

Proficiency Masterclass in Energy Management of Fan Systems

By Ronald Wroblewski



Supported by:



Introduction

With the industrial sector accounting for almost 60% of the total energy consumption in Singapore, there is high potential for the industrial sector to improve their energy efficiency and energy use.

Fan systems are reported to be one of the most energy-intensive systems among the industrial systems. Examples of EE improvement opportunities of fan systems include reduction in fan demand, improving fan efficiency through correct sizing of fan speed and implementing regular maintenance programme. The Masterclass aims to raise the proficiency of energy managers, plant managers and engineers to advance energy performance improvement in fan systems. Participants will be equipped with the skills to recognise opportunities to reduce energy losses, improve energy performance of fan systems and realise energy cost savings, which in turn improve the competitiveness of industrial companies.

Objectives

Participants will be able to:

- Understand the performance characteristics of fan systems
- Learn to reduce energy use and cost of fan systems
- Identify operational issues that can improve energy performance of fan systems
- Develop an action plan to achieve energy efficiency improvements
- Integrate continuous energy improvement into the management of fan systems

Target Audience

This programme is designed for engineers, energy managers and plant managers working in industrial sectors such as refineries, petrochemicals, chemicals, biomedical, printing, food manufacturing and precision engineering, energy consultants and government agencies.

Programme Details:

Date : 5 & 6 October 2016,
(Wednesday & Thursday)

Time : 9am – 6pm

Venue : IES Academy @ Jurong East

CPD : PDU (PEB), PDU (SCEM)
(To confirm)

Fee (Include GST):

IES member/EENP Partner: \$1,926

Non-member: \$2,140

(E2i training grant rebate 50% of the course fees before GST)

**Certificate of Attendance will be issued to participants with 100% attendance.*

IES Academy@Jurong East

80 Jurong East Street 21, #04-10

Devan Nair Institute for Employment and Employability

Singapore 609607

Contact Person: Vincent Chiew

Tel: 6460 4247 Fax: 6563 6030

E-mail: vincent@iesnet.org.sg

Course Content (2 Days)

- 1) Introduction to Fan Systems
 - a. types of fans,
 - b. fan components,
 - c. factors affecting fan performance,
 - d. factors to consider in sizing of fan systems

- 2) Opportunities to improve fan performance
 - a. taking a systems approach to improve fan efficiency,
 - b. how to assess fan system needs,
 - c. identification of fan system losses,
 - d. common problems with fan systems,
 - e. correct sizing of fans,
 - f. system leaks

- 3) Tools to help industrial users quantify energy use and savings opportunities in industrial fan systems

- 4) Use of Variable Frequency Drives on fan systems
 - a. Analysis on when to use VFD
 - b. Benefits of VFD

- 5) Maintenance and routine checks for improving efficiency of fan systems

- 6) Life cycle cost analysis

- 7) Development of action plan to improve efficiency

- 8) Resources and follow-up strategy

Trainer's Profile



Ron Wroblewski, is a Professional Engineer (PE) and the President of Productive Energy Solutions, LLC, in Madison, Wisconsin. His consulting and training business helps industrial plants and commercial facilities increase productivity and profitability by making more effective use of their compressed air, fan, pump, and blower systems.

Ron has over thirty-two years of experience designing, analyzing, specifying, and optimizing industrial and commercial energy systems, including fan, pump, blower, HVAC, and lighting systems. As a highly-rated professional trainer, Ron has designed and presented seminars on a national and international basis, including: *Applying VFDs in Fan and Pump Systems*; *Optimizing Fan, Pump and Blower Systems*; *Fan Systems Optimization* expert-level training; *Motor Systems Management* and *MotorMaster+* software training. In addition, he developed the MotoRater, which is a hand-held calculator wheel for analyzing motor energy costs, as well as the Fan and Pump Optimization Checklists.

