EXPRESSION OF INTEREST (EOI)

FOR

RETROFITTING OF PRIME MOVER ENGINE IN EXISTING CRUDE OIL DISPATCH PUMP (CODP)

EOI No.: EOI/FE/ENGINE/RETROFIT/002/2025

DESCRIPTION: RETROFITTING OF PRIME MOVER ENGINE IN EXISTING CRUDE OIL DISPATCH PUMP (CODP)

1.0 PREAMBLE:

OIL INDIA LIMITED (OIL), a premier upstream Maharatna E&P company (PSU) under the Ministry of Petroleum and Natural Gas. OIL is engaged in Exploration, Production and Transportation of Crude Oil and Natural Gas having its Field Headquarters (FHQ) at Duliajan, Dibrugarh district, Assam (INDIA) and Corporate Office in Noida, UP (INDIA). OIL's operations are largely based in the North-Eastern parts of India particularly in Assam, Arunachal Pradesh, and Tripura. Additionally, OIL operates in Rajasthan, Andhra Pradesh, Andaman and Kerala-Kankan and also has overseas presence.

2.0 OBJECTIVE

The objective of this EOI is to-

To identify suitable replacement gas engine models (natural gas-driven) for retrofitting into the existing CODP setup on the same skid and base frame without major modifications, while matching or improving upon the functional performance and reliability of the existing engine.

2.0.1 TECHNICAL BACKGROUND

Crude Oil production wells are distributed across a vast area. The produced crude oil is initially collected in Oil Collecting Stations (OCS) and subsequently transferred to Tank Farms for further processing. To facilitate this transfer, API 674 compliant Triplex Plunger Type Reciprocating Pumps are used which are driven by natural gas driven engines as the prime mover. As part of operational enhancement and sustainability, OIL invites Expression of Interest (EOI) from Original Equipment Manufacturers (OEMs), authorized dealers for retrofitting the prime mover (gas engine) of an existing Crude Oil Dispatch Pump (CODP) located at one of OIL's production installations.

The specifications of existing engines are tabulated as follows:

2.0.2 EXISTING ENGINE SPECIFICATIONS:

The existing engine to be replaced has the following specifications:

- **Model:** Cummins GTA-855
- **Rated Power:** 242 HP @ 1500 RPM
- **Aspiration:** TC watercooled

- **Drive Type:** Natural Gas Engine
- **Application:** Crude Oil Dispatch Pump (CODP)
- **Mounting:** On common skid (Engine + Radiator + Pump + Base frame)
- **Cooling System:** Radiator-cooled with engine-driven fan
- **Ignition & Control:** Electronic governing and shielded ignition system
- **Fuel Supply:** Mainline Inlet pressure regulated between 1.2–2.1 kg/cm²
- **Starting System:** 24V DC Electric Starter
- **Instrument Panel:** Engine-mounted and integrated with safety sensors and tachometer
- **PTO Drive:** SAE #14 Flywheel with SAE #1 Housing; PTO Clutch fitted on flywheel

3.0 SCOPE OF SUPPLY AND WORK:

The selected party shall:

1. Supply a suitable natural gas engine (equipped with PTO clutch) with output power in the range of 240–260 HP at 1500 RPM, compatible for continuous-duty operation.
2. Ensure exact or near-match alignment for coupling with existing COD pump and radiator—without any major modification to:
    - Base frame/skid
    - Foundation bolts or layout
    - Radiator mounting
    - Coupling configuration
    - Control panel interface
3. Undertake complete retrofitting including:
    - Engine removal
    - Installation of new engine
    - Realignment of coupling
    - Integration of safety interlocks and instrumentation
    - Wiring and sensor interface with existing control system.
4. Commission the engine and demonstrate successful trial runs at load.
5. Provide complete documentation including:
    - Engine operation & maintenance manual
    - Wiring schematics and installation guidelines

- Warranty details and recommended spares

6. Support during integration and post-installation via remote or on-site assistance as required.

After submission of EOIs, shortlisted bidders may be invited to deliver a presentation to OIL regarding the feasibility of supply, retrofitting and commissioning of the prime mover (gas engine) of an existing Crude Oil Dispatch Pump (CODP).

