**Distillate Oil #2**

DO #2 is a refined liquid fuel oil used for power generation that is also known as 2-GT distillate oil per ASTM D-2800. This fuel has a well-defined distillation curve with little to no contaminants. Also known as light distillate oil #2 or LDO.

**OPERATING GUIDE**

DO #2 should have low levels of water, dirt and trace metals (calcium [Ca], lead [Pb], potassium [K], sodium [Na], and vanadium [V]). However, contamination during transport or storage could allow low levels of sodium and potassium to be present. A detailed fuel analysis is required to determine any specific fuel conditioning processes needed.

**PRE-TREATMENT**
- Removal
- Filtration
- Wash
- Additive
- Blend
- Inhibitor
- Heat
- Startup
- Dilute
- Controls

**COMBUSTOR**
- DO

**TURBINE**
- Wash
- Wash
- Removal

**POST-TREATMENT**

Gray icons indicate processes not required for this fuel.

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**GE EXPERIENCE**

- **Hours**
  - More than 580,000 fired hours
  - ~500 hours in GE’s Gas Turbine Technology Lab (Greenville, SC)

- **Units**
  - More than 850 units capable of operating on DO #2 as primary or back-up fuel

**LOCATIONS AVAILABLE**

- Available in all locations

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**CHARACTERISTICS**

- **Heating Value**
  - Low: ~18,300 BTU/lbm
  - High: DO

- **Specific Gravity**
  - Low: ~0.86
  - High: DO

- **Kinematic Viscosity**
  - Min. 0.5 / Max. 5.8
  - ~2-4 @ 100˚F (37.8˚C)

- **Vanadium**
  - Low: ~0 DO

- **Sodium & Potassium**
  - Low: ~0-2ppm
  - High: DO

- **Carbon Residue**
  - Low: ~0.025 weight%
  - High: DO

- **Wax**
  - Low: ~0
  - High: DO

**MAINTENANCE FACTOR**

DO #2 carries a higher maintenance factor (MF) than natural gas (NG). Follow maintenance recommendations in GER-3620 (GE Heavy-Duty Gas Turbine Operating and Maintenance Considerations). Additional details on recommended liquid fuel system configurations are listed in GEK-116946 (Recommendations for Handling and Treating Liquid Fuels).

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**OUTPUT**

- Low
- High

**HEAT RATE**

- Low
- High

**EMISSIONS**

- Low
- High
Use of SCR to reduce NO$_x$ emissions may be required to meet local and/or national environmental emission regulations. This could be used alone or in conjunction with water or steam injection. A separate catalyst can be added to reduce carbon monoxide (CO) emissions as required by environmental regulations.

Removal

Advanced controls are required for rapid switching between primary and back-up fuels, or when needing to control the amount of diluent injected into the combustor.

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