

INVITATION FOR EXPRESSION OF INTEREST (EOI)
FOR
Surface Facilities for Production of High Pressure
Natural Gas from Baghjan Field on BOOT
(Build-Own-Operate-Transfer) basis

(EOI NOTICE NO.: OIL/EOI/PROJ/BOOT/BGN-01 dated 25.05.2021)

1.0 PREAMBLE:

OIL INDIA LIMITED (OIL), a Government of India Enterprise under the Ministry of Petroleum and Natural Gas, is a premier up-stream Oil Company engaged in the business of Exploration, Production & Transportation of Crude Oil & Natural Gas as well as production of LPG, having its Headquarter at Duliajan, Assam in India. The company has operating interests across the country as well as in several foreign countries. The major oil & gas producing assets of the company are located in Upper Assam Basin of North East India, barring a hydrocarbon-producing asset in Rajasthan

Oil India Limited has currently stepped up its exploration and development activities of Baghjan field for production of Natural Gas. Towards this objective, one Field Gas Gathering Station (FGGS) having facilities for the production of natural gas is to be created.

2.0 OBJECTIVE:

- OIL intends to utilize the services of Service Providers/Agencies/Firms who have the expertise in Design, Supply, and Installation & Commissioning including Operation & Maintenance of a Field Gas Gathering Station (FGGS) at Baghjan. Accordingly this EOI is floated for seeking expression of interest (EOI) from suitably experienced Service Providers / Agencies / Firms for Design, Supply, and Installation & Commissioning including Operation & Maintenance of a Field gas gathering Station (FGGS) on BOOT (Build-Own-Operate-Transfer) basis.
- Investment: Service providers shall be responsible for investment in CAPEX and OPEX required for creation of the facility and Operation & Maintenance including supply of all materials and consumables.
- Duration of service: Design, Engineering, Procurement, Construction, commissioning & PGTR within 27 months after issuance of LOA followed by **10 years** of Operation & Maintenance of the plant and Transfer the Facility to OIL thereafter.
- Operation of the Facility: The Facility shall be in operation round the clock on 24 X 7 basis.

3.0 LOCATION OF THE AREA

The proposed site at Baghjan oilfield is nearly 45 KM from Tinsukia. Nearest railway station is Tinsukia which is about 25 KM by road from the the site. Nearest airport Dibrugarh which is about 65KM from the site.

4.0 BROAD SCOPE OF WORK:

The scope of work/services includes but not limited to the following:

- a) Design, engineering, project management, procurement, manufacture, supply, transportation, storage, construction, erection, testing, commissioning, conducting performance guarantee tests and O&M for a period of 10 years and Transfer the FGGS to OIL.

The installation shall have the following facilities in general. This is indicative only and the Party has to provide any other facilities as per operational and statutory requirement.

- Gas (NAG & AG) production / processing facility of 5.0 MMSCMD capacity, comprising of all equipment and items as per design and requirement.
 - Gas Dehydration Unit of capacity 5.00 MMSCMD
 - Effluent Treatment Plant of capacity 1000 KLPD
 - Non-luminous, enclosed ground flare system with Flare Stack, as per design and requirement.
 - The auxiliaries and utilities as per operational and statutory requirement for the entire 5 MMSCMD plant.
 - Various Utility systems as envisaged are Fuel Gas System, Process Control System, Water Treatment and Supply system, Instrument Air system, Gas Measuring system including Gas Analysers / Gas Chromatographs, Contaminated Rain Water System, Fire Fighting & Protection system as per applicable standards, Gas based Captive Power Plant, Gas and Fire Detection System, Emergency shutdown systems, Chemical dosing system, Telecommunication system, CCTV system, Electrical system etc.
 - Storage Tanks for Formation Water (raw and treated) and Fire Water as per requirement.
 - Utility Buildings like Control Room, Electrical Sub Station, Office, Staff accommodation, Security infrastructure, Maintenance Yard, Material Godown and other infrastructure etc.
- b) The station shall be built, maintained and operated as per applicable OISD and OMR' 2017 guide lines and as per Law of the Land or provision(s) of Acts in force. All works/systems shall be designed and constructed in accordance with the prevalent National/International codes and practices with applicable safety codes/standards/API standards. All electrical apparatus, instrumentation items/system shall be suitable for the hazardous area classification as per applicable National/International standards and statutory regulations

- c) Within the contracted period there may be possibility of increase/decrease in gas availability as well as composition also, which may warrant the contractor to source and install additional process facilities/ units with prior notice from OIL.

5.0 **DESIGN BASIS**

The entire plant will be modular in structure both in terms of layout and operation to the extent possible.

a) **Design Capacity**

Non Associated Gas: 5.0 MMSCMD with provision for expansion.

Gas Dehydration Unit : 5.0 MMSCMD

b) **Wells, flow rates and operating/design conditions**

Total numbers of gas wells to be produced are expected to be 25 nos. However, number of well to be connected to the facility for production will be in phases and shall be decided by OIL. Normal Flow rate of each well is expected to be 0.2 MMSCMD (Design flow rate 0.3 MMSCMD). Operating and design conditions are indicated below.

