



ऑयल इंडिया लिमिटेड

(भारत सरकार का उद्यम) पंजीकृत कार्यालय: दुलियाजान, असम

**Oil India Limited**

(A Government of India Enterprise) Registered Office "Duliajan, Assam"

प्लॉट. नं. 19, सेक्टर 16-ए, नोएडा-201 301, उत्तर प्रदेश

Plot No. : 19, Sector 16-A, Noida-201 301, Uttar Pradesh

दूरभाष / Telephone : 0120-2419000 फैक्स / Fax : 0120-2488310

CIN : L11101AS1959GOI001148 ई-मेल / E-mail : oilindia@oilindia.in, वेबसाइट / Website : www.oil-india.com

### **NATIONAL EXPRESSION OF INTEREST**

**BD (G)/05/06/EOI/2021/290**

**August 26 , 2021**

**LAST DATE OF SUBMISSION: 15 :00 HRS (IST) OF 10/09/2021.**

### **APPLICATION DOCUMENT**

**Sub: Inviting applications for establishing a pilot project for producing Green Hydrogen in Assam**

(This document is meant for the exclusive purpose of establishing pilot project for producing Green Hydrogen shall not be transferred, reproduced, or otherwise used for purposes other than that for which it is specifically issued).

1.0 OIL INDIA LIMITED (OIL), a Government of India "NAVARATNA" Category Enterprise, is engaged in Exploration, Production & Transportation of Crude Oil and Natural Gas and Production of LPG in India with participating interest in E&P sector in various overseas projects. OIL with intent to contribute towards Government of India's efforts for cleaner and greener fuel has established a total of 174.1 MW of Wind Energy Power Plants distributed over the states of Rajasthan, Gujarat and Madhya Pradesh. OIL has also established two Solar Power Plants (SPP)s of capacity 14.0 MW in Jaisalmer, Rajasthan and 500 KW at Jorhat & 304 KW at different operational locations of OIL. As on date, a total of 188.904 MW of Renewable Energy is under OIL's portfolio.

**OIL intends to establish a pilot plant for production of Green Hydrogen to blend with natural gas and use the hydrogen for running fuel cell-based vehicles for demonstration purpose.**

2.0 **Oil India Limited** invites applications from eligible Indian companies/Global Companies having their subsidiaries in India /their consortium, herein after called applicant, based on Single Stage Single Envelope system for shortlisting and selection of applicants for establishing a pilot plant for production of Green Hydrogen.

### **3.0 Intent of Expression of interest:**

OIL intends to:

- I. produce Green Hydrogen and evaluate the technical and commercial feasibility.



- II. blend the Green Hydrogen with natural gas for enhancing the calorific value of natural gas.
- III. evaluate the effect of the blended natural gas on the transportation network (Pipelines) infrastructure.
- IV. Establish a green hydrogen re-fueling station for running fuel cell-based vehicles.
- V. Evaluate different configurations of blending equipment, electrolyser technologies and hydrogen storage based on technical specifications, cost, timeline for implementation, life cycle cost, area required, footprint etc.

Based on the results OIL intends to establish similar systems in commercial scale in other parts of the country.

#### **Scope of Work:**

##### **OIL's responsibility:**

- Will provide land for installation and commissioning of system within OIL's premises and provide necessary support during Operation & Maintenance (O&M).
- Facilitating the applicant in applying for statutory clearances for the project.
- Support during data collection.
- Provide Solar Energy up to 500 KWp for production of Green Energy
- Capital Investment in procuring, installation and commissioning the system

##### **Applicant's Responsibility:**

- Design of the Green Hydrogen plant based on the selected technology.
- Design of the blending system and hydrogen storage which best fits the intended use case.
- Engineering, supply of the complete system along with spares, erection, testing and commissioning of the system and integration with natural gas pipeline.
- Getting the required statutory clearances for installing the system.
- O & M of the plant for a period of 2 (Two) years from the date of successful commissioning.
- Data collection and analysis of the performance of the system during testing and subsequent operation in consultation with R & D team of OIL.
- Sharing of stack & system level information with R&D team of OIL for in depth understanding of the system.
- Co-Application to the foreground IP developed during the project with R&D Team of OIL.
- The Applicants are required to provide the following as a single package
  - a. Electrolyser, Compressor, Hydrogen storage and Dispenser required for refuelling Hydrogen vehicles
  - b. Blending equipment
    - i) Details about the pilot project are enclosed at **Annexure I**.
    - ii) The response(s) received in the EoI will be utilized by OIL for:
- Selection of appropriate technically feasible and cost-effective technology for producing Green Hydrogen.
- Identification of possible configurations of hydrogen blending system including all components.



