



**OILS AND GAS DEVELOPMENT COMPANY LIMITED
CHANDA OILS & GAS FIELD**

SCHEDULE OF REQUIREMENT

TENDER ENQUIRY # TE-COF-M-11-2024

PROCUREMENT OF LUBE OILS FOR CHANDA PLANT

Format of submission of bid:

| S# | Description | Reference # | Rate | Total rate (inclusive of all Taxes) | Deviation |
|-----------|-------------------------|--------------------|-------------|--|------------------|
| 1 | As per attached list | | | | |

| Details of Lube Oils | | | |
|-----------------------------|---|-------------|-------------|
| Sr No. | Description | Unit | Qty. |
| 1 | Shell Mysella S5N 40 or equivalent brand as per terms and conditions and specifications of the reference oil as per attached data sheet | Litres | 2,050 |
| 2 | Shell Mysella S2 Z 40 (R40) Or Equivalent brand as per terms and conditions and specifications of the reference oils as per attached data sheet | Litres | 1,254 |

TERMS AND CONDITIONS:

1. Bidding procedure: single stage, single envelope (technical and financial bids may be submitted in single envelope).
2. Delivery period will be 02 weeks from the date of issuance of purchase order
3. Bid validity: 30 days
4. Delivery of material at Chanda plant is in supplier's scope.
5. Evaluation of the bid shall be carried out on the basis of unit rate.
6. Oils to be supplied in sealed OEM packaging. If the required quantity of the oils cannot be supplied due to size of standard OEM packaging, then the supplier may supply the oils in the near equivalent size.
7. Service bulletin issued by the company for any updated part number/specifications to be provided with the bid.
8. Any required technical clarification/details regarding oils mentioned above must be cleared before submission of bid. No change in substance of bid will be entertained after bid submission date.
9. Material will be accepted after final inspection at site, and payment will be made as per OGDCL's standard payment procedure.
10. The firm should have valid NTN and GST numbers, and have active status on FBR website.
11. The Firm should have active Professional tax certificate of concerned Excise office where operating business.
12. FBR Annex-C in submitted status to be provided along with Invoice or at time of payment.
13. The quoted brand of the lube oil must have approval from major OEMs of engines like Waukesha, Caterpillar, Genbacher, Cummins etc. (for oil at sr. no. 1) and Ajax, Cameron, Ariel compressors etc. (for oil at sr. no. 2).
14. The bidder should confirm previous supply and use of quoted lube oils for gas engines and compressors in Pakistan. (with documentary evidence)
15. Evaluation will be on full consignment wise.



Previous Name: Shell Mysella XL

Shell Mysella S5 N 40

- *Extended Oil Life*
- *Extra Protection from Deposits and Corrosion*

Long Life, Low Ash Stationary Gas Engine Oil

Shell Mysella S5 N is a high performance quality oil blended for use in highly-rated, 4-stroke, spark-ignition engines which require a 'low ash' oil.

Shell Mysella S5 N satisfies the new generation of stationary gas engines designed to meet the emerging legislation limiting emissions of NOx, and those which employ the latest 'lean' or 'clean' burn technology.

Shell Mysella S5 N is specially developed to provide extended drain intervals in those natural gas engines where oil life is a limiting operational factor.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

• Extended oil life

Significantly prolongs oil life relative to previous generation gas engine oils by resisting oxidation and nitration, viscosity increase and the formation of harmful acids, especially in demanding cogeneration (CHP) applications. (When used with landfill or biogases, oil life will be dependent on the level of contaminants in the gas.)

• Engine protection

Shell Mysella S5 N offers excellent control of deposits and piston cleanliness in advanced engine designs. Shell Mysella S5 N is formulated with low ash and low phosphorus offering extended life to valves and spark plugs and full compatibility with emission catalysts.

• System efficiency

Shell Mysella S5 N is designed to help prevent knocking and thereby enable engines to be run at full load and optimum efficiency and its viscosity control helps to minimise engine friction losses. Shell Mysella S5 N helps to provide excellent cleanliness for the heat recovery boilers, turbochargers and intercoolers thus allow total system to operate with consistent performance and efficiency over time.

Main Applications



- Spark-ignited gas engines fuelled by natural gas, especially those creating high oil stress

- May also be used for landfill and biogases

Specifications, Approvals & Recommendations

Shell Mysella S5 N is suitable in engine types where a "low ash" oil is required.

