

# GST® EP TESTIMONIAL

## POWERGEN SECTOR



### Powergen customer achieves 100,000 plus hours of problem-free operation time for multiple turbines using GST® EP turbine oil series and Caltex LubeWatch® program

Chevron Alkhalij supplies GST® EP Series turbine oils to lubricate Gas, Steam & Combined Cycle turbines in the power generation sector for both utilities and industrial customers in the Middle East. Our customers have benefited by using Caltex GST® EP series combined with Caltex LubeWatch® Oil Analysis Program to manage varnish and lacquer buildup on critical turbine parts.

After switching to GST® EP series and implementation of the LubeWatch® program >90% of MPC results have fallen to below priority action levels. Membrane Patch Colorimetry measures the varnish potential of the system oil. Remaining Useful Life [RULER] levels have been monitored to remain within acceptable limits, with immediate action being recommended to address depleted levels. Cleanliness levels have steadily improved to OEM limits.

This reduction in MPC levels is safely managed by use of LubeWatch® Oil Analysis Program. Key users have benefited by switching to a predictive condition monitoring regime to manage unexpected turbine downtime, reduce man-hours and overall cost reduction on lubricants related expenses. The results have been reviewed by technical experts who expressed satisfaction with Chevron's Product & Service approach to ameliorating varnish related issues.

"We supply GST® EP series to gas, steam and combined cycle turbines for power generation and industrial use in the hot desert climate of the Middle East. The models range from Toshiba, MHI, GE Frame 5 & 9, Alstom and ABB gas & steam turbines.

By using Caltex LubeWatch® combined with high performance GST® turbine oils, reliability and uptime improved significantly. Our customers benefited from operational \$\$ saving, mainly by enhanced protection against formation of varnish or lacquer which normally form at lower hours typically.



Our valued customers rely on Caltex LubeWatch® services to determine oil change intervals, and thanks to the robust formulation of GST® series in combination with LubeWatch® users had no lubricant related unscheduled down time over a 3 year period. It is important to use a premium turbine oil and GST® provides just that," says Rashid Al Ameer, General Manager, EPPCO Lubricants.

*After thousands of cumulative service hours using GST® EP, ISOM, MPC & RULER tests in 2015 showed very good performance even under severe operating conditions.*

"We ran over three hundred GST® EP oil samples through the LubeWatch® program over the last 3 years in order to monitor oil condition. In >90% of the cases, varnish and lacquer levels were brought below alert limits despite the extreme operating conditions.

A major concern in our operation is the formation of varnish: As varnish and lacquers are soluble in oil up-to certain limits, they eventually drop out to form varnish deposits around sensitive parts. These deposits cause servo valves to stick, increase oil related trips and reduce turbine performance and oil life.

"The Middle East is a demanding environment for Gas & Steam Turbines. Premium quality turbine oils like GST® EP is capable of lubricating and cooling bearings while protecting the system against rust, corrosion and harmful deposits to help our customers engines Run Better Longer" said Adriaan De Kok, Area Business Manager, Chevron Lubricants.



**Chevron Reliability** — The RBL™ Program is our commitment of business support and reliability: Chevron's lubrication expertise combined with superior products and a tailored service program work together to help your business Run Better Longer.