- Formulation of specifications for various systems required for execution of pilot/commercial project(s).
- Examining viability of the CAPEX and OPEX over the lifetime, with a minimum period of data collection for 2 years.
- Identification of companies/their consortiums capable of manufacturing electrolyzers and providing hydrogen blending solutions and Hydrogen refuelling station for vehicles for future commercial projects.
- The applicants shall ensure compliance to OIL's HSE policy as mentioned in **Annexure-II**.

#### 4.0 **Technical Qualifying Criteria:**

- i. The applicant must be in the business of Design, erection, installation and commissioning.
- ii. The applicant must possess its own technology or valid licence with a minimum 2-year relationship with the technology owner / developer / IP Owner.
- iii. The applicant or its Proprietor/ Partner(s) / Director(s) of the Firm should not have been convicted by a Court of Law for an offence involving moral turpitude in relation to business dealings during the past seven (7) years. The applicant shall give an affidavit to this effect. The affidavit must be affirmed before the competent judicial authority or duly notarized by the Notary. Besides, applicant should furnish litigation history of their firm or group firm. The litigation history shall include:
  - (i) Arbitration cases pending.
  - (ii) Disputed incomplete works.
  - (iii) Pending civil cases against the firm and/or its Proprietor / Partner(s) / Director(s) involving moral turpitude in relation to business dealings.
  - (iv) Pending criminal cases against the firm and / or its Proprietor / Partner(s) / Director(s) involving moral turpitude in relation to business dealings.
  - (v) Punishments awarded under civil cases and/or criminal cases involving moral turpitude in relation to business dealings to the firm and/or its Proprietor/ Partner(s)/ Director(s).
  - (vi) The applicants should meet all the above requirements /criteria as on the application submission due date. The application of only those applicants, who meet the above requirements / criteria, will be considered.

#### 5.0 **Financial information:**

- a) Annual Financial Turnover of the applicant during preceding three financial / accounting years from the original EoI closing date.
- b) Net worth of applicant as at the end of the preceding financial/ accounting year.

#### **NOTE :**

- i) For proof of Annual Turnover & Net worth, any one of the following documents/ photocopies must be submitted along with the bid: -



Audited Balance Sheet along with Profit & Loss account.

OR

A certificate issued by a practicing Chartered / Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per format prescribed in **Proforma-I**.

ii) Considering the time required for preparation of Financial Statements, if the last date of preceding financial / accounting year falls within the preceding six months reckoned from the original bid closing date and the Financial Statements of the preceding financial / accounting year are not available with the bidder, then the financial turnover of the previous three financial / accounting years excluding the preceding financial / accounting year will be considered. In such cases, the Net worth of the previous financial / accounting year excluding the preceding financial / accounting year will be considered. However, the bidder has to submit an affidavit/undertaking certifying that the balance sheet/Financial Statements for the financial year 2020-21 has actually not been audited so far.

iii) In case the applicant is a Central Govt. organization / PSU /State Govt. organization / Semi-State Govt. Organization or any other Central / State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidence for the same.

**NOTE : APPLICATION BY CONSORTIUM:**

Application from Consortium comprising maximum three (3) members (one Leader and other members) are also acceptable. The technical eligibility criteria as stated in Para 4.0 (i) and 4.0 (ii) above have to be fulfilled by any one member of the consortium and documentary evidence has to be provided along with the application. The technical eligibility criteria as stated in Para 4.0 (iii) have to be fulfilled by all the consortium members and documentary evidence in this respect has to be provided by all the members. Further, in respect of financial information as stated in Para 5.0 above, documentary evidences for all the members of the consortium have to be submitted.

i) Each member in a consortium shall be a legal entity and not an individual person.

ii) The consortium agreement shall essentially identify the "Leader" and the "member" and shall be submitted in the format provided in the EoI Document.

iii) The division in scope of work between Consortium members shall be commensurate with their experience. The overall Project Management shall be performed by the Leader. All Members of the Consortium shall assume responsibility jointly and severally and shall submit Agreement / MOU along with the EoI clearly defining the scope and responsibility of each member along with nomination of the Leader.

iv) The Consortium leader and the distribution of work will be identified and set forth in the EoI and will not be permitted to change thereafter without the consent of OIL.



v) The selected leader of the Consortium shall be authorized to incur liabilities and receive instructions for and on behalf of the consortium.

vi) Any applicant or entity can apply either singly or as a member of only one consortium.

vii) The member of the consortium shall give Power of Attorney (POA) to the Leader of Consortium.

**Note:** Format for consortium is enclosed as **Annexure-III**

## **6.0 INFORMATION TO BE SUBMITTED BY THE APPLICANT:**

Applicants are required to submit the duly filled up **application form** with all supporting documents/certificates in the **Attachments 1,2,3,4,5 & Response Sheet No.1,2,3,4,5** including **Annexure-1, 2 & 3** as enclosed along with EOI.

