EXPRESSION OF INTEREST (EOI)

EOI for Hiring of services for Gel pigging operations of pipelines in Western Offshore on pilot basis

1. Introduction

Oil and Natural Gas Corporation Ltd. (ONGC / Corporation), a major oil Exploration and Production Company in India, intends to engage Services for Gel Pigging for Offshore pipelines.

At present ONGC western offshore is operating offshore pipelines network of 757 nos. of pipelines measuring 7495 Km in length. These include Trunk pipelines, Collector pipelines, Well Fluid pipelines, Water Injection pipelines Gas lifts pipelines and Bay lines. The sizes of pipelines vary from 4" to 42". The MOC of pipelines are normally Carbon Steel, API 5L grade. Some of the pipelines are flexible, internally cladded and epoxy coated. Most of the pipelines are being pigged on regular basis. Some of the pipelines are difficult to pig due to various constraints i.e. non-piggability by design due absence of pigging facility / non-operable pigging facilities, existence of clamps, valve dia. restriction etc. In view of these constraints, Gel pigging is planned for 12 pipelines on pilot basis. The list of the pipelines covered for Gel pigging is placed at Appendix-A.

2. Key Information and Dates

EOI Reference Number	ONGC /Gel Pigging/EOI /2026
Date of Issue	17- Jun -2026
Last Date for Submission of EOI	07- July -2026
Pre-Submission Meeting	10- July -2026
Contact Email	sanghi_sanjiv@ongc.co.in , mishra_sb@ongc.co.in & kumar1_sunil@ongc.co.in
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Address	DUB, Plot No. 5A- 5B Nelson Mandela Road, Vasant Kunj, New Delhi, 110070

3. Objective

The primary objective of this Expression of Interest (EOI) is to explore the market for Gel pigging technology. Thereafter engage with the prospective Service provider for availing Gel pigging services for non-piggable / difficult to pig Offshore pipelines

4. Scope of Work

The detailed scope is provided at Appendix-A.

5. Expected Capabilities of Vendor

Interested vendors should preferably have experience in:

- Gel pigging design, formulation, and deployment for offshore / onshore oil & gas pipelines, including non-piggable and difficult-to-pig pipelines
- Execution of gel pigging operations under offshore conditions, including pre-flush, pig launch/injection, pressure-controlled displacement, monitoring, recovery, and residue handling
- Compliance with applicable national and international codes and recommended practices for hydrocarbon pipeline operations in offshore environments

The detailed scope is provided at Appendix-A.

6.Submission details

Interested parties/ Vendors are invited to submit their EOI proposals electronically (PDF format) within 21 calendar days from publication of this notification in Newspapers, encompassing following:

- **Executive Summary**: A concise overview of their Technological solution / proposal.
- **Detailed Proposal**: Comprehensive responses to the information requirements outlined in evaluation criteria listed below.
- **Supporting Documents**: Relevant cases, applications in oil & gas pipeline, certifications, and any other pertinent documentation.
- **Contact Information:** Interested parties / Vendors to submit their EOI, including any details / queries /clarification required on the objectives and scope of the work projected in the subject EOI to:

  Head MIND, ONGC
  Deendayal Urja Bhawan,
  5, Nelson Mandela Marg, Vasant Kunj,
  New Delhi -110 070 Tel – (011)-26752010, (011)- 2675 4156
  Email: sanghi_sanjiv@ongc.co.in, mishra_sb@ongc.co.in, kumar1_sunil@ongc.co.in

7. Evaluation Criteria

Interested parties/bidders may be asked to present a proposal/submission before a committee. Submissions will be assessed based on:

- **Technical Competence**: Proven capability and completed jobs of Integrity/Health Assessment of Onshore and Offshore pipelines
- **Regulatory Acumen**: Understanding of and experience in Hydro Carbon industry particularly Oil & Gas Pipeline operations.

8. Confidentiality

All information received by ONGC as part of this EOI, will be ONGC's property and will be kept strictly confidential and utilized for its internal purposes only.

9. Disclaimer

ONGC reserves the right to alter the scope or terms as needed. This EOI is an exploratory exercise and does not constitute a commitment to award a contract.

Appendix-A

Scope of Work for Hiring of services for Gel pigging operations on pilot basis of pipelines in Western Offshore

1.0 Introduction

Oil and Natural Gas Corporation Ltd. (ONGC / Corporation), a major oil Exploration and Production Company in India, intends to engage Services for Gel Pigging for Offshore pipelines.

