

**CERTIFIED COATING INSPECTOR  
TRAINING & CERTIFICATION PROGRAMME LEVEL 1 / 2: 13 – 19 July 2009**

**TRAINING & CERTIFICATION PROGRAMME LEVEL 3: 20 – 27 July 2009**

Training course proudly organized by Setsco Services Pte Ltd in collaboration with  
The WAUGH Technical Services, UK

With

Certification by The Singapore Welding Society, under the  
International Coating Approval Scheme (SWS ICAS)

**ABOUT THE SWS ICAS CERTIFICATION SCHEME**

A completely new innovative Coating Inspector Approval scheme is launched. The scheme is a joint development between the Singapore Welding Society and Waugh Technical Services of the UK and is entitled as SWS ICAS.

The scheme breaks new ground by the development of sources and provision of certification not previously available for subject areas within Coating Inspection. This is in addition to the standard levels of Coating Inspector and Site Operative disciplines.

**The following Courses and Certification are available:**

**Coating Inspector Levels**

SWS ICAS, COATING INSPECTOR LEVEL 1 (Junior Inspector)  
SWS ICAS, COATING INSPECTOR LEVEL 2 (Supervisory Inspector)  
SWS ICAS, COATING INSPECTOR LEVEL 3 (Senior Inspector)  
SWS ICAS, PIPELINE COATINGS INSPECTOR (Single Grade Inspector)

**Additional Modules**

SWS ICAS, CORROSION / COATING SURVEYOR (Min Level 3 holders)  
SWS ICAS, CRITICAL COATINGS INSPECTOR (Min Level 2 holders)  
SWS ICAS, FIREPROOFING COATINGS INSPECTOR (Min Level 1 holders)  
SWS ICAS, INSULATION INSPECTOR (Min Level 1 holders)

**Operative Levels**

SWS ICAS, BLASTER / PREPARATION OPERATIVE (No entry restriction)  
SWS ICAS, PAINTER / SPRAYER OPERATIVE (No entry restriction)  
SWS ICAS, COATINGS SUPERVISOR (No entry restriction)

**AIMS AND OBJECTIVES OF THE SCHEME**

The SWS ICAS is designed to qualify Coating Inspectors and Coating Operatives for the Industrial and Marine Coatings field to a standard which is recognized and accepted by all National and International Oil, Gas and Civil Engineering companies throughout the world.

**The objectives of the scheme are as follows:**

- To assist in enabling companies to plan their future requirements for inspection and operative staff at various levels through this comprehensive programme offered by SWS ICAS
- To standardize the working practices of Certified Inspectors and Operatives to a high technical and practical level, and to provide a seamless route from Operative to Inspector as and when required by a company or individual.
- To allow companies to specify the use of SWS ICAS certificate holders for their projects with the knowledge that the Coating Inspectors and Operatives have the highest level of knowledge, skill, awareness and adherence to Workplace Safety & Health (WSH) requirements.

The aim of the approval is to train and then examine candidates for their competency in carrying out inspection procedures, interpret and deliver specification requirements, keep records in accordance with client's procedures, and demonstrate a sound theoretical background of the subject at the various levels.



**ABOUT THE COURSE ORGANISER**

SETSCO is one of Singapore's largest testing & Inspection companies accredited by the Singapore Accreditation Council (SAC). It offers a comprehensive range of testing, calibration, inspection, consultancy & training services to a wide spectrum of industries. We are also able to customize similar course(s) / in-house training to fit your organisation needs.

**For more details, please contact**

Dr Arvind at 6895 0633 @ e-mail: arvind@setsco.com or  
Ms Wong Li Kien at 6895 0626 @ e-mail: wonglk@setsco.com

## PROGRAMME OUTLINE: LEVEL 1/2

5 days, 9 hours each day, including 2 hours of homework in the evenings

### MONDAY AM – 13 July 2009

- Introduction to the course and certification.
- Corrosion Theory – Why Steel corrodes? Electrolytic cell, Factors which influence the rate of corrosion, Millscale, Galvanic series, Methods of arresting corrosion.
- Introduction to the course reference material.