## **7.0 Instruction to the Applicants:**

- a) The Application Document can be downloaded free of cost from our website [www.oil-india.com](http://www.oil-india.com)
- b) All costs incurred by applicant for preparing and submitting the Application for Enlistment, in providing clarification or any other expenses whatsoever shall be borne by Applicants themselves, regardless of the conduct or outcome of the enlistment process.
- c) The Application for enlistment is non-transferable.
- d) Applicants are required to furnish all information and documents as called for in this document in English language. Any printed literature furnished by the Applicant in another language shall have to be accompanied by an English translation, which shall govern in case of any variation.
- e) The person signing the application and submitting on behalf of the Applicant shall enclose Power of Attorney duly authorized and notarized for the same. The Power of Attorney shall be backed by copy of the Board Resolution of Company.
- f) The financial data must be in **Indian Rupees** only.
- g) All the pages of the Application for Enlistment and attachments should be signed and corrections and over writings should be countersigned by the authorized signatory.
- h) If it is established that the Applicant has submitted fraudulent documents or has indulged into corrupt and fraudulent practice at any point of time, the Applicant would be debarred from the Enlistment / tendering / taking up of work in OIL.
- i) OIL reserves the right to cross check and confirm the information / details furnished by the Applicant at any time during the period of enlistment.
- j) The Company reserves the right to cancel/withdraw the EoI or annul the process at any time prior to enlistment, without thereby incurring any liability to the applicants or any obligation to inform the applicants of the grounds of Company's action.
- k) Subsequent to shortlisting, the shortlisted applicants will be invited to submit bids in respect of specific enquiry for the Development /execution/ implementation of Green Hydrogen Plant However, at the time of submission of bids in response to specific projects, the short-listed applicant's technical and financial capability may be re-assessed for the capacity and capability as per the Eligibility Criteria for the specific project.



## 8.0 Evaluation methodology:

- A. After initial screening of all the applications on the basis of the criteria as mentioned in clause no 4 above, the offers submitted by the qualified applicants will be further evaluated by OIL considering the following parameters:
- a. Life cycle cost of the plant to be provided in the attached format no:  
**Annexure-IV.**
  - b. Project completion timeline
  - c. Amount of area in sq. meter required to install the plant.
  - d. Technology: Proprietary or licensed.
  - e. Reliability and scalability of the technology.
  - f. Simplicity of design
  - g. Willingness to share foreground IP with R&D Team of OIL.
- B. The qualified applicants will be shortlisted.

## 9.0 DOCUMENTS ALONG WITH APPLICATION:

Applicants must furnish documentary evidence in support of fulfilling the entire above requirement as under:

- a) Purchase Order / Work Order and job Completion Certificate or any other equivalent documents from their clients which can substantiate their claim towards experience. Audited Balance Sheet and Profit & Loss Account etc. along with the Bid to establish experience / track record and financial capabilities meeting Bid Eligibility Criteria.
- b) Company Profile, address, concerned person and his/her contact details, organizational set up with details of professional technical and financial capabilities.
- c) Documents in the form of copies of relevant pages of Contract and Completion Certificate or final bill payment documents etc. or any other documents issued by their clients in support of executing the job as mentioned in the Scope of Work of the EoI, during last 7 years prior to the bid closing date of the tender.
- d) Organizational set up for Planning, Scheduling, Procurement & Project Management, Construction Management, Quality Management, Inspection & Expediting and Monitoring & Control at Applicant's Office.
- e) Health, Safety and Environment (HSE) policies, implementation procedures in line with internationally accepted practices and statistics covering the last two (2) years.
- f) List of policies, procedures and quality assurance & quality control practices currently in place for execution of similar work
- g) List of IP held by the company on Electrolyser technology / Electrolyser stack technology, dispensing station, certification on the products of the company.

#### **10.0 Address for submission of Application:**

Interested Applicants are requested to visit our website [www.oil-india.com](http://www.oil-india.com) for further details on the above and submit their Application Expressing their interest in shortlisting as Applicant with all relevant credentials **latest by September 10, 2021 till 15:00 Hrs (IST)** to the following email addresses as per the formats given herewith:

- [dulalcnath@oilindia.in](mailto:dulalcnath@oilindia.in)
- [rk\\_tamuli@oilindia.in](mailto:rk_tamuli@oilindia.in)
- [sksaikia@oilindia.in](mailto:sksaikia@oilindia.in)
- [B\\_choudhury@oilindia.in](mailto:B_choudhury@oilindia.in)

11.0 For any technical clarification, the applicant may contact:

**Mr. S K Saikia**  
**General Manager (BD-RE)**  
**Oil India Limited**  
**Plot No.19, Sector-16A, Noida-201301**  
**Email: [sksaikia@oilindia.in](mailto:sksaikia@oilindia.in)**  
**Mobile: 9971002012**



## APPLICATION FORM

Oil India Ltd.  
Plot No 19, Sector-16,  
NOIDA-201203

Sub: EoI No. ----- **Inviting applications for establishing a pilot project for producing Green Hydrogen in Assam.**

*Gentlemen,*

Having examined the Eligibility Criteria and other conditions including all attachments thereto, the receipt of which is hereby duly acknowledged, we hereby furnish our application for the enlistment.