At present ONGC western offshore is operating offshore pipelines network of 757 nos. of pipelines measuring 7495 Km in length. These include Trunk pipelines, Collector pipelines, Well Fluid pipelines, Water Injection pipelines Gas lifts pipelines and Bay lines. The sizes of pipelines vary from 4" to 42". The MOC of pipelines are normally Carbon Steel, API 5L grade. Some of the pipelines are flexible, internally cladded and epoxy coated. Most of the pipelines are being pigged on regular basis. Some of the pipelines are difficult to pig due to various constraints i.e.non-piggability by design due absence of pigging facility / non-operable pigging facilities, existence of clamps, valve dia. restriction etc**.** In view of these constraints, Gel pigging is planned for 12 pipelines on pilot basis. The list of the pipelines covered for Gel pigging is placed at Appendix-A1.

2.0 OBJECTIVE:

The scope objectives are as follows:

a. To carry out gel pigging of **12** pipelines as per operational requirements to clear the accumulated liquid, debris and deposited wax from the Pipeline.
b. To do slug dosing of chemicals in these pipeline subsequent to Gel Pigging as applicable (Chemical for slug dosing shall be provided by ONGC).

3.0 Scope of Work – To achieve the above objective, following scope of work is envisaged. Other terms and conditions under various clauses as defined in this Bid Document also form the part of scope of work of this tender.

The area of operation is Mumbai High North, Mumbai High South fields.

Execution of Gel pigging of pipelines includes, but not limited to, general inspection, Gel pig launch and pig receipt as per approved plan. Supply of Gel Pigs and required facilities is in the scope of

contractor. Assistance for Pig barrel door opening, closing, Handling of pigging debris& wax will be provided by ONGC.
Contractor is required to undertake Gel pigging of pipelines with existing state of facilities.

3.1 Inspection:

- Preliminary survey of locations to be carried out by Contractor to ascertain all the requirements prior to mobilization.
- In case, any feasible modification to the access areas is required to be carried out, Contractor shall submit the requirements and suggested methodology for modification to ONGC. Modification shall be carried out by ONGC without cost to the contractor.
- Gel Pigs should be suitable for use in existing pig launching and receiving system. No modification in pig launcher and receiver shall be allowed.
- All relevant work procedure and detailed plan for various gel pigging activities to be prepared and submitted to ONGC/ONGC's representative for approval before start of work.
- For the pipeline covered under the scope of work, the contractor shall carry out one or more number of Gel pig-runs of all pigging activities as per the approved procedure based on operational requirements and direction of Engineer-in-Charge.
- The contractor shall prepare and submit Contingency plan for stuck-up pig, if any and further provide assistance to ONGC for removal/retrieval of stuck pig in case of such eventuality in any of the pipelines during all stages of pigging.
- The contractor shall prepare and submit Daily Site Report after completion of each pigging activity.

3.2 Mobilization & Demobilisation:

- A team of required number of experienced personnel shall be deployed for carrying out Gel Pigging operations.
- All tools, consumables, chemicals and equipment's which are necessary to fulfil the work shall have to be arranged and transported to ONGC on-land base Pipavav supply base or any other designated site by contractor at no cost and time to company.
- Contractor is to mobilize all types of required gel pigs, accessories, spares in adequate numbers for completion of entire works within the contract period. Contractor's Tools will be deployed to various locations in Western Offshore area from ONGC on-land base.
- The offshore transportation for manpower (by Crew boat or Helicopter) and for material (by Boat) is in ONGC scope.
- Demobilization of all Contractor's tools, personnel, equipment after successful completion of all pigging activities for all segments and restoration of site by removing any temporary installation erected for pigging activities to be ensured.

