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SubNet Services Ltd. Are IMCA Training members*

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American Welding Society



# ROV05S ROV Pilot Technician

This course is fully conducted at our training premises.  
If you wish to save time and money as well as start this course on line TODAY  
you need to do the E - version where part of the course is done on line please  
contact us immediately for access.

This is for new entrants to the ROV industry who already  
have a technical certification such as Electronics, Electrical,  
Mechanical or Fiber Optics. They are technicians wishing to  
become ROV Pilot Technicians.

The Course Content is in line with IMCA guidance  
documents IMCA R002, IMCA R010, IMCA C005 - R04 and  
SNR04.

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## ➔ ROV05S ROV PILOT TECHNICIAN TRAINING COURSE

The Course Content is in line with IMCA guidance documents: **IMCA R002, IMCA R010, IMCA C005 - R04 and SNR04.**

By using our e-learning system to allow you to study at home and then complete with practical work and assessment on site we are able to save you considerable time and money.

## ➔ COURSE CONTENT

### R1002 - ROV Familiarisation Basic Introductory

R1002 we give you the R1002 E-Learning module, This training course covers IMCA R002 document. You take this module and tests at home over the Internet and get assessed again when you arrive at our training site.

You are given immediate log in access once you make your booking. You take the course on line where your progress is monitored. You are assessed again fully when you arrive at our training site to do your full course.

By using our e-learning system to allow you to study at home and then complete with practical work and assessment on site we are able to save you considerable time and money.

#### R1002 Knowledge

- ➔ Overall Safety and Environmental Awareness
- ➔ Typical Offshore Operations, Installations, Facilities and Vessels (for ROV Operations)
- ➔ Remotely Operated Vehicle (ROV) Systems
- ➔ Lifting Equipment (Maintenance and Operation)
- ➔ Duties of the Members of an ROV Crew

### R010 - Basic ROV Pilot Technician Module

Like most training establishments SubNet Services Ltd offer a very Basic ROV Pilot Technician course as well as more detailed Commercial ROV Courses. This training course covers IMCA R010 document

This basic course module covers a bit more than the basic requirements as recommended by IMCA document R010 We then go over R1002 module contents in more detail.

To complete the course we add some practical flying. In fact IMCA do not seem to even recommend actual flying of an ROV but SubNet include some interesting flying hours using our 3 ROV over oilfield simulated objects.

#### R010 Knowledge

- ➔ High voltage electricity
- ➔ Electricity in hazardous areas
- ➔ Crane operations, lifting and winches
- ➔ Rigging and slinging
- ➔ Hydraulic systems
- ➔ Health, safety and environmental awareness
- ➔ Manual handling
- ➔ Practical ROV Flying



## ➔ R1002 ROV Familiarisation Basic Introductory Module Content

Competence	Knowledge	Ability
Modules	<ul style="list-style-type: none"> <li>• Changes Issues and Standards</li> <li>• Knowledge of Company Accident Reporting</li> <li>• Offshore Hazard Identification</li> <li>• PPE and Safety Awareness</li> <li>• Risk Assessment Physical Hazards</li> <li>• Safe Working Practices</li> <li>• Safe Workshop Practice</li> <li>• Offshore Job Description</li> </ul>	<ul style="list-style-type: none"> <li>• Subsea Equipment</li> <li>• Typical Offshore Operations and Installations</li> <li>• Typical Offshore Vessels</li> <li>• ROV Handling Systems</li> <li>• ROV History Development &amp; Limitations</li> <li>• ROV Tooling and Sensor Fits</li> <li>• Typical Operations</li> <li>• ROV Lifting Equipment Maintenance Testing and Operation</li> <li>• ROV Crew Job Titles</li> <li>• Qualifications and Competence</li> </ul>

