Oil India Limited
(A Maharatna Company)
INDEG Department
Field Head Qtr.
Dist.: Dibrugarh; P.O: Duliajan; Assam: 786602
E-mail: indeg@oilindia.in

Ref: INDEG/OIL/EOI/07/952/Phase XXIII/2024-25 **Date: 28.01.2025**

Expression of Interest (EOI) for Field Trial of indigenous DRA injection at DDPL to increase the pumping Capacity from PSI to Digboi Refinery (Duliajan- Digboi Pipeline, Assam)

1.0. Introduction

Oil India Limited (OIL, a "Maharatna" Category, Government of India Enterprise) is a fully integrated National Oil Company operating under the Ministry of Petroleum and Natural Gas, Govt. of India. With an impeccable credential spanning over six decades, OIL is actively involved in exploration, production and transportation of crude oil and natural gas as well as refining, petrochemicals and renewable energy generation.

OIL is interested to explore the capabilities of indigenous vendors/chemicals aimed at testing and validating Proof of Concept (POC) for DRA (Drag Reducing Agent) developed using indigenous technologies. OIL has a skid facility at PS1(Duliajan), which will be made available for testing/trial the DRA in Duliajan-Digboi Pipeline (DDPL).

2.0 The interested companies are requested to send their Expression of Interest with all documentary evidence for developing DRA as per format attached. They should submit a covering letter in the format enclosed in **Annexure-1** with necessary details mentioned therein and technical details as per **Annexure-2**.

The party shall submit their response to the EOI only through e-mail addressing to:

GM – INDEG
INDEG Department
Oil India Limited
Duliajan – 786602
Assam
E-mail: indeg@oilindia.in

Contact Person for technical enquiries

CGM – MM (Pipeline)
Pipeline Department
Oil India Limited
Duliajan – 786602
Assam
Attn: Mohit Soni, Chief Engineer (MM), PS5
E-mail: mohit_soni@oilindia.in

Development orders will be placed for DRA, if found suitable as per OIL's Development order policy as uploaded in our website: www: oil-india.com >>For Vendors.

The last date for submission of EOI response is 28th February, 2025.

General Manager (INDEG)
INDEG Department
For Resident Chief Executive

Annexure-1

(Please type on your Letter Head)

Ref. No…… Date:

To
Chief General Manager (INDEG)
INDEG Department
Oil India Limited
Duliajan-786602
Assam

(Email ID: indeg@oilindia.in)

Expression of Interest

1. Company Details

1	Company Name	
	Whether manufacturer. If not, whether dealer, distributor etc.	
2	Location	
3	Address	
4	Contact Person	
5	E-mail ID	
6	Mobile/Cell Phone No	
7	Product/Service Proposed for Development	
8	Quantity Offered for Field Trial (Based on field requirement, actual quantity to be decided)	
9	Delivery Schedule	
10	Estimated Price of the Product / Unit/service	
11	Have you supplied this item to Indian Oil & Gas Companies (names of companies)	

2. Details with copies of relevant documents

1	Details of infrastructure available
2	Manpower details
3	Equipment, Machineries & testing details available
4	Existing product/service details including the offered items/services
5	Copy of last two years Audited Balance Sheet of the Company
6	Copy of company Incorporation Certificate along with Memorandum of Association (MOA) / Articles of Association (AOA) OR Copy of partnership deed in case of partnership company
7	Copy of GST Registration Certificate
8	Copy of PAN Card
9	Copy of MSME Certificate, if any
10	Copy of NSIC Certificate, if any

