Requirements for IMCA-Approved ROV Introductory Training Courses

IMCA R 002 Rev. 4
November 2022

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IMCA R 002 Rev. 4

Document designation: this document is categorised as Informative Guidance.

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IMCA R 002 Rev. 4 – Version History

Date	Reason	Revision
November 2022	Restructured to reflect IMCA G 010 and training course approval scheme	Rev. 4
June 2020	Periodic review, no changes to text	Rev. 3.1
November 2016	To reflect current practice and to align with IMCA R 010	Rev. 3
May 2009	To emphasis technical background requirements	Rev. 2
January 2000	To cover requirements of IMCA C 005	Rev. 1
July 1996	Initial publication	

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1 Introduction

This document sets out guidance on the provision of ROV introductory training courses, including the process for training providers to apply for IMCA approval of their courses and recognition of certificates issued to successful trainees.

2 Purpose of Course

The course set out in this document is designed as introductory training for those personnel joining the offshore ROV industry who meet the relevant entry-level training requirements set out in section 5.

This document provides an outline syllabus that can be adopted (and expanded, as appropriate) by companies and/or training establishments training new entrants to the industry, to enable a structured career path as detailed in the learning objectives contained in this document.

3 Course Approval

IMCA offers approval of IMCA ROV Introductory Training courses, as set out in IMCA G 010 – *IMCA Training Course Approval Scheme* ('the scheme document'). Please refer to that document for details on assessment and approval procedures.

3.1 Oversight

Requirements for this training course and its assessors are defined by the IMCA Remote System & ROV Committee. The Chair of this committee is the designated point of appeal (see section 4.6 of the scheme document).

3.2 Eligibility

Only members in the relevant Training Provider or Contractor (GCo/ICo/Co) categories are eligible to provide IMCA-Approved ROV Introductory Training courses.

It is a requirement of continued IMCA membership that any member offering ROV training courses must apply for and be approved to run IMCA-Approved ROV Introductory Training courses.

As set out in the scheme document, organisations may apply for training course approval whilst applying for IMCA membership, but neither will be granted until both are approved. Consideration of the membership application will be held at the desktop assessment stage until the training course assessment has been completed.

3.3 Application and Assessment Process

The application and assessment process for IMCA approval of a new course is set out in section 4 of the scheme document.

Applicant training providers must complete the relevant training course application form and must also submit a portfolio of evidence as set out in section 10 of this document.

The assessment and approval of new ROV Introductory Training courses will always require both a desktop assessment and, as relevant to the course provided:

- For in-person courses, an on-site pilot course audit; and/or
- For online training, remote assessment via videoconference or the online participation of an IMCA assessor in a training course (in part or whole).

Courses approvals are subject to maintenance of IMCA membership and require three-yearly revalidation, as set out in the scheme document.

3.4 On-site Auditing Arrangements

See also section 4.4 of the scheme document.

During any on-site audit, representatives of IMCA will assess the training establishment's premises, administration process, learning management system, safety management system, training facilities and other relevant aspects. The training establishment will be advised if the audit findings are unsatisfactory and appropriate feedback will be provided. A base room for the assessor(s) must be made available.

A typical schedule of such a visit might be as follows:

Day One

09:00 Staff introduction and tour of facilities
09:30 Begin audit/administrative assessment for course
12:00 Lunch
13:00 Complete administrative review
14:00 Classroom observation (theory session)
16:00 Finish audit first day

Day Two

09:00 Training aid review
09:30 Classroom observation (practical session)
11:00 Compile debrief
11:30 Debrief audit to training manager
12:00 Auditors depart

4 Course Format

This course can be offered in-person, online-only or as a hybrid course.

It is considered that actual flying and navigation practice using a real environment is of most value but, since this is an introductory course, it is feasible that it may be delivered completely in an online environment using simulators and/or software for navigation and flying instruction and practice.