### MONDAY PM – 13 July 2009

- Surface Preparation – Dry blast cleaning on site. Cabinet and vacuum reclaim systems. Wet blast cleaning, Pressure washing, Steam cleaning, Hand and power tool cleaning. SS 05 – 59 – 00 Standards, Testing for surface contamination.
- Introduction to paint inspection equipment (Demonstration & practice).

### TUESDAY AM – 14 July 2009

- Paint Technology – Basic constituents of paints, Added ingredients. Characteristics and purposes of a binder, Solvent and pigment, Paint drying and curing, Philosophy of maintenance of painting, Glossary of terms.
- Work on course reference materials / Practice with paint inspection equipment.

### TUESDAY PM – 14 July 2009

- Paint Manufacture – Types and functions of paint mills. Paint and paint film testing – BS 3900, BS 2015, Paint faults, Fineness of grind, Viscosity, Density, Opacity, Drying and curing and adhesion testing.

### WEDNESDAY AM – 15 July 2009

- Coating systems suitable for various substrates and conditions.
- On site working.

### WEDNESDAY PM – 15 July 2009

- Calculations – Density, Volume solids, WFT, DFT and Spreading rates.
- Work on course reference materials / Practice with paint inspection equipment.

### THURSDAY AM – 16 July 2009

- Health and Safety legislation. Defining the duties of a coating inspector Level 1 / 2. Contractor malpractices, Paint manufacturers data sheets.

### THURSDAY PM – 16 July 2009

- Application of Paints – Brush, Roller, Conventional Spray, Airless spray, Electrostatic spray; BS 5252 and BS 4800.
- Completion of course reference material / Practice with paint inspection equipment.

### FRIDAY AM – 17 July 2009

- Carrying out of self analysis paper and discussion of answers.
- Brief personal practical examination.

### FRIDAY PM – 17 July 2009

- Practice with instruments, Personal tutorials and private study.

## CERTIFICATION EXAMINATIONS: LEVEL 1 AND LEVEL 2

18 & 19 July 2009

### Level 1 Inspector

Theory Examination:

2 hrs – Theory exam (40 Multiple Choice Questions)  
(2.5 marks each, 100 marks)

Practical Examination:

Practical examination based on calibration and use of equipment  
(100 marks)

### Level 2 Inspector

Theory Examination 1:

1 hr – Theory exam (20 Multiple Choice Questions)  
(1 mark each, 20 marks)

Theory Examination 2:

3 hrs – Theory exam (16 Narrative Questions)  
(5 marks each, 80 marks)

Practical Examination:

Practical examination based on 25 verbal questions (100 marks)

## SPEAKER'S PROFILE

Mr Bill Waugh B.Ed F.T.C Cert.Ed. has been involved in the coatings industry for fifty years. He holds a degree in Education from Huddersfield University, a certificate in Further and Higher Education from Nottingham Polytechnic, and CGLI Full Technological Certificates in Building Science, Elements of Supervision and Development of Design, etc. He has been actively involved with Painting Inspector Course and Examination all over the world. Since 1992 Bill has personally trained more than four thousand students and examined some three thousand candidates for approval as Paint / Painting Inspectors under the BGAS scheme at Grade 3, Grade 2, Grade 1, and Site Coatings. Training and Examinations have been carried out in Abu Dhabi, Dubai, Trinidad, Qatar, Mumbai, Chennai, Kolkatta, Thailand, Philippines, Brunei, P.R.C., Hong Kong, Singapore, Indonesia, Batam, Bahrain, Saudi Arabia, Kuwait, Egypt, Turkey, Azerbaijan, Nigeria, East/West Malaysia and Britain. He took early retirement in 1992 in order to develop Waugh Technical Services, which is engaged in Training and Consultancy for the industrial and Marine Coatings Industries.

