

THE LM6000 PACKAGE FAMILIARIZATION TRAINING COURSE BASED ON ALL LM6000 (PA-PF) MODELS



Course Objective:

This course is intended for customer personnel concerned with day-to-day on-site operations and maintenance of the GE LM6000 aero-derivative gas turbine models. The purpose of the training is to provide the knowledge required to ensure consistent, trouble-free performance of the engine and its associated equipment.

For Whom?

Operators and Maintenance engineers (mechanical as well as I&C).

In general for those who need an in-depth understanding of the LM6000 gas turbines and the related auxiliary systems. The ones who need the ability to perform in dept troubleshooting in case of reliability issues.

The training course is meant for employees of companies that are (future) end users of LM gas turbines or contractors that operate the gas turbines on behalf of those companies.

After completion of this training the student knows:

- The principles, the construction, the operation and maintenance aspects of the LM6000 gas turbine installation.
- How to perform in dept troubleshooting in case of reliability issues.
- The participant will also be introduced to the gas turbine control and protection systems.

Certificate

Every participant will receive a personal certificate at the closing of the course.

Entry Level

The course participants should have some basic knowledge of operation and maintenance of rotating equipment, not necessarily gas turbines.

Course manual

Participants will receive a training manual, covering the relevant subjects of the training course in digital format. The manual consists of equipment descriptions, schematics and operating and maintenance instructions. The text is supplemented by a large number of illustrations, drawings and photographs of the equipment.

The manual also contains an abundance of reference information, for further private studies.

Language

The training will be executed in English. The manuals are in the English language as well.

VBR Turbine Partners

Industrieweg Oost 6
6662 NE Elst (Gld)
The Netherlands

Phone: +31 88 010 9000
info@vbr-turbinepartners.com
www.vbr-turbinepartners.com

Independent technical & digital maintenance experts for LM aeroderivative gas turbines, Speedtronic & Woodward control systems and all associated auxiliary systems



Course content:

- **Make acquaintance and presentation of the program**
- **Introduction to gas turbines**
 - Where it all started
 - Gas turbine basics
- **LM6000 construction**
 - Introduction and heritage of the LM6000
 - LM6000 models and configurations
 - Engine stations and orientation
 - Shaft and bearing configuration
 - Frame and support members
 - LP compressor section
 - Inlet Guide Vane system
 - Variable Bypass Valve system
 - HP Compressor section
 - Variable stator vane system
 - Combustion section configurations (SAC & DLE)
 - HP turbine section
 - LP turbine section
 - Accessory Gear Box
 - Engine Airflow
 - Turbine instrumentation
 - Main operating and performance features
- **Auxiliary Equipment & Systems**
 - Introduction to the package configuration and auxiliary systems
 - Engine and package documentation
 - Gas turbine lube oil system
 - Hydraulic oil system
 - Hydraulic starting system
 - Generator/load gearbox lube oil system
 - Fuel systems (SAC & DLE)
 - Combustion air and ventilation system
 - SPRINT system
 - Compressor water wash system
 - Vibration monitoring system
 - Fire & Gas protection system
- **Control Systems**
 - Control system architecture
 - Control panel layout and hardware
 - Control system functionality
 - HMI screen set



- **Gas Turbine Operation**
 - Pre-start activities
 - Permissive conditions
 - Start-up sequence
 - Online operation
 - Shut-down sequences
- **Gas Turbine Maintenance**
 - LM6000 maintenance philosophy
 - Periodic maintenance
 - Unscheduled maintenance
- **Troubleshooting and Cases**
 - Troubleshooting principles
 - Alarm messages analysis
 - Trip Trend Log analysis
 - Practical cases
- **Remaining subjects and answers to questions**
- **Evaluation of the training course**
 - Course evaluation and issue of certificates

**Training Duration**

Monday/Tuesday/Wednesday/Thursday 09:00 – 16:00
Friday 09:00 – 14:00
Lunch break 12:00 – 13:00

Pricing / Payment conditions

For the LM6000 gas turbine training course, the cost will be:
€ 1950,- per person. (excl. VAT).

Registration

If you wish to participate in the course please visit [Registration LM6000 training](#) and register on-line at least two (2) weeks prior to the start of class. You can also request a registration by e-mail training@vbr-turbinepartners.com.

Cancellation

If you have received a registry confirmation but are forced to cancel due to circumstances beyond your control, you can cancel the registration up to two (2) weeks before the course commencement date. The paid amount will then be refunded. After this date, or in the event of a no-show, no amount will be refunded.

VBR reserves the right to cancel or defer the course. Cancellation or deferment of the training course will be notified by VBR two (2) weeks prior to the course date. VBR is not responsible for any expenses incurred due to non-refundable airline tickets or hotel accommodations.

Hotel accommodation

As an attachment to the registry confirmation, you will receive the hotel suggestion. Transfer from and to the VBR training facility can be arranged by VBR.

Further information

Further information, also about in company training, can be found by visiting our [training webpage](#). For all training related questions please contact the VBR Turbine Partners training department: e-mail: training@vbr-turbinepartners.com, or call +31 (0)88 010 9000.

Customer- or site-specific training courses

If you wish information about site-specific training courses please contact the VBR Turbine Partners training department: e-mail: training@vbr-turbinepartners.com, or call: +31 (0)88 010 9000.

Best Regards,

Stephen Heemink

Education & Training Manager