Shell Mysella S5 N is approved by:

- Cummins QSV 81G/91G, QSK 60G
- GE Jenbacher Series 2,3, 4 and CAT, Series 6 all versions Fuel Class A and CAT, Series 4 (from version C) Fuel Class B and C, Series 6 (from version F) Fuel Class B and C
- Guascor FGLD, SFGLD
- MAN D&T Medium Speed Engines for Gas Operation
- MAN T&B M3271-2
- MTU Series 4000 L61, L62, L63, L64 and L32/L33
- MTU Onsite Energy Series 400
- MWM gas engines – TR 2105
- Caterpillar CG132, CG170, CG260 – TR 2105
- MAK GCM 34 Category 1
- Rolls Royce KG-1, KG-2, KG-3, KG-4, BV-G, CR-G
- Perkins 4000 series
- Wartsila W 34SG, W 50SG, W 20DF, W 32DF, W 34DF, W 50DF, W25SG, W28SG, W 175SG, W 220SG
- Waukesha Cogen and 220 GL (Pipeline Quality Natural Gas)

Shell Mysella S5 N meets Requirement of:

- Caterpillar Stationary Gas Engines
- Waukesha other gas engine types.
- Tedom

For engines under warranty, Shell advises contact with the engine manufacturer and Shell representative to choose the appropriate oil given the equipment operating conditions and customer maintenance practices.

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Help Desk.

Typical Physical Characteristics

| Properties | | | Method | Shell Mysella S5 N 40 |
|-------------------------------|--------|--------------------|------------|-----------------------|
| SAE Viscosity Grade | | | | 40 |
| Kinematic Viscosity | @40°C | mm ² /s | ASTM D445 | 125 |
| Kinematic Viscosity | @100°C | mm ² /s | ASTM D445 | 13.5 |
| Density | @15°C | kg/m ³ | ASTM D4052 | 890 |
| Flashpoint Cleveland Open Cup | | | ASTM D92 | 264 |
| Pour Point | | | ISO 3016 | -18 |
| BN | | | ASTM D2896 | 4.5 |
| Sulphated Ash | | | ISO 3987 | 0.48 |
| Phosphorus | | | ASTM D4047 | 300 |

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

Health, Safety & Environment

• Health and Safety

Shell Mysella S5 N is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from <http://www.epc.shell.com/>

• Protect the Environment

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

• Oil Analysis

For optimum results regular oil analysis is strongly recommended

• Advice

Advice on applications not covered here may be obtained from your Shell representative.

Note: this product is not designed for automotive gas engines



Formerly Known As: **Shell Mysella**

Shell Mysella S2 Z 40

Ash-less stationary gas engine oil

- *Reliable Protection*
- *Ash-less Content for Two Stroke Engines*

Shell Mysella S2 Z is a heavy-duty lubricant for high performance natural gas engines which require an “ash-less” product. Using ash-less technology Shell Mysella minimises engine wear, deposits in combustion chambers and exhaust ports and viscosity increase in service.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

▪ Extended oil life

Shell Mysella S2 Z is highly resistant to nitration and oxidation, which can cause filter deposits, viscosity increase and acid build-up.

▪ Engine protection

New engines will remain almost deposit-free. In addition the detergency of Shell Mysella S2 Z reduces the likelihood of blocking the oil screens and filters.

▪ Engine efficiency

Shell Mysella S2 Z combines a low tendency to form carbon with a strong detergency system, to avoid port plugging in 2-stroke (2-cycle) engines which essentially eliminates the need to clean cylinder ports between overhauls. The “ash-less” formulation enables spark plugs to remain almost “as new”, with their lifetime limited only by spark gap erosion. It also virtually eliminates detonation and pre-ignition, due to the absence of deposit “hot spots”.

Main Applications



Two and lightly loaded four stroke spark-ignited engines fueled by natural gas and low pressure natural gas, used in:

- Gas transmission
- Gas gathering / storage
- Gas processing and petrochemical plants
- Electric power generation
- Irrigation pumping service

Specifications, Approvals & Recommendations

Shell Mysella S2 Z is suitable for low BMEP engine types where an ash-less oil is required. These include “American Heritage” engines such as the following:

Suitable for use in engines manufactured by

- Allis-Chalmers
- Ajax
- Caterpillar (except 3400, 3500, 3600)
- Clark
- Climax
- Colt-Fairbanks Morse
- Cooper-Bessemer (2-cycle)
- Dresser-Rand (Category I & II)
- Dresser-Rand (Category III)
- International-Harvester
- Waukesha
- Minneapolis-Moline
- White Superior (naturally aspirated)
- Worthington

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| Kinematic Viscosity | @40°C | mm ² /s | ASTM D445 | 135 |
| Kinematic Viscosity | @100°C | mm ² /s | ASTM D445 | 13.5 |
| Density | @15°C | kg/m ³ | ASTM D4052 | 894 |
| Flash Point, closed cup | | °C | ASTM D93A | 230 |
| Pour Point | | °C | ISO 3016 | -18 |
| BN | | mg KOH/g | ASTM D2896 | 0 |
| Sulphated Ash | | %wt | ISO 3987 | 0 |
| Phosphorus | | ppm | ASTM D4047 | 670 |

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