

SGD 3053
for 2
Participants
or More

EXTENSIVE LM2500 and LM6000 **GAS TURBINE** **FAMILIARIZATION TRAINING**

Covering LM2500, LM2500+, LM2500+G4, LM6000PA up to LM6000PF Gas Turbines

08 – 12 OCTOBER 2018, KUALA LUMPUR, MALAYSIA

TOPICS COVERED

How a Gas Turbine works

*The LM2500 & LM6000
Compressor, Combustion and
Turbine Sections*

The Auxiliary Systems

*Operations and the
Maintenance Philosophy*

*The Gas Turbine Control
System Principles*

*Troubleshooting and Practical
Cases*

Introduction to the Generator

Expert Course Faculty Leader

Trainer and education & training manager at
VBR Turbine Partners an independent ISO
9001:2015 certified gas turbine service
provider.

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Course Objective

This course is intended for customer personnel concerned with day-to-day on-site operations and maintenance of the several GE LM2500/PGT25 and LM6000 aero-derivative gas turbine models. The purpose of the training is to provide the knowledge required to ensure consistent, trouble-free performance from the engine and its associated equipment.

Key Learnings

- How a Gas Turbine works,
- The construction of the LM2500 and LM6000 including which important and/or relevant component is located where,
- The LM2500 and LM6000 axial flow compressors including what is causing stall and surge,
- The Variable Geometry Control systems,
- The combustion systems (SAC & DLE),
- The turbine sections,
- The auxiliary systems,
- The LM2500 and LM6000 Operations
- The LM2500 and LM6000 maintenance philosophy,
- How to read and use the Operation and Maintenance manuals including the IPB (Illustrated Parts Breakdown Book),
- The LM2500 and LM6000 gas turbine control system principles,
- Troubleshooting and Practical Cases,
- The Generator.

After completion of this training the delegates will know:

The principles, the construction, the auxiliary systems, the operation and maintenance aspects of the LM2500, and LM6000 (SAC & DLE) gas turbines. The participant will also be introduced to the gas turbine control and protection systems and the generator.

Who Should Attend

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

In general this course is applicable to those who need an in-depth understanding of the LM2500/PGT25 AND LM6000 gas turbines and the related auxiliary systems. The training course is also 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.

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

Course Manual

Each trainee will receive a training manual (approximately 1000 pages in full color), covering the relevant subjects of the training course. 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. To support the discussed subjects, a calculation and simulation program will be used.

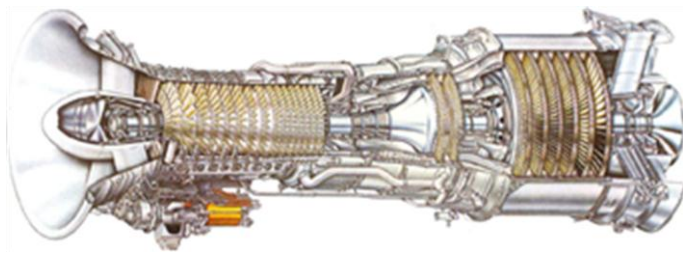
The participants will also receive a memory stick with additional information such as full color cross section drawings, Airflow diagrams etc.

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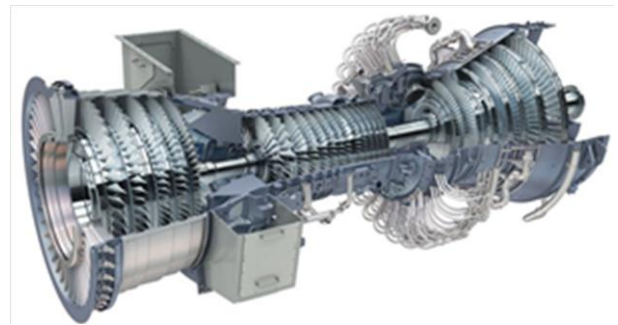
About Our Expert Course Trainer

The trainer is originally educated as a Merchant Marine Chief Engineer in both Diesel Engines and Steam Turbines. After his 11 years career in the Merchant Marine he has been a teacher at Merchant Marine Academy, worked in a large combined cycle power plant and for over 20 years for a GE licensed gas turbine manufacturer/packager/service provider for heavy-duty and LM gas turbines, first as service engineer and later as contract manager, project engineer and trainer/training manager.

Currently he is trainer and education & training manager at VBR Turbine Partners an independent ISO 9001:2015 certified gas turbine service provider. The service portfolio of VBR Turbine Partners includes gas turbine spare parts, troubleshooting & problem solving, hot section exchanges, engine overhaul consultancy, control system retrofits, remote condition monitoring & training.



LM2500 Gas Turbine



LM2500 Gas Turbine

This training course has a limited attendance for up to 20 participants only.

Sessions commence at 9am on all days, with short intervals at 10.30am and 3.30pm respectively.

Refreshments will be provided in the short intervals.

Lunch will be provided at 12:30pm for 1 hour. Sessions will end at 5pm on all days.

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5 Day Course Outline

- **Make acquaintance and presentation of the program**
- **Introduction to gas turbines**
 - Where it all started
 - Gas turbine basics
 - Introduction to various GT models LM2500/PGT25 and LM6000 (SAC & DLE)
- **Major Components of the LM2500/PGT25, and LM6000 where applicable**
 - Inlet Section
 - Variable Inlet Guide Vanes Assembly (VIGV)
 - Low Pressure Compressor (LPC)
 - Principle of operation, Rotor parts, Stator parts
 - High Pressure Compressor (HPC)
 - Principle of operation, Rotor parts, Stator parts
 - Variable Geometry Control System (VGC)
 - Principle of operation, Details of the VSV system
 - Combustion system (SAC & DLE)
 - Principle of operation, Details of the combustion system
 - High Pressure Turbine (HPT)
 - Principle of operation, Rotor parts, Stator parts
 - Low Pressure Turbine (LPT)
 - Principle of operation, Rotor parts, Stator parts
 - Bearings, sumps and frames
 - The bearings, Principle of a sump, The A, B, C, D and E sumps
 - Accessory Drive Assembly & Accessories
 - The Inlet Gearbox (IGB), Radial Drive Shaft, Transfer Gearbox (TGB) and Accessory Gearbox (AGB)
- **Auxiliary Equipment & Systems of the gas turbine**
 - Introduction
 - Flow & Instrument Diagrams (F&ID's / P&ID's) and Device List
- Instrumentation on/around the gas turbine
- Hydraulic starting system
- Gas turbine lube oil system
- Generator/load gearbox lube oil system
- Hydraulic oil system
- Fuel systems (SAC & DLE)
- SPRINT system
- Inlet air and ventilation system
- Fire protection system
- Compressor water wash system
- **Gas Turbine Operation**
 - General operating instructions
 - Start and stop graphs
 - Gas turbine performance calculations
- **Gas Turbine Maintenance**
 - LM gas turbine maintenance philosophy
 - Levels of maintenance
 - Service Bulletins and Service Letters
 - Maintenance manuals
- **Introduction to the LM Control Systems**
 - Gas turbine control system, general
 - Principle of fuel control (including DLE)
 - Protection systems
- **Troubleshooting and Cases**
 - Troubleshooting principles
 - Practical cases
- **Introduction to the Generator**
 - Generator basics
 - Capacity diagram
 - Brushless excitation (AVR)
 - Protection systems
- **Remaining subjects and answers to questions**
- **Evaluation of the training course**
 - Course evaluation and issue of certificates

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	PER PARTICIPANT	2 PARTICIPANTS OR MORE	IN-HOUSE TRAINING
5 Day Programme	SGD 3,369 Per Participant	SGD 3,053 Per Participant	Guaranteed Minimum 40% Off Normal Price

ATTENDEE DETAILS

Name Job title

Tel Department Email

Name Job title

Tel Department Email

Name Job title

Tel Department Email

Name Job title

Tel Department Email

Name Job title

Tel Department Email

COMPANY DETAILS

Organisation name Industry.....

Address

Postcode..... Country.....

Tel Fax.....

PAYMENT METHODS

By Cheque/ Bank Draft: Make Payable to PowerEdge Pte Ltd.

By Telegraphic Transfer: Please quote AE1 with the remittance advise

Account Name: PowerEdge Pte. Ltd.

Bank Code: 7339 Branch code: 686 Account Number: 686-253386-001 Swift Code: OCBCSGSG

Bank Address: 65 Chulia Street OCBC Centre, Singapore 049513

All bank charges to be borne by payer. Please ensure that PowerEdge Pte Ltd receive the full invoiced amount.

PAYMENT POLICY

Payment is due in full at the time of registration. Full payment is mandatory for event attendance. I agree to PowerEdge Pte Ltd. payment terms


* GST- Exclusive price is only applicable for overseas corporate customers subject to qualifying conditions.

CANCELLATIONS & SUBSTITUTIONS

You may substitute delegates at any time. POWEREDGE PTE LTD does not provide refunds for cancellations. For cancellations received in writing more than seven (7) days prior to the training course you will receive a 100% credit to be used at another POWEREDGE PTE LTD training course for up to one year from the date of issuance. For cancellations received seven (7) days or less prior to an event (including day 7), no credits will be issued. In the event that POWEREDGE PTE LTD cancels an event, delegate payments at the date of cancellation will be credited to a future POWEREDGE PTE LTD event. This credit will be available for up to one year from the date of issuance. In the event that POWEREDGE PTE LTD postpones an event, delegate payments at the postponement date will be credited towards the rescheduled date. If the delegate is unable to attend the rescheduled event, the delegate will receive a 100% credit

4 ways to Register

 [Online Web Registration](#)

 info@poweredgeasia.com

 (65) 6741 9927

 (65) 6579 1288

OTHER TRAINING

- ✓ [EPC Contract Management for Power & Utilities](#)
- ✓ [Electrical Generators & Excitation Systems](#)
- ✓ [Ultra Supercritical Power Plants](#)
- ✓ [Transformer Maintenance](#)

ON SITE TRAINING

Can't make it for the Course?
We'll make the course come to you!!

Simply let us know your preferred time and dates and we will meet you at your schedule and venue.

With a host of highly trained experts, we will be happy to customize your programme with your needs 100% fulfilled.

Contact us today at

 info@poweredgeasia.com

 (65) 6741 9927

