SERBA DINAMIK SDN. BHD.(266724-K)
(A member of SERBA DINAMIK Group)

Practical Approach To Inspection And Maintenance Of Steam Turbines Course

Introduction

Proper understanding on the design, operation and maintenance aspects of steam turbines and auxiliaries play an important role in ensuring the success of operating the mentioned machines. Misinterpretation on the inspection or the maintenance procedures will result in bigger damage to its integrated system. Repair or replacement of this equipment is expensive and loss of revenue while machinery is down can spell the difference between continued prosperity or financial disaster. Thus, it is vital for managers, engineers, foreman and trade personnel to equip themselves with sufficient practical understanding of steam turbines and auxiliaries and practising the correct inspection and maintenance methodology adopted worldwides

Objectives

1. To provide participants with practical knowledge of the inspection and maintenance matters related to steam turbines.
2. To expose and guide the participants on step-to-step procedure of inspection and maintenance of steam turbines
3. To provide participants with knowledge in the latest state of art technology, skills and experience in solving steam turbine problems, both maintenance and inspection.

Who Should Attend

√ Engineers
√ Supervisors
√ Operators / Senior Technician

Cancellation & Transfer

If you are unable to attend, a substitute participant is welcome to attend in your place at no additional charge. A full refund, less 10% administrative charge, will be given if cancellation is received in writing at least 14 working days prior to the course. A 50% refund and documentation will be given if cancellation is received less than 7 days prior to the course.

Venue

SDSB Training Room / Hotel

Course Instructors

Lead Instructor
Dato' Dr. Ir. Mohd Abdul Karim Abdullah

The Managing Consultant of Serba Dinamik Sdn. Bhd. (SDSB) who has acquired more than 23 years of hands-on experience in managing, supervising, lecturing and carrying out various tasks related to turbomachinery maintenance nation-wide and internationally. Among other experience but not least is as follows: -

- Conducting public and in-house training course covering topics on precision alignment and balancing, maintenance & inspection of steam turbines, compressors and pumps, predictive / preventive maintenance and turbomachinery protection system.
- Involved in field management and supervision for overhauling of steam turbines, gas turbines, reciprocating & centrifugal compressors and pumps of various made / brand.
- Executing project control function in the job planning and work scheduling to maintain the planned work and production schedule. Analyse schedule impacts resulting from design alternatives, field change and site condition encountered and revising the project schedule when necessary to incorporate any changes.
- Planning, recruiting and managing human resources for various plant shutdown & maintenance representing company management and other construction & fabrication projects.
- Miscellaneous experience on construction & fabrication for various projects under the company involving civil activities & mechanical such as checking fabrication drawings, erection drawings, interprets engineering drawings for tender proposal, recheck piping spool isometric drawings for dimensional accuracy and conformity with plans, elevations and specification.
- Involved actively and executively as a CEO of Serba Dinamik Group.
- Profesional engineer contribution
  -Mentor for the IEM Training Scheme (Mechanical discipline)
  -Personal campaign for recruitment of more graduate engineer into being active member of IEM

Asst. Instructor :
Mokhtar Mohd. Tahir

The Reliability Manager with Serba Dinamik Sdn. Bhd. who has 20 years of experience in the oil and gas industry including constructions, commissioning, troubleshooting and maintenance. Comprehensive knowledge of static and rotating equipment with particular expertise in condition monitoring, vibration analysis, troubleshooting and overhaul for rotating equipment.

- Actively perform maintenance and repair of rotating equipment during planned and unplanned shutdown, and assist instrumentation calibrate and setting vibration probe during turnaround

- Lead troubleshooting activities on turbomachineries nationwide in Malaysia inclusive of rectification machine problem such as in situ balancing.

- Collection of condition maintenance data and analysis work on it thereafter.

Course Fee:
RM 4,200.00 only

Course Methodology

1. The entire course shall focus on the subjects that are relevant and important
2. Practical exercise and CD play on actual steam turbine maintenance shall be provided to reinforce the theoretical understanding through written questionnaires
3. Case studies
4. Real hands on in doing overhaul of Steam Turbine

Special Note:
Participant will undergo a 'hands on' overhaul experience on a steam turbine.

Kindly send your registration form and cheque or bank draft, payable to:-
Serba Dinamik Sdn. Bhd.
7-5, Pusat Dagangan UMNO Shah Alam, Lot 8, Persiaran Damai, Seksyen 11, 40100 Shah Alam, Selangor.

Registration is on receipt of payment.
Kindly ensure early booking for the limited seats to avoid any inconvenience

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Content

Day 1

- Fundamental :
- Basic theory of steam turbine power cycle :
- Carnot cycle
- Rankine cycle
- Steam reheat cycle
- Steam properties

- Types of steam turbines based on :
- Direction of flow
- Method of heat supply
- Method of heat rejection
- Casing arrangement
- Type of application (generator, mechanical, marine/propulsion)

- Steam turbine blading concept :
- Impulse
- Reaction

- Construction and function of major turbine parts :
- Major component :
- Turbine casing
- Diaphragms
- Rotor
- Nozzle
- Blades
- Steam chests
- Steam valve
- Journal bearing
- Thrust bearing
- Turning gear

- Associate system :
- Lubrication oil
- Control oil
- Shaft sealing

- Exercises and case studies

Day 2

- Governing and control system of steam turbine :
- The system description
- Actual governing mechanism
- Control system of steam turbines
- Speed control system
- Mechanism of speed governing system
- Principle of speed controller (woodward governor)
- Mechanism of extraction steam control system
- Extraction steam control system with Askamia
- Lever ratio of extraction steam control
- Speed governing and extraction steam control system
- Exercises

- Rotordynamics behaviour of machinery steam turbines :
- General rotor dynamics
- The elements of rotor dynamics
- The effect of mass distribution
- Overhung rotors
- Computerised rotor dynamics analysis
- Exercises and case studies

Day 3&4

- Inspection Techniques :
- Liquid penetrant (PT)
- Magnetic particle (MT)
- Radiography (RT)
- Ultrasonic (UT)

- Maintenance :
- Preventive and corrective maintenance (Troubleshooting techniques)
- Vibration analysis
- Lube oil analysis
- Process parameter monitoring

- Breakdown/Overhaul Maintenance
i. Electrical and instrumentation :
ii. Mechanical :

- Disassembling / Assembling Activities
- Alignment check
- Main stop valve
- Governing valve
- Casing bolt
- Associate piping
- Lifting of top casing
- Removal of rotor
- Turning of top casing
- Removal of diaphragms (top & bottom)
- Rotor - bearing eccentricity check

- Clearance check/reading
- Bearing clearance
- Axial play
- Labyrinth clearance
- Blade tip to diaphragm clearance
- Diaphragm sink reading

- Inspection of parts (PT/MT)
- Diaphragm
- Rotor
- Governing valves
- Bearings
- Casing bolt

- Precision alignment
- Exercises and case studies
- Practical hands in & carrying out overhaul of Steam Turbine

Registration Form

Course Fee : RM4,200.00

☐ Yes! Please register the following participants for course
"Inspection & Maintenance Of Steam Turbines Course"

☐ I am unable to attend but please put me on your mailing list

No.	Name (Dr/Mr/Mrs/Ms)	Designation

Approving Manager/Contact Person:
Designation:
Company Stamp: