



Melia Hotel, KL  
10 & 11 August 2015



## STANDBY GENERATOR – OPERATION, MAINTENANCE AND TROUBLESHOOTING

In collaboration with:



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# STANDBY GENERATOR – OPERATION, MAINTENANCE AND TROUBLESHOOTING



## INTRODUCTION

Standby generator is an essential equipment, normally installed at any premise which acts as an alternative power source supply in case the normal power supply (TNB) fails. Normally it is left unattended, and operates automatically during the failure of normal power supply.

It is a static equipment, usually reliable but unexpectedly may give problems if it is not being maintained using appropriate procedures as required. It needs special attention in terms of close supervision, operation, testing, maintenance and troubleshooting. Failure of the standby generator to operate when there is a power supply interruption may disrupt the smooth operation of productions/industries/businesses.

There have been many cases whereby standby generators were left unattended. And as a result at times failed to operate as to the required performance especially during failure of power supply. High level of awareness should be imposed to everyone involve in the aspect of operation, maintenance and troubleshooting to overcome the problem of standby generator failure as and when required.

Technical personnel who are assigned to monitor, operate and maintain the standby generator must be fully equipped with relevant knowledge, experience and skills, and part of the achievement is through comprehensive training by the experts.

## OBJECTIVES

- To enhance the operation, maintenance and troubleshooting of standby generator
- To reduce downtime due to failure of standby generator
- To ensure smooth operation
- To minimise cost of maintenance

## WHO SHOULD ATTEND?

Technical personnel (Manager, Engineer, Supervisor, Chargeman, Technician etc.) who are directly or indirectly involve in the operation and maintenance of electrical installation equipped with standby generator.

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## PROFILE

### *Hj. Rozali*

Hj. Rozali has over 45 years of field experience in electrical engineering including 35 years of teaching and consulting to date, and he currently serves as an Assistant General Manager cum Technical Director for Karo Engineering services. Throughout his 45 years career in the field of electrical engineering, he has held numerous positions in operations and maintenance, project management and supervisory posts in electrical installation for electrical compliances, facilities management, research and development, and electrical design, and has served for both the public and private sectors.

He also possesses a great wealth of experience in teaching, lecturing and is engaged with Jabatan Pembangunan Kemahiran Kementerian Sumber Manusia Malaysia, as an External Verification Officer (EVO) for Skills Certificates of Malaysia (SKM), and is also attached with the Construction Industry Development Board of Malaysia (CIDB) as a Valuation Officer for the Site Supervisor Certification. In addition to that, he has been awarded the Train The Trainer (TTT) certificate by Pusat Sumber Manusia Berhad (PSMB).

He has also obtained Diploma (Power) in Electrical Engineering, Diploma Skills Malaysia (DKM) in the field of Electrical Technology, Professional and Competencies Certifications awarded by Energy Commission of Malaysia as an Electrical Engineer Supervisor Level, Chargeman Category B4 – 33kV, Wireman Category PW4 Three Phase Testing and Endorsement. He has successfully attended the Technical and Industrial Training at NEC Corporation Tokyo, Japan (1984 – 1985). He has also successfully attended a 2-Day User Training in Energy Management System (EnMS) – ISO 50001, held on 30th. – 31st. May 2012, and 2-Day User Training in Fan Systems Optimisation held on 9th. – 10th. July 2012 organised by Industrial Energy Efficiency for Malaysian Manufacturing Sector and collaborated with the United Nation Industrial Development Organisation (UNIDO).



## COURSE OUTLINE

### DAY 1

Module 1:

#### Introduction

- 1.1 Definition of standby generator
- 1.2 Working principles of standby generator

Module 2:

#### Basic Generating System

- 2.1 Electromagnetic induction
- 2.2 Basic construction of generator

Module 3:

#### Generator Components and Their Functionalities

- 3.1 Two main components – mechanical and electrical
- 3.2 Mechanical components – prime mover (diesel engine)
- 3.3 Governor – speed control
- 3.4 Fuel system
- 3.5 Cooling system
- 3.6 Electrical components – alternator
- 3.7 Windings (stator and rotor)
- 3.8 Automatic Voltage Regulator (AVR)
- 3.9 Exciter (DC Exciter)
- 3.10 Transformer bypass
- 3.11 Output cabling

### DAY 2

Module 4:

#### Testing

- 4.1 Factory test (new generator)
- 4.2 Site test (new generator)
- 4.3 No-load test/free load test
- 4.4 Load test