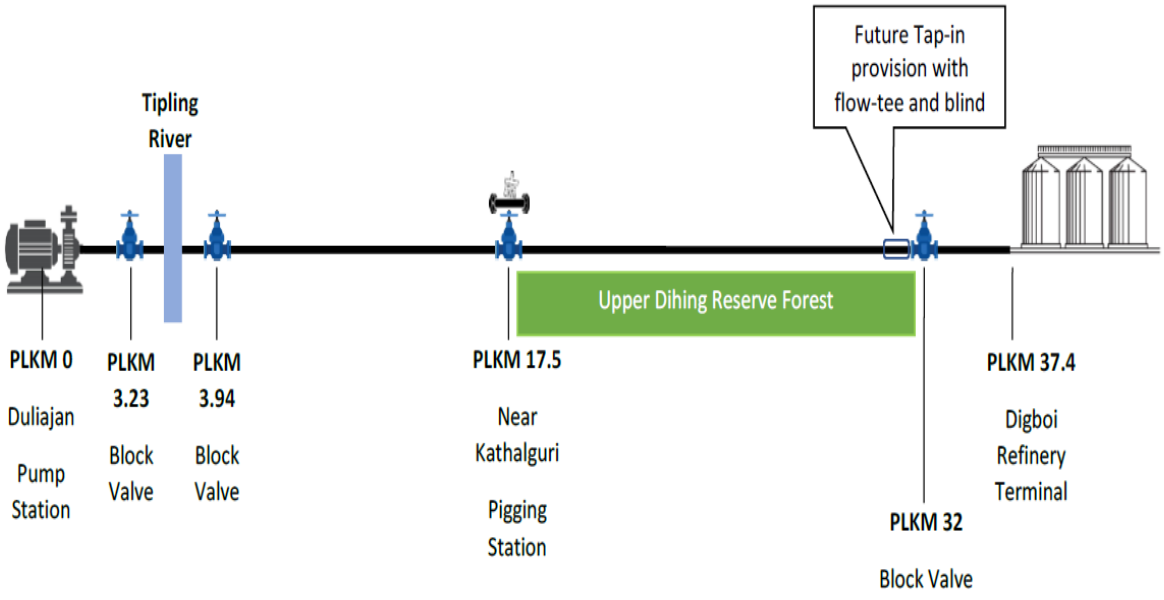
Name: …… Signature …… Designation……

Annexture-2

Drag Reducing Agent (DRA): Specification for Drag Reducing Agent (DRA) for flow improvement /Drag reducing in Duliajan-Digboi crude Oil Pipeline (DDPL):

Clause No.	Requirement
1.0	Slurry type Drag Reducing Additive (DRA) suitable for use in high & low sulphur crude oil pipelines to reduce the drag and increase pipeline throughput (flow) ***achieving minimum 15% enhancement in flow rate*** in Duliajan-Digboi pipeline of Oil India Limited.
2.0	The DRA should have a minimum balance shelf life of (Two) years from the date of manufacture.
3.0	The dozing of DRA in no case should affect the quality and characteristics of the crude oil and its derivatives i.e. petroleum products like Motor Spirit (MS, Petrol), Superior Kerosene Oil (SKO), High Speed Diesel (HSD), Light Diesel Oil (LDO), Naphtha, Aviation Turbine Fuel (ATF) etc. Undertaking for the same has to be given by the bidder.
4.0	The DRA during storage, transportation and handling should be capable to withstand the ambient temperature (not to direct sun light), which may vary in between 5 deg 'C to 48 deg 'C during summer and it may vary from 5 deg C to 20 deg C during winter.
5.0	The DRA should be non-transloadable & to be supplied in non-returnable totes/tanks of standard capacity container to meet the requirement. The non-returnable totes/ tanks shall be fitted with grounded outlet valves (2" Male NPT) arrangement, which can be easily connected to transfer hosing & in turn to connect to injection pump for DRA transfer into pipeline injection point.
6.0	The DRA should be shear stable during the flow throughout the pipeline.
7.0	The DRA should not have any corrosive impact even for prolonged storage of doped crude oil in the said pipeline and Storage tanks.
8.0	The DRA chemical shall be suitable for injection into pipeline with the help of reciprocating pump.
9.0	Material safety data sheet (MSDS) and product data sheet (PDS) are to be submitted along with the supply.
10.0	Bidder to indicate the DRA dosage rate in PPM to achieve the drag reduction in DDPL for the baseline flow to achieve minimum 15 % flow enhancement.
11.0	The bidder should ensure proper polymerization of drag reducer, additive and homogeneous properties to have trouble free injection and drag reduction use.
12.0	Bidder to mention the type of solvent used in the DRA like water/glycol/ vegetable oil etc.
13.0	The chemical characteristics of DRA for polymer type & Molecular weight are to be furnished by bidder.
14.0	Field Trial: 1000 Ltrs. Of DRA shall be supplied to prove the ability to achieve minimum 15% flow improvement in the Pipeline Sector DDPL and demonstration to be given at site. Oil India Limited (OIL) shall intimate you regarding venue and date of testing of DRA. The testing/field trail will be carried out by you in the presence of OIL officials at location Pump Station - 1, Duliajan, where OIL will have DRA Injection Skid. You have to prove minimum 15% enhancement in crude oil flow rate in the field trial.
15.0	All expenses related to extra DRA chemical including cost of DRA, cost of transportation, applicable taxes etc. due to increase of dosing rate in the field trial will be borne by you.