Well Operating Pressure (maximum/minimum), Kg/cm ² g	320 / 100
Well Operating Temperature (maximum/minimum), °C	20 / 7
Design Pressure, Kg/cm ² g	350
Design Temperature (maximum/minimum), °C	100 - 20

c) **FEED GAS/ INLET GAS CHARACTERISTICS**

Gas Composition and Properties

The gas in Baghjan field is sweet in nature (no sulphur). The gas is saturated with water and condensate and gas composition is typical and is subject to variation. The indicative inlet gas compositions and properties are as below.

Components	Average (Volume %)
C ₁	90.481
C ₂	4.408
C ₃	1.339
i C ₄	0.240
n C ₄	0.330
i C ₅	0.120
n C ₅	0.110
C ₆	0.170
N ₂	0.920
CO ₂	1.829
H ₂ O	0.054

Properties	Average Value
Gas specific gravity	0.607
Gross Calorific Value, BTU/SCF	1014.48
Net Calorific Value, BTU/SCF	921.81
Water Content (Gas), lbs/MMSCF	77.58

d) Desired Product Gas / Outlet Gas Characteristics

Water dew point @ 25 ksc(g)	: $\leq 0^{\circ}\text{C}$ (Zero Deg C).
Suspended particle size	: <10 microns
Outlet Pressure: For gas lift purpose	- 85 Kg/cm ² g to 90 Kg/cm ² g
For Sales Gas	- 23 Kg/cm ² g to 25 Kg/cm ² g

e) Desired Outlet Water (outlet of ETP) characteristics

Oil content	: < 10 ppm
Sludge content	: Nil

6.0 SITE DATA

A plot of land measuring 45 Bigha 4 katha 0 lessa (60648 Sq. Mts approx) covered by brick boundary wall is available for the Facility. The entire plot is graded and leveled.

Average ambient conditions of the site is as below

Design ambient temperature Maximum, °C	40
Design ambient temperature Minimum, °C	7
Dry bulb temperature Maximum, °C	36
Dry bulb temperature Minimum, °C	8
Average Rainfall (in full monsoon)	194.2 cm
Average Rainfall (in 24 hours)	15.9 cm
Wind velocity at 10m height	50 m/s
Maximum relative humidity	93%

7.0 SAFETY AND OTHER COMPLIANCES:

The Service Provider/ Contractor/ Vendor is expected to have established health, safety, security and environment management system and shall have to comply with the applicable and prevailing provisions of The Mines Act, 1952, OMR 2017, OISD (Oil Industry Safety Directorate) guidelines, Labour laws/ rules & Amendments, MoE&F (Ministry of Environment and Forest) directives of India and any other applicable statutory regulations as per the law of the land.

The following studies are to be carried out and necessary documentation/reports are to be generated and submitted to OIL. Approval

from OIL and other statutory bodies, as applicable are to be obtained by the Contractor.

- HAZOP Study
- Quantitative Risk Assessment Study (QRA)
- ERA Study:
- Safety Integrity Level study (SIL)
- Escape Evacuation and Rescue Analysis Study (EERA)
- Disaster Management Plan (DMP) and Environmental Impact Assessment (EIA) Study
- Any other study as per statutory requirement.

8.0 PRE-QUALIFICATION CRITERIA

8.1 The Service Provider should be a registered company in India as per Government laid down policy.

8.2 The prospective interested party is technically as well as financially competent on its own or through a Consortium of Companies or Joint Venture Company. Consortium or Joint Venture EOI(s) shall be submitted with clearly defining the role/scope of work of each partner of Joint Venture /members of the consortium. Joint Venture Agreement or Memorandum of Understanding (MOU) between the consortium members duly signed by the Authorized Executives of the Joint Venture partner or consortium members will be required during bidding stage. Detail modalities of participation in case of consortium of companies or Joint Venture will be a part of the Tender.

8.3 The Service Provider Shall indicate on what capacity they wants to bid i.e. either as single entity, JV, Consortium etc.

8.4 The Service Provider / Contractor / Vendor must be in the business of Construction of Field Gas Gathering Station (FGGS) or Natural Gas Processing Station or Oil Collecting Station (OCS) or Group Gathering Station (GGS) or Oil Refinery in hydrocarbon sector (except hydrocarbon pipeline job) in BOOT/EPC mode, including Design, Engineering, Procurement and Operation and Maintenance.

9.0 Service Provider/ Contractor/ Vendor will demonstrate their experience and capability against this EOI.

10.0 Service Provider/ Contractor/ Vendor/ Company will provide the following Information:

- Details of Service Provider/ Contractor/ Vendor's Company Incorporation along with Date and Place of Incorporation.
- Contact Details
 - Name of concerned person
 - Designation
 - Telephone number
 - Mobile number
 - Fax number
 - Address e-mail