Module 5:

#### Types of Faults

- 5.1 Mechanical faults
- 5.2 Electrical faults
- 5.3 Troubleshooting

Module 6:

#### Maintenance

- 6.1 Mechanical parts
- 6.2 Electrical parts

#### Workshop Schedule

- 8.30am Registration and breakfast
- 9.00am Workshop begins
- 10.30am Coffee break and networking
- 10.45am Workshop resumes
- 12.30pm Luncheon and networking
- 1.30pm Workshop resumes
- 3.15pm Coffee break and networking
- 3.30pm Workshop resumes
- 5.00pm End

## • PARTICIPANTS INFORMATION

## WORKSHOP FEE

**RM3,595/PAX****Inclusive of 6% GST**

For group registration, please contact us for group discounts.

## MODE OF PAYMENT

Cheque or bank draft in favour of:

**COMFORI SDN.BHD.** (581115-T)

E-02-03, East Wing,  
Subang Square Business Centre,  
Jalan SS15/4G, 47500 Subang Jaya,  
Selangor, Malaysia

**Payment Via:**

- ☐ Cheque by post/courier  
☐ Tele-Transfer  
☐ Deposit into Our Account

## VENUE

**Melia Hotel, Kuala Lumpur**

16 Jalan Imbi, 55100 Kuala Lumpur,  
Malaya, Malaysia  
Tel: +60 (3) 2785 2828

For hotel reservations, please book directly with the hotel. Hotel reservations and travel arrangements are the responsibility of the registrant. Hotel bills are to be settled by participants directly with the hotel. Note that the rooms are available on a first come, first serve basis. Comfori will not be responsible for hotel reservations. For special room rates, please quote Comfori's event:

**Standby Generator - Operation,  
Maintenance and  
Troubleshooting**  
10 & 11 August 2015

## CONTACT DETAILS

**NurSyuhada**

Tel : +60 (3) 5621 3630  
 Fax : +60 (3) 5638 8248  
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 Email :  
 syuhada.s@covis-group.com

## TERMS &amp; CONDITIONS

- Course fees include course materials and refreshments unless otherwise stated.
- Payment Terms.** Once a completed registration form is received by Comfori, an invoice will be issued. Payment must be made within seven (7) days from the date the invoice is issued. Full payment must be received prior to the event date. Comfori reserves the right to deny admittance to an event if full payment has not been made. Companies that intend to make payments after the event are required to submit a Letter of Undertaking as payment guarantee. Certificate of attendance to the event will be awarded only after payment is received.
- Cancellations and Substitutions.** All cancellations must be made in writing at least 14 days prior to the event date. No refunds will be available following a cancellation. However, if full payment had been made, the payment will be credited towards rescheduled dates or to a future Comfori event. A credit note or a free seat voucher of equivalent value that could be used at future Comfori events will be issued. Comfori reserves the right to charge all hotel booking fees to the client as the result of a cancellation. Substitutions are always welcome at no extra charges. Substitution of participants must be made at least one (1) working day before the event date.
- Note.** Comfori reserves the right to cancel, postpone, or alter the advertised programmes at any time. Comfori will not be held liable for any costs or liabilities incurred by clients as a result of the change of date/programme/venue. Should a cancellation of an event by Comfori occur, the event will be fully refundable.
- Money Back Guarantee.** The decision on refund amounts is subjected to the sole discretion of Comfori's management.
- Copyright.** Distribution, republication and duplication of all contents and materials provided and distributed by Comfori are strictly prohibited.
- Incorrect Mailing Information.** Should mailing information or company details be incorrect or inaccurate, please contact us immediately.
- Disclaimer.** Upon submission of this registration form, client acknowledges that he/she has read and accepted all the terms and conditions as listed above.
- GST.** Price quoted inclusive of 6% GST. (COMFORI's GST No : 001239465984).

Name

Email

H/P No.

Designation

Office (Direct Line)

Department

Vegetarian ☐ Yes ☐ No

1

Name

Email

H/P No.

Designation

Office (Direct Line)

Department

Vegetarian ☐ Yes ☐ No

2

Name

Email

H/P No.

Designation

Office (Direct Line)

Department

Vegetarian ☐ Yes ☐ No

3

Name

Email

H/P No.

Designation

Office (Direct Line)

Department

Vegetarian ☐ Yes ☐ No

4

## • COMPANY INFORMATION

Company

Address

HR Name

HR Contact

Email

Tel

Fax

Signature / Company Stamp