Attachments to the Enlistment form:

In line with the requirement of the Enlistment Documents we enclose herewith the following Attachments to our application:

- (a) **Attachment 1:** A scanned copy of power of attorney duly authorized by a Notary Public indicating that the person(s) signing the application has/have the authority to sign the application and thus the application is binding upon us (To be submitted in physical form in a separate sealed envelope(s) if enlisted).
- (b) **Attachment 2:** Scanned copies of the documentary evidence establishing terms of **Eligibility Criteria** as per clause no 4.0 above.
- (c) **Attachment 3:** Documents as per clause no 7.0 above.
- (d) **Attachment 4:** Filled up response Sheets and Annexures attached
- (e) **Attachment 5:** Additional Information included with the Proposal.

We have read all the provision of the Enlistment Documents and confirm that notwithstanding anything stated elsewhere in our application to the contrary, the provisions of the Enlistment Documents are acceptable to us and we further confirm that we have not taken any deviation to provision of the Enlistment Documents anywhere in our Application.

We understand that you are not bound to accept our application or any other application you may receive.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2021

-----  
Signature

\_\_\_\_\_  
(In the capacity of)



**APPLICANT'S GENERAL INFORMATION****To**

Oil India Ltd;  
Plot No 19, Sector-16,  
NOIDA-201203

Sub: EoI No. ----- **Inviting applications for establishing a pilot project for producing Green Hydrogen in Assam.**

SN	Description	Details
1	Name of the Applicant	
2	Status of Firm/ Company: [Mark √]	Proprietorship Firm / Partnership Firm/ Company (Private or public)
3	Brief description of the Company/Consortium etc. including details of its business groups/subsidiaries	
3	Number of years in the business	
4	Registered Office Address:	
5	Operational Address:	
6	Telephone No. & Fax No.:	
7	E-mail ID & Website:	

8. **Documents to be enclosed:**

**Technical Credentials** – Relevant Product/System catalogues, Experience /Reference List, Copies of Customer Certificates, Engineering strengths, collaborations/tie-ups with manufacturer (if applicable), quality accreditations, etc.

**Financial Information** – Copies of Audited Financial statements (Annual Reports) for last 3 years, Credit Rating, Market share (Domestic/International), Segmental Revenue in the applied category.

9. Any other documents considered relevant.

(Sign & Company Seal)  
Authorized signatory



**INFORMATION TO BE SUBMITTED BY APPLICANT**

**To**

Oil India Ltd;  
Plot No 19, Sector-16,  
NOIDA-201203

Sub: EoI No. ----- **Inviting applications for establishing a pilot project for producing Green Hydrogen in Assam.**

1. Suggested electrolyser technology, hydrogen storage and details of blending skid along with configuration (P&ID) which best fits the use case.
2. Technical specification of the entire system for pilot project and requirements to be made available at the location of implementation.
3. Approximate power requirement of all major components.
4. Area footprint of the pilot project.
5. As per setup's design, minimum natural gas flow to be defined below which blending may seize.
6. Timeline for implementing the pilot project.
7. Estimated capital investment for the pilot project with cost breakup of all major components as listed below (not exhaustive):
  - a. Electrolyser
  - b. Hydrogen Purifier
  - c. Hydrogen Storage
  - d. Blending equipment
  - e. Control System
  - f. Water Purifier (if required)
  - g. Installation and Commissioning
  - h. Miscellaneous Items
8. Estimated maintenance cost and operation cost for 3 years with spares and consumables.
9. Previous experience of the applicant in implementing hydrogen-based projects, blending of flammable gases or hydrogen with natural gas, hydrocarbon industry or any other relevant sector.

(Sign & Company Seal)  
Authorized signatory



**FINANCIAL INFORMATION****FINANCIAL DATA FOR LAST THREE AUDITED FINANCIAL YEAR**

<b>Sl. No.</b>	<b>Description</b>	<b>FY 2018-19</b>	<b>FY 2019-20</b>	<b>FY 2020 - 21</b>
1	Current Assets			
2	Current Liabilities			
3	Working Capital			
4	Annual Turnover			
5	Paid up share capital			
6	Free Reserves & Surplus			
7	Net Worth of Applicant's funds			
8	Profits before taxes			

Attached are copies of the last three Annual Reports /audited balance sheets, including all related notes, and income statements as indicated above, complying with the following:

- i) All such documents reflecting the financial situation of the applicant.
- ii) Historic financial statements must be audited by a certified accountant and must be complete, including all notes to the financial statements.
- iii) Historic financial statements must correspond to accounting periods already completed and audited (no statement for partial periods shall be accepted).