As this is an introductory course which qualifies the successful participants to enter training as ROV Pilot/Technician Grade II (R04) or ROV Tooling Technician Grade II (R14), as set out in IMCA C 005 – *Competence assurance and assessment: Remote Systems & ROV Division*, refresher courses are not considered necessary.

The course duration must be a minimum of 10 days but may extend further depending how the course is delivered.

5 Admission Requirements for Trainees

Individuals who meet the requirements set out in section 5.1 may be awarded an IMCA-recognised ROV Introductory Training certificate on successful completion of the IMCA-approved course.

IMCA recommends that individuals who do not meet these criteria should not embark on an independent path to gain entry to the offshore ROV industry (such as through this training) that would involve personal expense. Individuals without these entry level qualifications attending an ROV training course at a commercial training establishment would be very unlikely to meet the offshore ROV industry's competence requirements.

Training establishments may accept any individual onto an ROV Introductory Training course, irrespective of background. However, if they do not meet the requirements set out in this section then they are not eligible for an IMCA-recognised certificate. Course completion certificates for these individuals must not make any reference to IMCA. No further details are provided in relation to assessment and certification (section 9) for such individuals.

5.1 Academic Qualifications and Industrial Experience

Trainees should meet one or more of the following requirements:

1) A nationally-recognised technical or trade qualification (military service qualification and/or an appropriate level national vocational qualification is acceptable) completed in one or more of the following subjects:
    a) Electrical;
    b) Electronic;
    c) Hydraulics;
    d) Mechanics.
2) A nationally-recognised, higher (tertiary) academic qualification (not otherwise covered above) in a relevant technical subject; plus a minimum of one year of technically relevant industrial experience, which can be secured as a feature of the entry into the ROV industry, i.e. a university graduate may go directly to a suitable establishment to secure the minimum of one year of relevant industrial experience, which may be with the employer;
3) A minimum of three years' technically relevant industrial experience (including any accepted training period) in an appropriate discipline relating to the above subjects, which should have been obtained within the previous four years;
4) In certain circumstances, candidates who do not meet the criteria above but have extensive industrial experience, or an appropriate technical qualification or industrial training course supported by evidence and references, may be acceptable.

5.2 Recommended Personal Attributes

The attributes and character traits desirable in potential ROV technicians and pilots, based on the nature of the work environment in the ROV industry, include the following. Individuals should be expected to objectively demonstrate they possess them in sufficient quantities.

- A suitability to, and understanding of, the offshore environment and lifestyle, especially with respect to being away from home and separated from family for lengthy periods;
- Enthusiasm for the industry and its future;
- Positive career aspirations;
- Evidence of being able to work in a small team;

- Good oral, written, numerical and communication skills in the required language (English is the predominant language for ROV technical documentation of manufacturers and suppliers);
- Self-motivation;
- A practical approach to problem solving;
- Spatial awareness (may be demonstrated using an ROV simulator);
- Evidence of technical acumen;
- Ability to remain calm under pressure;
- Attention to detail.

The possession of these qualities may not necessarily be evident at first and companies may need to engage with company or external HR professionals to design assessment schemes to identify them in individuals. Companies will have different needs and priorities, but in general they will want to select those candidates who can demonstrate the desire and acumen to work in the ROV industry environment, and individuals should be expected to objectively demonstrate they possess these adequately.

It is anticipated that personnel would be assessed at interview for these, and any other attributes considered appropriate or required by the company. The interview process may involve practical as well as theory assessments of ROV knowledge.

5.3 Medical Certification, Survival Training and Travel Requirements

In general, offshore workers must pass some form of recognised offshore medical examination and individuals wishing to join the industry should be apprised of this requirement at the earliest stage of their introduction to the industry. Any specific requirements put in place by individual companies and some countries should comply with all applicable local, national, and international regulations, including those required for travel.

It is highly recommended that personnel new to the ROV industry receive initial shore based ROV familiarisation before their first trip offshore. This can be provided by an ROV contractor, or alternatively by an appropriate training establishment.

6 Learning Objectives and Course Syllabus

6.1 Learning Objectives

By the end of the course, students should be able to demonstrate the following:

- Heath, safety, environment, and quality (HSEQ):
  - Awareness of the offshore industry codes of practice, legislation, and guidelines;
  - Understanding of requirements for travelling to offshore sites by helicopter;
  - Understanding of safety culture in the offshore industry;
  - Electrical safety awareness and understanding of electrical isolations including lock out/tag out systems;
  - Understanding the dangers of high energy systems (electrical, pneumatic, or hydraulic) and associated good safety awareness;
  - Confidence to carry out task risk assessments (TRA) and toolbox talks (TBT) to company requirements.
- Industry:
  - Understanding of the oil and gas industry;
  - Understanding of ROV business lines and associated requirements;
  - Awareness of offshore life on various offshore worksites/vessels;
  - Awareness of the offshore working environment of and the importance of teamwork.
- Operations:
  - Awareness of a trainee's duties and their role in the ROV crew;
  - Understanding of launch and recovery systems (LARS) and awareness of risks;
  - Basic ROV piloting skills including navigation, station keeping, tracking, close visual inspection, and tether management;
  - Understanding of all appropriate documentation;
  - Recognition of ROV system components;
  - Awareness of company integrated management system (IMS);
  - Awareness of contractual terms and operational impacts;
  - Understanding of the importance of good communication;
  - Understanding of 'competence'.

6.2 Minimum Required Syllabus

The initial familiarisation course modules set out below set out the minimum content required for IMCA approval but can be expanded or developed by ROV contractors and/or training establishments to suit their specific requirements.

The aim of these modules is to introduce trainees to safety awareness, give an overview of the industry and to set out basic information on the background on the ROV systems that they may encounter.

6.2.1 Module 1 – Health, Safety, Environment and Quality (HSEQ)

This should include a range of subjects on HSEQ encountered in ROV operations and should cover each topic in sufficient depth for trainees to have a basic or 'outline' appreciation of each as follows:

- Personal safety awareness;
- Travel arrangements/crew changes/visas;
- Regional security issues;
- Personal Protective Equipment (PPE), upkeep and replacement;
- Offshore hazard identification and risk assessment;
- Task specific risk assessment (TRA);
- Toolbox talks;
- Management of change;
- Permit-to-work systems (PTW);
- Working at height;
- Manual handling;
- Safe working practices on offshore installations, facilities, and vessels, with special reference to ROV operations – including awareness of high voltage (HV) electrical circuits and high pressure (HP) hydraulic systems;
- Safe workshop practice;
- Company accident reporting arrangements;
- Relevant safety legislation and guidance;
- Company quality assurance and control (QA/QC) standards;
- Emergency response procedures;
- Environmental protection.

6.2.2 Module 2 – ROV Industry

This should provide an overview of typical offshore operations, installations, facilities, and vessels (for ROV operations). It should cover the characteristics and appearance of the various types of installation or vessels and the kind of operations, other than ROV activities, conducted from each type.

It should also include instruction on the operational hazards encountered at the different locations and worksites, such as hydrocarbon gas, hydrogen sulphide, equipment movement, high pressure equipment and restricted areas.

It should also include an overview of the respective roles of the personnel working at these locations/facilities, including the vessel master (captain), offshore installation manager (OIM), client representative, tool pusher, offshore medic, radio officer, safety officer, safety representative, etc.

The module should cover the installations, facilities and vessel types used within ROV operations, including but not limited to:

- Fixed platforms/jackets;
- Floating production vessels;
- Semi-submersibles, drilling rigs/ships and support vessels;
- Jack-up drilling rigs;
- Pipelay barges;
- DP vessels and anchored vessels;
- Trenching (pipeline, flowline, submarine, and power) support;
- Dive support vessels (DSV);
- Rov survey/support vessels;

- Construction barges (heavy lift vessels);
- Offshore renewables industry;
- Offshore mining industry;
- Rock dumping vessels.

