG test payment	Refer Corrigendum 3

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
				forfeiture i.e 10%, thus totaling to a discount of 40%	
90				<p>As per the issued corrigendum – 3, the power consumption of Electrolyser (including BOP) should not exceed 60kWhr/kg. We understand that the definition of BOP includes the components viz. Feed water preparation section, rectifier, separator, dryer/ purification section and its pump, Exchangers which encompasses the Electrolyser system including stack.</p> <p>Note that we are going to tie-up with an Electrolyser OEM who can deliver Hydrogen at your required pressure of 25kg/cm².g (we offer at 40bar) and doesn't require a compressor to compress upto the rated required hydrogen pressure. Needless to say a Hydrogen compressor would be required to compress to 350bar but it is intermittent operation only.</p> <p>Also, as per the recent MNRE and SECI guidelines, only Stack+BoP which are continuous operating equipment are considered for PLI award.</p> <p>Hence, bidder understands that for 60kWhr/kg limit only continuous operating equipment like Electrolyser will be considered and not Hydrogen compressor which is an intermittent operating equipment.</p>	Refer Corrigendum 3

S. No.	Section	Clause No. / Page No.	Description as per Tender	Bidder's Queries	OIL's Reply
91				Bidder understands that Electrolyser stack is considered as a finished good and not a raw material and sourcing of Electrolyser stack from vendors of the countries sharing land border with India will have to get registered with Competent Authority.	Yes