## ➔ R010 Basic ROV Pilot Technician Module Content

Competence	Knowledge	Ability
High Voltage Electricity	<ul style="list-style-type: none"> <li>• Introduction to HV systems</li> <li>• Safety</li> <li>• Certification</li> <li>• Standard labelling/certification</li> <li>• Codes of practice and certificates</li> </ul>	<ul style="list-style-type: none"> <li>• Description of system components</li> <li>• Repair/maintenance</li> <li>• Use of test equipment</li> <li>• Fault finding techniques</li> <li>• Planned maintenance procedures</li> </ul>
Electricity in Hazardous Areas	<ul style="list-style-type: none"> <li>• Hazardous area classification</li> <li>• Safety</li> <li>• Certification/Labelling</li> </ul>	<ul style="list-style-type: none"> <li>• Environment</li> <li>• Flammable gases and vapours</li> <li>• Flameproof inspection and maintenance</li> </ul>
Crane Operations, Lifting and Winches	<ul style="list-style-type: none"> <li>• Major types of lifting equipment</li> <li>• Recertification</li> </ul>	<ul style="list-style-type: none"> <li>• Means of slinging</li> <li>• Visual awareness of defects</li> <li>• Weather limitations</li> </ul>
ROV LARS	<ul style="list-style-type: none"> <li>• Cranes and 'A' frames</li> <li>• Installation</li> <li>• Use of/operations/safety</li> <li>• Inspection</li> <li>• Function of testing</li> <li>• Load certification</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance/repair</li> <li>• Lift wire inspection/maintenance /replacement</li> <li>• Umbilical winch</li> <li>• Types (lifting winch)</li> <li>• Inspection (winch and umbilical)</li> <li>• Load testing (armoured umbilicals)</li> <li>• Tether management systems</li> </ul>
Rigging and Slinging	<ul style="list-style-type: none"> <li>• Lifting equipment selection</li> <li>• Examination and testing</li> <li>• Marking lifting equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Safe working load</li> <li>• Shackles</li> <li>• Webbing slings</li> <li>• Correct use of slings and lifting equipment</li> </ul>
Hydraulic Systems	<ul style="list-style-type: none"> <li>• Safety</li> <li>• Certification</li> <li>• Description of system components – types/use and operation of:</li> <li>• Associated electrical circuitry</li> </ul>	<ul style="list-style-type: none"> <li>• Repair/maintenance</li> <li>• Use of test equipment</li> <li>• Basic fault finding techniques</li> <li>• Basic circuit diagram representation</li> </ul>
Health, Safety and Environmental Awareness	<ul style="list-style-type: none"> <li>• Safety/risk management</li> <li>• Health and safety</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental awareness</li> <li>• Relevant legislation</li> </ul>
Manual Handling	<ul style="list-style-type: none"> <li>• What is manual handling?</li> </ul>	<ul style="list-style-type: none"> <li>• Safe lifting techniques</li> </ul>

## ➔ R04 - ROV Pilot Technician Grade 2 – IMCA R04 Competency Training Module Content

Competence	Knowledge	Ability
Safety R/R04/000/0101	<ul style="list-style-type: none"> <li>Awareness of legislation</li> <li>Awareness of company safety</li> <li>Knowledge of own role and responsibilities</li> <li>Basic understanding of regulations</li> <li>Understanding of Company Safety Management System</li> <li>Identification of different areas in the workplace and the risks associated with each</li> </ul>	<ul style="list-style-type: none"> <li>Locate all relevant health, safety and quality procedures at the worksite</li> <li>Participate in an offshore safety induction</li> <li>Follow safety instructions and use correct appropriate safety equipment for all deck and worksite operations</li> </ul>
Emergency Response R/R04/000/0202	<ul style="list-style-type: none"> <li>Knowledge of emergency procedures</li> <li>Knowledge of the ROV team members' role and responsibilities</li> <li>Ability to describe own role in emergency situations and that of colleagues</li> </ul>	<ul style="list-style-type: none"> <li>Read and demonstrate an understanding of Company Emergency Procedure documents and where to find them</li> <li>Raise Alarm and to alert to others</li> </ul>
Communication and Personnel skills R/R04/000/0303	<ul style="list-style-type: none"> <li>Knowledge and understanding of English permitting good oral and written communication</li> <li>Recognition of personal limitations and requests assistance from others when necessary without undue disruption and willing to offer assistance when needed</li> </ul>	<ul style="list-style-type: none"> <li>Establish and maintain good working relationships with immediate team members</li> <li>Use of clear, concise and correct verbal communications with supervisor</li> <li>Work as part of the team and assist others</li> <li>Communicate with other team members</li> </ul>
Piloting an ROV (piloting/technical) R/R04/000/404	<ul style="list-style-type: none"> <li>Describe the function of standard ROV controls and their use in navigating the ROV</li> <li>Understanding of the use of Sonar</li> <li>Awareness of changes in ranges/scales</li> <li>Understanding of use of acoustic positioning systems used by ROV's</li> </ul>	<ul style="list-style-type: none"> <li>Navigating an ROV to work site in normal environmental conditions</li> <li>Familiarity with ROV controls</li> <li>Utilise navigational aids in order to direct and assist in piloting ROV</li> </ul>
ROV Systems R/R04/000/505	<ul style="list-style-type: none"> <li>Testing, maintenance and operation of ROV system under supervision</li> <li>Understanding of power up/power down safety sequence</li> </ul>	<ul style="list-style-type: none"> <li>Assist with the completion of pre-dive checks of an ROV</li> <li>Assist with the launch of an ROV in normal environmental conditions</li> <li>Assist with completion of post dive checks of an ROV</li> <li>Identify all the main components of the ROV system and describe their functions, e.g. winch, A-frame/ crane, topside control components.</li> <li>Assemble tools needed in change out including personal protective equipment</li> </ul>
Preventative maintenance R/R04/000/606	<ul style="list-style-type: none"> <li>Awareness of requirements</li> <li>Assistance of colleagues when required with planned maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Describe why and when planned maintenance is needed</li> <li>Assist in preparing work area</li> <li>Determine what system isolations are required at the work area</li> <li>Determine relevant tools for work to be undertaken, under supervision</li> </ul>