Ron is a member of the American Society of Heating, Refrigeration and Air Conditioning Engineers. He earned his Bachelor of Science in Mechanical Engineering at the University of Illinois at Urbana-Champaign and his Master of Science in Mechanical Engineering at the University of New Mexico.

Registration Form - Proficiency Masterclass in Energy Management of Fan Systems

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Please register online/mail/fax the completed form by **29th August 2016 before 3pm** to:

Vincent Chiew
IES Academy@Jurong East
80 Jurong East Street 21, #04-10
Devan Nair Institute for Employment and Employability
Singapore 609607
Tel: 6463 9211
Fax: 6563 6030

Participant Details

*Name : _____ *NRIC : _____
(Please written in BLOCK Letter)

Company : _____ *Designation: _____

*Address 1 : _____
(For mailing of invoice and receipt)

Address 2 : _____

*Postal Code : _____ Sex : _____ Male / Female

*Contact No. : _____ Fax : _____

*Your Email : _____
(For sending of confirmation email, preferable personal unless company sponsored)

Please indicate : IES/ EENP members IES M'ship No.: _____ P.E. No.: _____ (if applicable)
 Non-members Affiliated member : _____

Sponsored by company (Please indicate the Contact person detail)

Contact Person Details (if different from participant)

#Name : _____ #Designation : _____

#Contact No. : _____ Fax : _____

#Email : _____

Payment Details

Bank / Cheque No : _____ Amount (\$): _____

~ All Fees are inclusive of 7 % GST.

~ Cheque should be made payable to: "**Engineers Singapore Pte Ltd**".

Acceptance of Terms and Conditions for Registrations of IES Academy's Events

I agree to abide by the Terms and Conditions for Registration of IES Academy's Events.

Name : _____ Signature : _____

***Mandatory entry**

#Compulsory Entry for participant who choose to be INVOICE to your company

TERMS & CONDITIONS COURSE REGISTRATION

Registration

Any registration, whether on-line or fax will be on a *first-come-first-served basis* and will only be confirmed upon receipt of full payment by “**Engineers Singapore Pte Ltd**” unless otherwise invoice to company.

All registrations must be submitted with duly completed registration form.

Closing Date & Payment

The closing date of the event will be 7 days prior to event commencement date. Cheques should be crossed ‘A/C payee only’ and made payable to “**Engineers Singapore Pte Ltd**”, with the *Title of The Event indicated clearly written on the back of the cheques*, and submitted with the duly completed registration forms to:

Attn: Vincent Chiew
IES Academy@Jurong East
80 Jurong East Street 21, #04-10
Devan Nair Institute for Employment and Employability
Singapore 609607

Confirmation of Registration

Confirmation of registration will be given 7 days prior to the commencement date via email. If you do not receive the said confirmation email, you are required to contact IESA general admin immediately at 6463 9211 (office).

IESA reserves the right to allow only confirmed registrants to attend the Event.

Withdrawals/Refunds of Fees

Notice of withdrawal must be given in writing to IESA. Policy on refund of course fee is as follows:

- **FULL** refund if we receive your written notice of withdrawal at least 7 days before the commencement of the Event.
- **NO** refund otherwise.

No show of participant would not be accepted as reason for withdrawal/refund.

Replacement is allowed but restricted to once only. Replacement will be allowed only if written notice is received by us at least 3 days before the commencement of the event. However, when an IES member is replaced by a non-member, the participant has to pay the difference in the relevant fees at least 3 days before the commencement date.

Cancellation/Postponement

Changes in Venue, Dates, Time and Speakers for the Events can occur due to unforeseen circumstances. IES reserves the full rights to cancel or postpone the Event under such circumstances without prior reasons. Every effort, however, will be made to inform the participants or contact person of any cancellation or postponement.

Fees will be refunded in FULL if any Event is cancelled by IESA.

Enquiries

For further enquiries, please contact IESA, general office at Tel: 6463 9211.