



The Challenge:

An existing LM6000 turbine installation located in Minnesota had an operational problem on a clutch lube oil lubrication system.

The system utilized a gravity oil return to the tank and was experiencing positive pressure build-up within the EG Enclosure. The results were seal leakage and oil mist emissions.

Between these problems, the customer was experiencing a relatively high oil consumption rate.

Additionally the oil mist emissions created environmental issues.

More importantly, the oil consumption seemed to be causing a reduction in transposed power and vibration problems in the turbine.

The Equipment:

Turbine Model:	GE LM6000 Turbine
Oil Flow Rate:	200 Liters per Minute
Oil Temperature:	90-140 degree F
Oil Pressure:	20-25 PSI
Oil Viscosity:	ISO-VG32
Tank Size:	6' X 4' X 4' H

The fill port on the lubrication skid was a 2-inch ANSI bolt pattern, raised face flange.

The seal manufacturer recommends at least 1.5 to 2.0-inches of Mercury vacuum inside clutch housing to prevent seal leakage issues.

The Solution:

Install a Solberg Vacuum Assisted Oil Mist Eliminator (VAE) system on the vent port of the lubrication skid to eliminate oil mist and to create a vacuum (negative pressure) in the reservoir to prevent seal leakage.

Installation:

Solberg technical support and engineering were on site to help supervise the installation and the wiring for the system.

Preliminary tests were run to ensure that all of the interfaces were working properly.

Periodic reviews are conducted, allowing the customer to ask questions and receive help with regular service on the system – such as element change out.

The Solberg VAE:

Vacuum Assisted Oil Mist Eliminator design consist of the following components:

- Vacuum rated tank assembly
- Regenerative blower system to create the required vacuum (negative pressure) level
 - An optional automated vacuum regulator allow the customer to monitor and adjust the vacuum level within their tank assembly from a remote computer.
- Coalescing filter element to remove oil mist emissions and smoke from the lubrication reservoir.
 - To protect the surrounding environment the coalescing filter is 99.97% D.O.P. efficient on .3 micron particles
 - Designed for a service interval of 1 year



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