3.3 Gel Pigging Formulation

3.3.1 Gel Pigging Capability and Design Requirements

The Contractor shall be responsible for the design, formulation and deployment of gel pigging systems including Gel Pigs suitable for identified lines.
The scope shall include, but not be limited to, the following:

a) Gel Pig Train Design

- Design and deployment of high-strength, medium-strength, and/or gel pig trains, as required, to ensure effective sweeping and displacement of free water, debris, scale, deposited wax and maintenance of an effective seal throughout the pipeline length
- Gel pig train configuration (single slug / multi-slug / gel–spacer–gel arrangement) shall be finalised pipeline-wise based on engineering assessment.

b) Gel Formulation Development

The Contractor shall:

- Develop gel formulations considering:
    - Pipeline diameter, length and other available data
    - Type of fluid, Operating pressure, temperature and fluid flow- rate
    - Bathymetry and seabed profile (where applicable), bends, restrictions, valves, chokes (where applicable)
    - Availability of launch and receive points, Pumping pressure limitations
    - Required sealing efficiency, Recovery and disposal strategy
- Provide laboratory-tested formulation details, including:
    - Gel strength (yield stress / apparent viscosity)
    - Temperature stability
    - Pumpability and degradation characteristics
- Identify operational constraints and develop a pipeline-specific gel pigging execution plan.
- Submit formulation data sheets for ONGC approval prior to execution.

c) **Controlled Gel Break Mechanism**

- Gel formulation shall incorporate a time-based or condition-based breaker system, ensuring:
    - Gel integrity during displacement through the pipeline
    - Controlled degradation after reaching the receiver / recovery zone

3.3.2 Fluid and System Compatibility

The Contractor shall ensure full compatibility of gel pigging systems with operating fluids and materials:

a) **Fluid Compatibility**

- Gel systems shall be compatible with:
    - Crude oil and gas
    - Produced water / seawater
    - Solvents, dispersants, corrosion inhibitors, PPDs, and other production chemicals

- No adverse reactions, emulsion formation, or fouling of downstream facilities shall occur.

b) **Operational Control**

- Capability to carry out pressure-controlled pumping, displacement, monitoring, and recovery operations under offshore conditions.
- Gel system shall be stable under expected shear rates and pressure gradients.

c) **Environmental and Disposal Considerations**

- Gel residues shall be suitable for handling, separation, and disposal in accordance with environmental requirements.

3.4 Gel Pigging Operations – Execution Methodology

The Contractor shall carry out gel pigging operations through a structured, stepwise methodology, as detailed below.

Step 1: Engineering Assessment and Formulation of Gel Type: As per clause number 3.1

Step 2: Pre-Operational and Rig up:

- Conducting Tool Box Talk (TBT), Safety meeting and Obtaining Work permit
- Verify the flow path from the Injection pump skid to the injection valve and from the receiving valve to the containment skids.
- Perform a hydrostatic leak test on all temporary piping and hoses to 1.1x the maximum expected operating pressure.
- Ensure the main pipeline is isolated or flow is bypassed as per the procedure. Confirm the injection and receiving valves are closed but functional.

Step 3: Pre- Flush and lubrication:

- Contractor shall pump a chemical surfactant (pre-flush) through the injection valve to lubricate insertion segment of pipe.

Step 4: Gel Pig Launch / Injection Operations and slug dosing of chemicals

- Launch the Gel pig through available Pig launcher or small-bore injection port using hydraulic pressure pump as applicable.
- The Contractor shall provide and utilize the high-pressure hydraulic pump to force the gel through the small-bore connection wherever applicable.
- Displace the Gel pig using motive fluid
- Slug dosing of chemicals post gel pigging as per ONGC requirement (Chemicals for slug dosing will be supplied by ONGC)

Step 5: Monitoring and Control

- Continuously monitor and record, Differential pressure across the pipeline, Pumping pressure and flow rate, Pig travel time and estimated location.
- Identify pig arrival using pressure signatures or flow changes. Maximum driving pressure shall be recorded and reported.

Step 6: Recovery and Residue Handling (ONGC will provide assistance in recovery and residue handling)

- Recover gel residue at receiver or collection vessel

- Collect recovered material for testing: Water content, Solids / debris concentration, Wax content
- ONGC shall handle, segregate, and dispose residues as per ONGC guidelines.

Step 7: Follow-Up Cleaning (If required)

- If residual solids or deposits are observed, conduct additional gel pig pass with modified rheology/, Supplementary chemical / mechanical cleaning if required, as approved by ONGC.

