The Challenge
A regional power generation company operating three power stations was seeking to minimize the negative effects of contamination wear in its seven natural gas turbines. The manufacturer of the gas turbines has a minimum ISO Cleanliness code of 19/17/14 for the turbine oil. For the past 13 years, the company had been using Chevron GST® ISO 32 in these turbines.

Investigation and Site Assessment
Chevron’s ISOCLEAN® Certified Lubrication Marketer began discussions with the power generation company’s maintenance team utilizing the RBL™ site assessment process to investigate current procedures for handling and management of turbine oil. The current standard operating procedure (SOP) included filtering the turbine oil off the delivery truck as it is being pumped into the turbine oil reservoir. Samples of the filtered turbine oil are then pulled from the reservoir and sent to an oil analysis lab for particle count analysis to determine the ISO Cleanliness code. The power generation company’s maintenance team was not able to confirm if they were meeting the required 19/17/14 ISO Cleanliness code until after the turbine oil was in the reservoir.

Solution – Start Clean & Stay Clean
To minimize the time, manpower and filtration cost of filtering new turbine oil onsite, the Lubrication Marketer recommended implementing the Chevron ISOCLEAN Certified Lubricants Program. The Lubrication Marketer is now supplying Chevron GST ISO 32 – ISOCLEAN Certified directly into the turbine oil reservoirs. Every delivery is Chevron ISOCLEAN Certified to an ISO Cleanliness code of 16/14/12 to ensure the power generation company’s maintenance team is meeting the required ISO Cleanliness requirement of the turbine manufacturer. Oil analysis documentation is provided on every delivery including the ISO Cleanliness code and demulsibility testing. By transferring the process to the Lubrication Marketer’s facilities, the power generation company has reduced their risk exposure of filtering turbine oil onsite, as well reduced onsite filtration cost and man power expense.

Results – Increased Equipment Life & Reduced Maintenance Costs
The power generation company believes they will achieve 2X improvement in equipment life expectancy with the Chevron ISOCLEAN Certified Lubricants program.* Additionally, they estimate they will achieve a cost savings of approximately $2,200 per year/per turbine by eliminating the more costly onsite filtration SOP previously in place. As part of the ISOCLEAN Certified Lubricants program, the Chevron Lubrication Marketers is continuously monitoring ISO Cleanliness codes on the turbine oils to ensure product integrity and working with the company’s maintenance team on achieving maximum equipment life.

*According to Noria Life Extension Table