Mr Bill Waugh will deliver both Level 1 / 2 and Level 3 Training Courses.

## PROGRAMME OUTLINE: LEVEL 3

5 days, 9 hours each day, including 2 hours of homework in the evenings

### MONDAY AM – 20 July 2009

- Introduction to the course
- Zones of a offshore structure
- Various platform types
- Definitions and abbreviations

### MONDAY PM – 20 July 2009

- Offshore working
- Offshore safety
- Permit-to-work systems
- Vessel entry and enclosed space working
- Introduction to coating samples

### TUESDAY AM – 21 July 2009

- Survival and offshore induction training
- Medical requirements
- Emergency procedures
- Safety escape routes

### TUESDAY PM – 21 July 2009

- Scaffolding
- BS 5499-2 Safety signs and symbols
- BS 1710 Identification of pipelines and services
- Discussion regarding coating samples

### WEDNESDAY AM – 22 July 2009

- Flame spread classification
- Fire ratings
- Classes and divisions
- Fireproof materials
- Cementitious fireproof coatings
- Intumescent fireproof coatings

### WEDNESDAY PM – 22 July 2009

- Anti fouling coatings
- Coating applications by spray and brush
- Properties and performance of paints
- Contractor daily log
- Selection of coatings
- Conflict between documents

### THURSDAY AM – 23 July 2009

- Performance testing for topside zone systems and atmospheric zone systems
- Write up on coating samples

### THURSDAY PM – 23 July 2009

- Performance testing for splash zone systems and submerged zone systems
- Write up on coating samples

### FRIDAY AM – 24 July 2009

- Practice papers for Level 3, and discuss answers

### FRIDAY PM – 24 July 2009

- Tutorials and free study time

## CERTIFICATION EXAMINATIONS: LEVEL 3

25 – 27 July 2009

### Level 3 Inspector

Theory Examination 1:  
1 hr – Theory exam (20 Multiple Choice Questions)  
(1 mark each, 20 marks)

Theory Examination 2:  
3 hrs – Theory exam (16 Narrative Questions)  
(5 marks each, 80 marks)

Practical Examination:  
Practical examination based on 25 verbal questions (100 marks)

### **COURSE / EXAMINATION CRITERIA**

Level 1 / 2 are integrated into one course and each participant is eligible to undertake both Level 1 and Level 2 examinations. A candidate must be successful at Level 1 before being able to attempt Level 2. Those candidates who can provide evidence of three years involvement in coating inspection or, having had three years experience as coating manufacturer technical representatives, or who can provide evidence of having attended a Level 2 course conducted under BGAS, NACE, ICorr or Frosio will also qualify to enter for Level 1 and Level 2 examinations at their own or their employers discretion. The Level 3 examination can only be taken upon successful completion of the SWS ICAS Level 3 course. All levels must be taken in sequence. Pipeline coating Inspector Module and Operative disciplines are based on a single level.

# REGISTRATION FORM

CERTIFIED COATING INSPECTOR TRAINING PROGRAMME LEVEL 1 / 2: 13 – 17 July 2009  
 CERTIFIED COATING INSPECTOR CERTIFICATION EXAMINATION LEVEL 1 / 2: 18 & 19 July 2009

CERTIFIED COATING INSPECTOR TRAINING PROGRAMME LEVEL 3: 20 – 24 July 2009  
 CERTIFIED COATING INSPECTOR CERTIFICATION EXAMINATION LEVEL 3: 25 – 27 July 2009

Please fill in the form & fax to 6566 7718 or e-mail to [wonglk@setsco.com](mailto:wonglk@setsco.com) on / before 6 July 2009. Cheques should be made payable to "SETSCO Services Pte Ltd". Please forward the cheque along with a copy of the filled-in registration form to SETSCO Services Pte Ltd, 18 Teban Garden Crescent, Singapore 608925 (Attention to Miss Wong Li Kien).