**Signature of Applicant**



**DECLARATION**

**To**

Oil India Ltd;  
Plot No 19, Sector-16,  
NOIDA-201203

Sub: EoI No. ----- **Inviting applications for establishing a pilot project for producing Green Hydrogen in Assam.**

Dear Sir,

We hereby confirm that we are not under any 'liquidation', any 'court receivership' or similar proceedings and 'bankruptcy' and we agree that if any noticed in future, our application may be rejected / terminated.

In case the applicant has any dispute in court of law of any kind which can affect the manufacturing, supply, installation, commissioning of hydrogen generation system & O&M Contract, in such case the applicant shall furnish the status of all cases along with all relevant documents.

**Signature of Applicant**



**ELIGIBILITY CRITERIA**

Sub: EoI No. ----- **Inviting applications for establishing a pilot project for producing Green Hydrogen in Assam.**

Applicant's Name:

This Questionnaire duly filled in, signed & stamped must form part of the application:

Sl. No.	DESCRIPTION	APPLICANT'S CONFIRMATION
<b>TECHNICAL CRITERIA</b>		
1	The applicant must be in the business of Design, erection, installation, commissioning of hydrogen plants.	
2	The applicant must possess its own technology or valid licence from the original owner of the technology	
<b>FINANCIAL INFORMATION</b>		
3	a) Annual Financial Turnover of the applicant during any of preceding three financial / accounting years from the original EoI closing date should be submitted.  b) Net worth of applicant as at preceding financial/ accounting year end to be provided.	
4	For proof of Annual Turnover & Networth, any one of the following documents/ photocopies must be submitted along with the application: - Audited Balance Sheet along with Profit & Loss account. OR A certificate issued by a practicing Chartered / Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per format prescribed in <b>Proforma-I</b>	
5	Considering the time required for preparation of Financial Statements, if the last date of preceding financial / accounting year falls within the preceding six months reckoned from the original EoI closing date and the Financial Statements of the preceding financial / accounting year are not available with the applicant, then the financial turnover of the previous three financial / accounting years excluding the preceding financial / accounting year will be considered. In such cases, the Net worth of the previous financial / accounting year excluding the preceding financial / accounting year will be considered. However, the applicant has to submit an affidavit/undertaking certifying that the balance sheet / Financial	



Sl. No.	DESCRIPTION	APPLICANT'S CONFIRMATION
	<p>Statements for the financial year 2020-21 has actually not been audited so far.</p> <p>In case the applicant is a Central Govt. organization / PSU / State Govt. organization / Semi-State Govt. Organization or any other Central / State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, applicant to provide documentary evidence for the same.</p>	
	<p><b><u>Notes:</u></b></p> <p>(a) The applicant shall furnish documentary evidence by way of copies of Contract / Purchase Order, Completion Certificate or any other equivalent document which can substantiate their claim towards experience, Audited Balance Sheet and Profit &amp; Loss Account etc. along with the application to establish experience / track record and financial capabilities.</p> <p>(b) The applicant or its Proprietor/ Partner(s) / Director(s) of the Firm should not have been convicted by a Court of Law for an offence involving moral turpitude in relation to business dealings during the past seven (7) years. The applicant shall give an affidavit to this effect. The affidavit must be affirmed before the competent judicial authority or duly notarized by the Notary. Besides, applicant should furnish litigation history of their firm or group firm (if claiming fulfilment of BRC on group entity terms). The litigation history shall include:</p> <ul style="list-style-type: none"> <li>(i) Arbitration cases pending.</li> <li>(ii) Disputed incomplete works.</li> <li>(iii) Pending civil cases against the firm and/or its Proprietor / Partner(s) / Director(s) involving moral turpitude in relation to business dealings.</li> <li>(iv) Pending criminal cases against the firm and / or its Proprietor / Partner(s) / Director(s) involving moral turpitude in relation to business dealings.</li> <li>(v) Punishments awarded under civil cases and/or criminal cases involving moral turpitude in relation to business dealings to the firm and/or its Proprietor/ Partner(s)/ Director(s).</li> </ul> <p>(c) The applicants should meet all the above requirements / criteria as on the application submission due date. The application of only those applicants, who meet the above requirements / criteria, will be considered.</p>	



Sl. No.	DESCRIPTION	APPLICANT'S CONFIRMATION
	(d) The Company reserves the right to cancel/withdraw the EoI or annul the process at any time prior to enlistment, without thereby incurring any liability to the applicants or any obligation to inform the applicants of the grounds of Company's action.	