4.0 TECHNICAL REQUIREMENTS:

The proposed engine must comply with the following:

- **Fuel**: 100% Natural Gas compatible (For natural gas composition check Annexure-I)
- **Speed**: 1500 RPM ± 3%
- **Power Rating**: 240–260 HP continuous duty
- **Flywheel Housing**: SAE #1
- **Flywheel**: SAE #14
- **Starter**: 24V Electric starter motor
- **Charging Alternator**: 24V DC
- **Ignition System**: Electronic or shielded type, suitable for hazardous oilfield conditions
- **Cooling System**: Radiator cooled with engine-driven fan (must match existing airflow needs)
- **Air Intake**: Engine-mounted cleaner, vacuum indicator
- **Fuel Control**: Electronic governor + shut-off valve + pressure regulator (1.2–2.1 kg/cm² inlet)
- **Control Panel**: Engine-compatible panel with safety shutdowns and sensors for:
    - Lube oil pressure
    - Coolant temperature
    - Overspeed
    - Engine status indicators and gauges

5.0 DOCUMENTS TO BE SUBMITTED IN EOI:

1. Company Profile
2. Technical Datasheet of the proposed engine and transmission system
3. Compatibility Note confirming fitment on existing skid without major modification
4. List of Executed Orders for

   i. Supply, Installation, and Commissioning of gas engines for driving reciprocating plunger pumps in the Last 5 Years

Or

ii. Engine retrofit work for Oil & Gas sector in the last 5 years

5. Tentative Supply and Commissioning Timeline
6. Warranty and AMC Options
7. Local support/service centre details (if available)

Note: Based on inputs from the received EOIs, a detailed Scope of Work will be prepared and shared for obtaining Budgetary Quotations for OIL's future open tender.

6.0 EVALUATION CRITERIA:

The proposals received through this Expression of Interest (EOI) shall be evaluated based on the following criteria for OIL's future open tender for supply and retrofitting of prime mover engine in existing crude oil dispatch pump (CODP):

i. Supply, Installation, and Commissioning of gas engines for driving reciprocating plunger pumps in the Last 5 Years

Or

Engine retrofit work for Oil & Gas sector in the last 5 years

ii. Proven Track Record of the offered prime mover engine

7.0 SUBMISSION OF EXPRESSION OF INTEREST:

Interested parties are requested to submit their EOIs in electronic format to saurav.medhi@oilindia.in, dj_sonowal@oilindia.in or hard copy may be submitted to the following address no later than 10.08.2025:

CGM-FE (HoD)
OIL INDIA LIMITED
P.O. DULIAJAN-786602
DIST. DIBRUGARH, ASSAM, INDIA

8.0 GENERAL NOTES:

- All submissions must be self-certified, clear and legible.
- This EOI does not constitute a commitment by OIL for any procurement.
- OIL reserves the right to accept or reject any or all EOIs without assigning any reason.
- Selected parties may be invited for technical discussions or site visits as needed.

9.0 CONFIDENTIALITY:

All information provided during the EOI process will be treated as confidential and used solely for the purpose of evaluating submissions and thereby enabling OIL to prepare a final Scope of Work for OIL's

upcoming open tender for supply and retrofitting of prime mover engine in existing crude oil dispatch pump (CODP).

Please note that this invitation does not constitute a commitment to award the project or provide any form of reimbursement for costs incurred during the preparation of the EOI.

N.B.: For any clarifications or queries, please feel free to contact us at saurav.medhi@oilindia.in/dj_sonowal@oilindia.in. We look forward to receiving your Expression of Interest and exploring the potential of working together on this project.

ANNEXURE-I

Sl. No.	Constitution	Range
a)	Methane	85.7 – 93.52 % by Volume
b)	Ethane	2.45 – 6.55 % by Volume
c)	Propane	1.28 – 3.12 % by Volume
d)	Nitrogen	0.53 – 1.21 % by Volume
e)	Carbon-dioxide	0.01 – 0.57 % by Volume
f)	Iso-Butane	0.31 – 0.75 % by Volume
g)	N-Butane	0.40 – 1.14 % by Volume
h)	Iso-Pentane	0.19 – 0.47 % by Volume
i)	N-Pentane	0.17 – 0.38 % by Volume
j)	Hexane	0.34 – 1.16 % by Volume
k)	Gravity	0.6204 – 0.6919 (dimensionless)
l)	Gross Calorific Value	9636.8 – 10590.8 Kcal/SCUM
m)	Net Calorific Value	8704.3 – 9595.4 Kcal/SCUM
n)	Moisture Content	21.0 – 120.0 LB/MMCFT (336.0 – 1992.0 KG/MMSCM)

Note:

The methane content may be as low as 80% by volume and the gas may exhibit highly aggressive characteristics depending on the site-specific composition.