Course Description	Course / Examination Code	Fee (\$)		
<ul style="list-style-type: none"> <li>Level 1 / 2 course only</li> <li>Level 3 course only</li> </ul>	<ul style="list-style-type: none"> <li>L 1 / 2</li> <li>L 3</li> </ul>	<ul style="list-style-type: none"> <li>\$1400.00 + 7% GST</li> <li>\$1400.00 + 7% GST</li> </ul>		
<ul style="list-style-type: none"> <li>Level 1 Certification Examination</li> <li>Level 2 Certification Examination</li> <li>Level 3 Certification Examination</li> </ul>	<ul style="list-style-type: none"> <li>L 1C</li> <li>L 2C</li> <li>L 3C</li> </ul>	<ul style="list-style-type: none"> <li>\$800.00 + 7% GST</li> <li>\$800.00 + 7% GST</li> <li>\$800.00 + 7% GST</li> </ul>		
<b>Note:</b> <ul style="list-style-type: none"> <li>All trainees attending Level 1 / 2 course are eligible for Level 1 / 2 Certification Examination</li> <li>Certification Examination is taken in sequence, that is, Level 2 Certification Examination will be taken after passing Level 1 Certification Examination. Examinees may register for both Level 1 and Level 2 examinations. However, in case the examinee fails in Level 1 Certification Examination, the fees will be refunded or adjusted for Retest Examination.</li> </ul>				
Transition examination to ICAS Level 1 or 2 for those holding BGAS, NACE, ICorr, CSWIP or Frosio qualifications	<ul style="list-style-type: none"> <li>T Initial</li> </ul>	<ul style="list-style-type: none"> <li>\$300.00 + 7% GST</li> </ul>		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <b>Retest Level 1</b> <ul style="list-style-type: none"> <li>Theory Examination</li> <li>Practical Examination</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <b>Retest Level 2</b> <ul style="list-style-type: none"> <li>Theory Examination</li> <li>Practical Examination</li> </ul> </td> </tr> </table>	<b>Retest Level 1</b> <ul style="list-style-type: none"> <li>Theory Examination</li> <li>Practical Examination</li> </ul>	<b>Retest Level 2</b> <ul style="list-style-type: none"> <li>Theory Examination</li> <li>Practical Examination</li> </ul>	<ul style="list-style-type: none"> <li>RT L1 – T</li> <li>RT L1 – P</li> </ul>	<ul style="list-style-type: none"> <li>RT L2 – T</li> <li>RT L2 – P</li> </ul>
<b>Retest Level 1</b> <ul style="list-style-type: none"> <li>Theory Examination</li> <li>Practical Examination</li> </ul>	<b>Retest Level 2</b> <ul style="list-style-type: none"> <li>Theory Examination</li> <li>Practical Examination</li> </ul>			
<b>10-Year Re-certification</b> <ul style="list-style-type: none"> <li>Level 1</li> </ul>	<b>10-Year Re-certification</b> <ul style="list-style-type: none"> <li>Level 2</li> </ul>	<ul style="list-style-type: none"> <li>10RC L1</li> <li>10RRC L2</li> </ul>		

**## The fee structure is subjected to review.**

Salutation	Name	Course / Examination Code (Refer to the above table)
(Dr/Mr/Ms)		
(Dr/Mr/Ms)		
(Dr/Mr/Ms)		
<b>Company Name</b>		
<b>Contact Person</b>		
<b>Company Address</b>	<b>Postal Code</b>	
<b>Email</b>		
<b>Telephone</b>	<b>Fax</b>	



**C/o Informatics Campus  
 12 Science Centre Road  
 Singapore 609079**

Bus Service Numbers:  
 51, 78, 79, 97, 197, 198, 66, 178

Nearest MRT Station:  
 Jurong East