**Signature of Applicant**



**Establishing a pilot project for producing Green Hydrogen in Assam.****1. Details of the project:**

- Location of the pilot project will be at PS#3, Jorhat Assam
- The required electricity will be provided from the 500 KWp Solar Power project available in the site.
- The project capacity should be determined suitably based on the capacity of the solar project.
- Based on the successful completion of the project OIL may decide to set up larger projects in the country.

**2. Natural Gas Composition of Assam:**

Typical Natural Gas Composition	% Vol
Methane	98.80
Ethane	0.61
Propane	0.19
n-Butane	0.04
i-Butane	0.03
n-Pentane	0.01
i-Pentane	0.01
Hexene+	0.17
N <sub>2</sub>	0.05
CO <sub>2</sub>	0.09
O <sub>2</sub>	0.00
Density Kg/m <sup>3</sup>	0.6939
Gas Gravity	0.05662
GCV Kcal/scm	9155
NCV Kcal/scm	8247.20

**3. Natural Gas Pressure and Temperature at the point of injection:**

- Pressure: up to 40 Kg/cm<sup>2</sup>
- Temperature: Maximum - 50 Deg C, Minimum - 10 Deg C.

**4. Hydrogen Purity and Pressure:**

- The hydrogen purity should be 99.99%
- Pressure should be suitable to inject into the natural gas line (40 Kg/cm<sup>2</sup>) and refuelling in the vehicle.
- The expected production quantity per day of green Hydrogen(in Kg) to be indicated by the applicant with respect to OILs existing 500KWp Solar Power plant

**5. Hydrogen Storage:**

- Both stationery and mobile storage facility should be considered as per requirement.

6. The applicant should consider any other requirement apart from the items mentioned above as per design consideration.



**7. Miscellaneous:**

- All safety aspects to be considered while designing and integrating different components of the systems.
- Required civil works in the scope of applicant.



## SAFETY GUIDELINES

### GENERAL HSE POINTS TO BE INCORPORATED IN THE CONTRACT

1. It will be solely the Contractor's responsibility to fulfil all the legal formalities with respect to the Health, Safety and Environmental aspects of the entire job (namely; the person employed by him, the equipment, the environment, etc.) under the jurisdiction of the district of that state where it is operating. . All sub-contractors hired by him must comply with the same requirement as the contractor himself and shall be liable for ensuring compliance all HSE laws by the sub or sub-sub-contractors.
2. Every person deployed by the contractor in the project must wear safety gadgets to be provided by the contractor. The Contractor shall provide proper Personnel Protective Equipment as per the hazard identified and risk assessed for the job and conforming to statutory requirement and company PPE schedule. Safety appliances like protective footwear, Safety Helmet and Full Body harness has to be DGMS/BIS approved. Necessary supportive document shall have to be submitted as proof. If the Contractor fails to provide the safety items as mentioned above to the working personnel, the Contractor may apply to the Company (OIL) for providing the same. OIL will provide the safety items, if available. But in turn, OIL will recover the actual cost of the items by deducting from Contractor's Bill. . However, it will be the Contractor's sole responsibility to ensure that the persons engaged by him in the site(s) use the proper PPE while at work.
3. All the safety gears mentioned above are to be provided to the working personnel before commencement of the work.
4. The Contractor shall prepare written Safe Operating Procedure (SOP) for the work to be carried out, including an assessment of risk, wherever possible and safe methods to deal with it/them. The SOP should clearly state the risk arising to men, machineries & material from the operations to be done by the contractor and how it is to be managed.
5. The contractor shall provide a copy of the SOP to the person designated by the owner i.e Site Engineer who shall be supervising the contractor's work.
6. Keep an up-to-date SOP and provide a copy of changes to a person designated by the Engineer In charge.
7. Contractor must ensure that all work is carried out in accordance with the Statute and SOP and for the purpose he may deploy adequate qualified and competent personnel for the purpose of carrying out the job in a safe manner. For work of a specified scope/nature, he should develop and provide to the owner a site(s) specific code of practice.
8. All persons deployed by the contractor for working in the project must undergo Tower climbing training initial medical examination, PME. They should be issued cards stating the name of the contractor and the work and its validity period, indicating status of IME & PME.
9. The contractor shall ensure that the person working must have electrical Supervisor, certificate from competent authority of state Government such as Chief Electrical Inspector or equivalent as provided in the act
10. The return shall be submitted quarterly (by 10th of April, July, October & January) for contracts of more than one year. However, for contracts of less than one year, returns shall be submitted monthly.
11. It will be entirely the responsibility of the Contractor/his supervisor/representative to ensure strict adherence to all HSE measures and statutory rules during operation in project site(s) and safety of workers engaged by him. The crew members will not refuse to follow any instruction given by Company's Site Engineer / Official for safe operation.