1. <u>PIPELINE PARAMETER:</u>



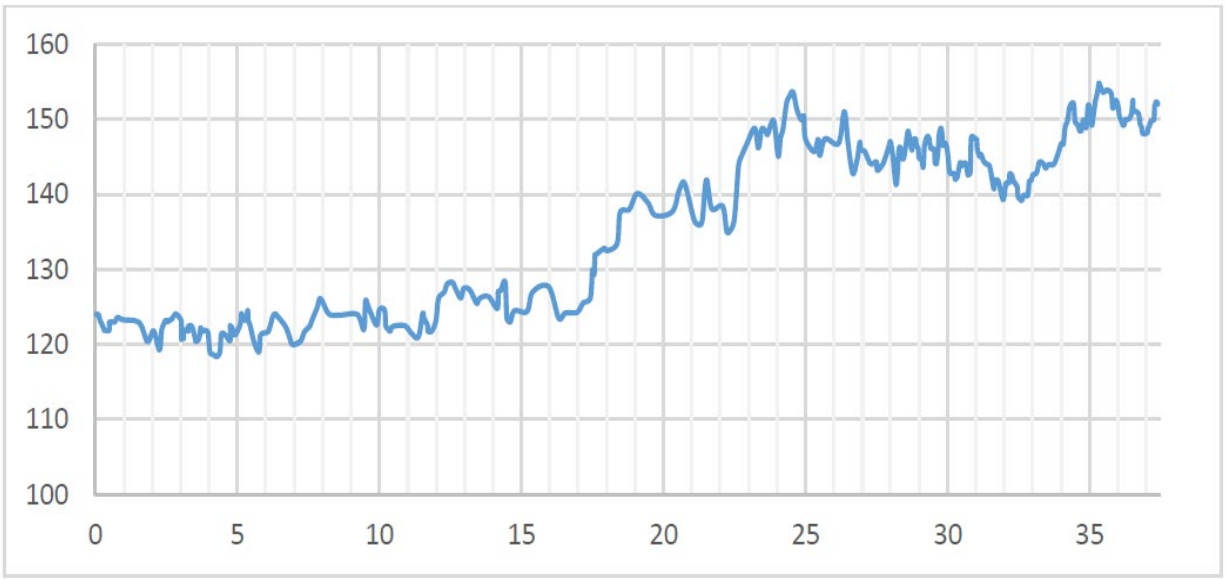
The line pipe conforms to API 5L specifications for line pipe. The pipe conforms to API 5L having specified minimum yield strength 46,000 psi.

i)	API 5L Grade	:	X-46 PSL-2, Carbon Steel
ii)	Pipeline size (OD)	:	219.1 mm (8 5/8 inches)
iii)	Wall thickness	:	7.1 mm ± 10% as per API 5L
iv)	Method of manufacture	:	High frequency welding (HFW)
v)	Service	:	Crude Oil

2. PIPELINE PROCESS PARAMETERS:

Description	Duliajan – Digboi Crude Oil Spur Line
Main line, Outside Diameter, mm (Inches)	219.1 mm (OD 8 5/8 inches)
Products	Crude Oil
Design Pressure (kg/cm^2 g)	84 kg/cm^2
Max. Operating Pressure (kg/cm^2 g)	84 kg/cm^2
Hydro-test Pressure (kg/cm^2 g)	1.25 x 84 kg/cm^2
Max. Design Temperature, (°C) i. Above ground section ii. Underground section	 i) -29 to 65 ii) -29 to 45
Operating temperature, °C	25 to 40
Design Code	ASME B31.4 & OISD-141
Corrosion Allowance, mm	0.5

3. **Elevation profile of DDPL line.**



3: GROUND PROFILE: 8" CRUDE OIL PIPELINE; x-axis – Pipeline chainage in km; y-axis – Sea level in meter

4. **Crude Oil properties:**

Sl. No.	Parameters	Test Method	Test Results
1	Specific gravity at 15^0C,gm/cm3	IP-160-99/ASTM D 4052-2022	0.8941
2	Vapour pressure, kg/cm2	ASTM D 6377	0.22
3	Dynamic viscosity, mPa.S	ASTM D 2270/2017	5.3629
4	Kinematic Viscosity, mm2/s	ASTM D 2270/2017	6.1468
5	Sulfur content, ppm	ASTM D 4294/2021	2151.3
6	Pour Point, °C	IP-15 (R2022)/ASTM D 97-17b (R2022	<9