3.5 Gel Pigging Facilities and Deployment Conditions

i) **Pig Launching and Receiving Facilities**

- Pig launchers and receivers for most subsea pipelines are available at offshore platforms. Wherever pig launcher facilities are not available / non-functional, injection and retrieval is to be made through identified flange locations. The Contractor shall verify the flange rating and provide matching temporary blind flanges equipped with high-pressure threaded or flanged ports (typically 2" or 3") for the injection/retrieval assembly.
- Contractor's teams shall be deployed at both the ends primarily for gel pig launching and receiving to/from offshore process platforms/unmanned platforms.

iii) **Pipeline-Specific Methodology**

- A pigging methodology shall be defined and approved for each pipeline.

iv) **Operational Flexibility**

- Pipelines proposed for gel pigging may be changed based on operational priority and availability, as decided by ONGC.

3.6 General Conditions for Gel Pigging Operations

i) **Codes, Standards, and Contingency Planning**: Contractor shall comply with applicable national and international codes and recommended practices.

ii) **Sampling and Laboratory Support**

- Contractor shall carry out sampling before, during, and after pigging, as directed.
- Samples shall be submitted to ONGC Representative / Chemistry Laboratory at respective Offshore platform locations.

iii) Pipeline-specific contingency plans shall be developed when required considering pig stuck scenario. In case of pig stuck scenarios Contractor shall assist ONGC on a round-the-clock basis.

iv) Wherever pigging facilities are non functional, contractor to provide suitable system for launching and receiving the gel pig through existing flange/valves.

3.7 Successful Pigging:

A gel pigging operation shall be considered successfully completed upon execution of one complete gel pig run through the identified pipeline section or fulfilment of any one or more of the following acceptance criteria:

a) Demonstrable reduction in pipeline back pressure compared to pre-pigging conditions; and/or
b) Removal and recovery of debris at the receiving end; and/or
c) Improvement in flow rate at comparable operating conditions; and/or
d) Receipt of the gel pig at the downstream end in intact condition without fragmentation or physical damage.

The gel pig breaking pressure shall be designed and maintained in accordance with the pressure limits specified for each pipeline in the approved data table and shall remain within the Maximum Allowable

Operating Pressure (MAOP) of the pipeline at all times. The maximum allowable pressure is indicated in technical details of the pipelines at Annexure-1.

4.0 Reporting

- After completion of gel pigging, report for each pipeline to be prepared and submitted by Contractor.
- Final work report for each pipeline shall be prepared and submitted to ONGC/ONGC's representative for approval. The final work report of shall include detailed analysis as under:
  - Details of the Pipelines
  - Daily detailed site report of each run with operational parameters & observations
  - Anomalies observed if any
  - Summary of Gel pigging and Assessment
  - Recommendation

Sl. No.	Pipeline	Size (in)	Service	Length (km)	Platform	Asset	No of Clamp	Availability of Pigging facility	Pipe O.D.	Liquid (BLPD)	Oil (BOPD)	Gas (SCMD)	MAOP (Kg/cm2)
1	10SP-BHS WF1982-83	10	WF	3.82	BHS	MH	4	Yes	273	5662	911	298060	25
2	12SD-ICD WF1988-89	12	WF	2.225	ICP	MH	J tube-composite wrapped	Yes	323.9	3627	785	329211	25
3	10NS-MNP WF2023-24	10	WF	10.69	MNP	MH	0	Yes	NA	2376	531	226980	50
4	10EE-SHP WF1986-87	10	WF	2.300	SHP	MH	J tube-composite wrapped	Yes	254	7485	1165	358159	25
5	10IJ-SHP(old) WF1987-88	10	WF	3	SHP	MH	NA	Yes	273	9372	1610	596201	25
6	16IM-SHG WF1993-94	16	WF	6.735	SHP	MH	0	Yes	406.4	5926	1236	548688	25
7	12WO5-WO15 WF2015-16	12	WF	11.249	SHP	MH	0	Yes	323.9	340	340	3974.1	50
8	12WO15-WO16 WF2015-16	12	WF	13.780	SHP	MH	0	Yes	323.9	500	380	10488	50
9	10IK-SHP WF1986-87	10	WF	3.185	SHP	MH	1	Yes	NA	10032	747	419511	25
10	12N12-NQP WF2002-03	12	WF	6.2	NQO	MH	2	Yes	323.9	8796	1644	403900	25
11	4NQP-LA GL1993-94	4"	GI	4.61	NQO	MH	0	No	114.3	NA	NA	222500	90
12	4NQP-LB GL1993-94	4"	GI	6.29	NQO	MH	0	No	114.3	NA	NA	283000	90

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