12. Any compensation arising out of the job carried out by the Contractor whether related to pollution, Safety or Health will be paid by the contractor only.
13. Any compensation arising due to accident of the Contractor's personnel while carrying out the job, will be payable by the contractor.
14. The contractor shall have to report all incidents including near miss to Site Engineer of OIL India within 24 hours of any such occurrence.
15. The contractor has to keep a register of the persons employed by him/her. The contractor's Work Site Supervisor shall take and maintain attendance of his men every day for the work, punctually.
16. If the company arranges any safety class / training for the working personnel at site (company employee, contractor worker, etc) the contractor will not have any objection to any such training.
17. The health check-up of contractor's personnel is to be done by the contractor in authorized Health Centres as per OIL's requirement & proof of such test(s) is to be submitted to OIL. The frequency of periodic medical examinations should be every five years for the employees below 45 years of age and every three years for employees of 45 years of age and above.
18. To arrange daily toolbox meeting and regular site safety meetings and maintain records.
19. A contractor employee must, while at work, take reasonable care for the health and safety of people who are at the employee's place of work and who may be affected by the employee's act or omissions at work.
20. A contractor employee must, while at work, cooperate with his or her employer or other persons so far as is necessary to enable compliance with any requirement under the act or the regulations that is imposed in the interest of health, safety and welfare of the employee or any other person.
21. Contractor's arrangements for health and safety management shall be consistent with those for the project owner.
22. In case Contractor is found non-compliant of HSE laws as required company will have the right for directing the contractor to take action to comply with the requirements, and for further non-compliance, the contractor will be penalized prevailing relevant Acts/Rules/Regulations.
23. When there is a significant risk to health, environment or safety of a person or place arising because of a non-compliance of HSE Measures Company will have the right to direct the contractor to cease work until the non-compliance is corrected.
24. The contractor should prevent the frequent change of his contractual employees as far as practicable.
25. The contractor should frame a mutually agreed bridging document between OIL & the contractor with roles and responsibilities clearly defined.
26. For any HSE matters not specified in the contract document, the contractor will abide the relevant and prevailing Acts/rules/regulations/ pertaining to Health, Safety and Environment.



## Annexure-III

(ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

### CONSORTIUM AGREEMENT

This Consortium Agreement executed on this..... Day of..... between M/s....., a company incorporated under the law of ---- and having its registered/ principal office at..... (herein after called the 'Member -I/' 'Lead Member ' which expression shall include its successors, executors and permitted assigns) and M/s....., a company incorporated under the laws of ----- and having its registered/ principal office at ..... (herein after called the 'Member - II/' 'Second Member'..... 'Member - III/' 'Third Member which expression shall include its successors, executors and permitted assigns), for the purposes of making a bid and entering into a contract (in case of award) in response to bid document no..... for the work of ..... (Name of project) of M/s..... (Herein after called the 'Owner').

WHEREAS, ..... for the work of .....

AND WHEREAS as per tender documents, Consortium entities will also be considered by the Owner provided they meet the specific requirements in that regard. As a pre condition of bidding documents, the Consortium bidder shall provide in its bid a Consortium Agreement in an acceptable format in which the Member s to the Consortium are jointly and severally liable to the Owner to bind themselves to the bid conditions accept the contract award, if selected and perform all the contractual obligations thereto.

AND WHEREAS the bid is being submitted to the Owner vide our proposal dated ..... based on the Consortium Agreement being these presents and the bid with its bid forms and submission documents, in accordance with the requirement of tender conditions and requirements have been signed by both the Member s and submitted to the Owner.

NOW THIS INDENTURE WITNESSETH AS UNDER:

In consideration of the above premises and agreements both the Member s to this Consortium do hereby now agree as follows:



