

# Pipe China's Natural Gas Transmission from West to East China Improves its Operational Efficiency

ExxonMobil's Mobil Serv Lubricant Analysis program helps to monitor engine operations

## Target

To achieve higher safety operating hours and lower operating cost in the 4,200 km pipe gas transmission, Pipe China meets the challenge to have the aeroderivative engines like the GE LM2500/Rolls-Royce RB211 maintain best in class level of repairs and maintenance. The lubricants solution helps the continued engine operation.

Reduce long-term operating costs, reduce the number of overhauls, avoid engine wear, and ensure operations.

## Background

Pipe China is mainly engaged in the investment, construction and operation of infrastructure such as oil and gas trunk pipeline network and gas storage peak shaving, responsible for the interconnection of trunk pipeline network and social pipeline connection, as well as the operation and scheduling of the national oil and gas pipeline network. The "West-to-East Gas Transmission" with 4,200 km is China's longest and largest diameter gas pipeline that stretches from Tarim Basin in the west to Shanghai in the east. The operational reliability of aeroderivative gas turbines is critical in providing electric power for stable gas supply.

## Maintenance challenge

Pipe China project team acknowledges engine parts like bearing and gear wear, vibration, oil leakage and engine removal impact operational reliability. With a strong quality assurance system, the project team was concerned about engine oil filter clogging and wear issues including floc precipitation. Daily operations defined concern of deposit in bearings, seal housing which potential cause engine shut down. Repairing a gas turbine includes direct cost from parts, maintenance and indirect cost from unscheduled engine downtime, all are unacceptable for reliable supply.



## Performance Spotlight

Since converting to Mobil Jet Oil II engine oil, Pipe China has increased its efficiency by 12% in its aeroderivative turbine operations by:

- **Increasing oil drain intervals and saving from less filters, resulting in \$275,000 savings per year**
- **Reducing operating costs and reliance on the local grid by long engine operation hour**
- **Reducing maintenance cost from:**
  - **Excellent wear and corrosion protection to extend gear and bearing life**
  - **Excellent thermal and oxidation stability to reduce sludge deposit and maintain aeroderivative engine efficiency**

"We are pleased to be working with ExxonMobil and its distributor team as part of our goals to accelerate stable operations, reduce unscheduled engine shut down and cost saving. We trust that ExxonMobil Aviation technology will help provide the best-in-class solution for Pipe China's gas supply"

— Zhang Junsheng, Chief Engineer, Operation and Maintenance, Pipe China, West-to-East Gas Transmission Yinchuan

## **The solution**

Since 2018, West-to-East Gas Transmission project team has been closely working with ExxonMobil engineers to convert to Mobil Jet™ Oil II engine oil for its aeroderivative engines. With highly stable synthetic base fluid and a unique chemical additive package, Mobil Jet Oil II engine oil meets the severe operating conditions across China and helps engine high efficiency.

## **The result**

With ExxonMobil's lubrication solution, Pipe China West-to-East Gas Transmission project improved reliability and economic benefits. Mobil Jet Oil II engine oil helps to reduce costs, additional time and improved engine reliability.

\*This Proof of Performance is based on the experience of a single customer. Actual results can vary depending upon the type of equipment used and its maintenance, operating conditions and environment, and any prior lubricant used.

\*\*Visit [here](#) to learn how certain Mobil-branded lubricants may provide benefits to help reduce environmental impact. Actual benefits will depend upon product selected, operating conditions and applications.

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