## ➔ R04 - ROV Pilot Technician Grade 2 – IMCA R04 Competency Training Module Content

Competence	Knowledge	Ability
Safe operating techniques R/R04/000/707	<ul style="list-style-type: none"> <li>Understanding of safety and environmental requirements during launch and recovery and deck operations</li> </ul>	<ul style="list-style-type: none"> <li>Describe correct/safe operation of launching system</li> <li>Describe roles of ROV team members during launch and recovery operations</li> <li>Describe environmental effect of and limitations to launch and recovery operations</li> </ul>
Administration R/R04/000/0909	<ul style="list-style-type: none"> <li>Understand importance of documentation and logs</li> <li>Knowledge of company QA and associated procedures</li> </ul>	<ul style="list-style-type: none"> <li>Record ROV dive information onto dive logs</li> <li>Able to complete dive records - video, audio and written</li> <li>Record video information on to video tape in the required format</li> <li>Audio dub video material in real time utilising correct terminology and specified procedures</li> </ul>
Project activities R/R04/000/1111	<ul style="list-style-type: none"> <li>Understanding of project equipment operation procedures</li> </ul>	<ul style="list-style-type: none"> <li>Familiarisation</li> <li>Project Planning</li> <li>ROV dive planning</li> </ul>

## ➔ SNR04 SubNet Hydraulics, Electrical & HV Safety Module Content

Competence	Knowledge	Ability
High Voltage and High Voltage Safety for ROV Pilot Technicians SN/R04/001	<ul style="list-style-type: none"> <li>Knowledge of electrical principles</li> <li>Knowledge of electrical safety</li> <li>Knowledge of various electrical test equipment like multimeter, meggaohmeters</li> <li>Knowledge of ROV electrical systems like power supply, lighting, thrusters</li> <li>Knowledge of ROV cables</li> <li>Knowledge of electric motor thrusters</li> </ul>	<ul style="list-style-type: none"> <li>Ability to identify all electrical components in a typical ROV system and describe their functions.</li> <li>Ability to safely test cables for faults and test after change out</li> <li>Ability to read electrical schematics</li> <li>Ability to perform electrical isolation using safety procedures</li> <li>Ability to test electrical components and replace them</li> <li>Ability to wire electric circuits</li> </ul>
Hydraulics for ROV Pilot Technicians SN/R04/002	<ul style="list-style-type: none"> <li>Knowledge of basic hydraulic principles</li> <li>Knowledge of hydraulic systems, symbols, and drawings</li> <li>Knowledge of hydraulic parts like pumps, valves, filters, compensators, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to identify all components on a typical ROV hydraulic system and describe their function</li> <li>Ability to perform maintenance activities like replacing oil, filters, top-up, etc.</li> <li>Ability to interpret hydraulic diagrams</li> <li>Ability to identify faulty valves by testing its mechanisms, seals and/or solenoids.</li> <li>Ability to properly dispose of oils, rags, pads, granules in an environmentally acceptable manner</li> <li>Ability to reassemble valves and refit in original location</li> <li>Ability to inspect and change hydraulic pumps if necessary</li> </ul>