1. We the Member s in the Consortium hereby confirm that the name and style of the Consortium shall be..... Consortium.
2. In consideration of the bid submission by us to the Owner and the award of contract by the Owner to the Consortium (if selected by the Owner), we the Member s to the Consortium, hereby agree that the Member – I (M/s..... ) shall act as the lead Member for self, and for and on behalf of Member – II / Member – III and further declare and confirm that we shall jointly and severally be bound unto the Owner for execution of the contract in accordance with the contract terms and shall jointly and severally be liable to the Owner to perform all contractual obligations including technical guarantees. Further, the Lead Member is authorized to incur liabilities and receive instructions for and on behalf of any or both Member s of the CONSORTIUM and the entire execution of the Contract including receiving/ making payments, shall be done exclusively by the Lead Member.
3. In case of any breach of the said Contract by any of the Member s of the CONSORTIUM, we hereby agree to be fully responsible for the successful execution/ performance of the Contract in accordance with the terms of the Contract.
4. Further, if the Owner suffered any loss or damage on account of any breach of the Contract or any shortfall in the completed equipment/ plant, meeting the guaranteed performance parameters as per the technical specifications/ contract documents, the Second & Third Member of these presents undertakes to promptly make good such loss or damage caused to the Owner, on the Owner's demand without any demure. It shall neither be necessary nor obligatory on the part of the Owner to proceed against the Lead Member to these presents before proceeding against the Second & Third Member .
5. The financial liability of the Member(s) to this Consortium Agreement, to the Owner with respect to the any or all claims arising out of the performance or non-performance of the Contract shall, however be not limited in any way so as to restrict or limit the liabilities of either of the Member .
6. Division of responsibilities of Scope of work among different consortium members is as per **APPENDIX I (Responsibility Matrix)** to this Consortium Agreement.
7. It is expressly understood and agreed between the Member s to this agreement that the responsibilities and obligations of each of the Member s shall be as delineated in **APPENDIX I'** to this agreement. It is further agreed by the Member s that the above sharing of responsibilities and obligations shall not in any way be a limitation of the joint and several responsibilities of the Member s under the Contract.
8. This Consortium Agreement shall be governed, construed and interpreted in accordance with Laws of India courts of ..... shall have exclusive jurisdiction in all matters arising thereunder.
9. In case of award of contract, we the Member s to this Consortium Agreement do hereby agree that we shall furnish the contract performance guarantee in favour of the Owner from a bank acceptable/ approved by the Owner for a value as stipulated in the Contract Award and such guarantee shall be in the names of both the Member s of the Consortium.



10. It is further agreed that this CONSORTIUM Agreement shall be irrevocable and shall form an integral part of the Contract and shall continue to be enforceable till the Owner discharges the same. It shall be effective date first above mentioned for all purposes and intents.

11. This Agreement remains in force till the end of Defects Liability Period.

IN WITNESS WHEREOF, the Member s to this Consortium agreement have, through their respective authorized representatives, have executed these presents and affixed their hands and common seal of their respective companies on the day, month and year first abovementioned.

For M/s. (.....Member

1. Seal of  
M/S.

has been affixed in my/ our presence  
pursuant to Board Resolution dated

Signature.....

Designation

.....  
(Signature of authorised Representative)

Name :

Designation:

For M/s.  
(.....Member - II

1. Seal of  
M/S.

has been affixed in my/ our presence  
pursuant to Board Resolution dated

Signature.....

Designation

.....  
(Signature of authorised Representative)

Name :

Designation:

For M/s.  
(.....Member - III

1. Seal of  
M/S.

has been affixed in my/ our presence  
pursuant to Board Resolution dated

Signature.....

Designation

.....  
(Signature of authorised Representative)

Name :

Designation:



## APPENDIX I TO CONSORTIUM AGREEMENT

### (RESPONSIBILITY MATRIX)

LEADER:

MEMBER I:

MEMBER II:

#### NOTE:

1. The overall Project Management shall be performed by the Leader.
2. Scope / Responsibility of Members in this Consortium should commensurate with their Past Experience.



**Annexure-IV**

Sl. No	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year .....	Year n
1	Capital Investment for the pilot project with cost breakup of major components:								
1a	Electrolyser								
1b	Hydrogen Purifier								
1c	Hydrogen Storage								
1d	Blending Equipment								
1e	Control System								
1f	Water treatment, if any								
1g	Compressor								
1h	Installation and Commissioning cost								
1i	Miscellaneous Items								
2	Operational and Maintenance Cost. Cost on Spares and consumables to be shown separately.								
3	Decommission/ Disposal Cost net of salvage value, if any.								

Note: 1. The break-up of capital cost should include all major components. Items at Sl. No. 1a to 1i are indicative only.  
2. Foreign Exchange component against each of the items of cost should be separately indicated.  
3. Taxes and duties against each of the items of cost should be separately shown.  
4. Additional Rows and Columns may be incorporated as per requirement of the Applicant.



**CERTIFICATE OF ANNUAL TURNOVER & NET WORTH**

TO BE ISSUED BY PRACTISING **CHARTERED ACCOUNTANTS' FIRM** ON  
THEIR LETTER HEAD

**TO WHOM IT MAY CONCERN**

This is to certify that the following financial positions extracted from the audited financial statements of ..... (Name of the Bidder) for the last three (3) completed accounting years upto .....**(as the case may be)** are correct.

<b>YEAR</b>	<b>TURN OVER</b> In INR (Rs.)	<b>NET WORTH</b> In INR (Rs.)

Place:

Date:

Seal:

Membership Number and Firm Registration Number :  
Signature

-----XXXX-----