6.2.3 Module 3 – Background and Introduction to ROV System Operation

This module should include:

- The use of ROV systems and tools, tasks they can perform, how they have developed and typical ROV operations to include, but not limited to:
  - Piloting to include station keeping, close visual inspection and tether management;
  - Launch and recovery – where practical, students should be given the opportunity to launch and recover an operational ROV;
  - ROV tooling and sensor fits – it is preferable that an operational ROV system and ancillary support equipment should be available for demonstration purposes;
  - Drill support;
  - Platform inspection;
  - Pipeline inspection;
  - Intervention;
  - Survey;
  - Trenching (plough and ROV);
  - Construction.
- The different classification of ROV systems as detailed within IMCA R 004 – *Guidance for the safe and efficient operation of remotely operated vehicles* – and the limitations that may be inherent within these classifications
- Duties of the members of an ROV crew including typical qualifications and competence of the ROV crew based on:
  - The class of the ROV system;
  - Team size and roles;
  - Responsibilities of each member of the team.
- Maintenance and operation of lifting equipment:
  - Rigging/slinging arrangements;
  - Awareness of defects;
  - Awareness of the certification requirements for shackles and other (loose) rigging and lifting equipment;
  - Roles of slingers/banksmen;
  - Hazards and risk assessment procedures.

7 Facilities, Course Equipment and Student Materials

7.1 Course Facilities – In-Person and Hybrid Courses

For in-person courses, it is expected that appropriate training aids will be available to demonstrate the various equipment which the students are expected to recognise and identify. Videos of the equipment, in use, can be used to demonstrate operation and control functions if the equipment is not able to be demonstrated live.

Whilst using an active ROV system for navigation and flying familiarisation is preferred, a simulator system or a computer simulator may be used in lieu to demonstrate and practice these actions.

For a hybrid course it is anticipated that the basic knowledge will be presented online and then supported by an in-person element which will re-emphasise the knowledge learnt and demonstrate the physical equipment. A real system or a simulated system may be used for navigation and flying skills practice.

7.2 Online Course Delivery

For an online only course, suitable high quality graphic images and videos of equipment function, operation and control should be used to ensure that the student is able to recognise and identify any appropriate equipment. Suitable simulation system software should be made available to ensure the students are able to practice and demonstrate the basic navigation and flying skills required.

7.3 Supporting Materials

Irrespective of the delivery method, trainees should be provided with copies of high-quality presentations, downloads, handouts, and examination preparation materials, to ensure that they are able to prepare thoroughly for an end of course examination, ultimately to ensure that the students hold the requisite knowledge prior to entering the offshore ROV industry.

8 Course Instructors

Training providers should ensure their training staff meet the following requirements.

All trainers and examiners must have a sound knowledge of offshore ROV operations. It should also be evident that all training staff have maintained currency, either through continuing professional development (CPD) or ongoing field experience.

All instructors need to be approved by IMCA in advance. In addition, where a change in a member of training or assessing staff is proposed, the CV of the new applicant should be forwarded to IMCA for review at least two weeks before he/she is used on the programme.

It is recommended that instructors have undertaken some form of teaching/training course or qualification, but this is not mandatory.

The training establishment will need to ensure that there are sufficient trainers and examiners to carry out the planned programme.

9 Trainee Assessment and Certification

9.1 Assessment

The course will be knowledge based. During the course, learning may be assessed practically, verbally or by questionnaire.

There will be a formal examination at the end of the course. The method of examination will enable the candidate to demonstrate that they have achieved the necessary learning objectives for the course.

Examinations such as multiple-choice questionnaires, descriptive essays, practical simulation scenarios or a combination of such will be acceptable. IMCA recommends a pass mark of 70% for the final exam.

9.2 IMCA-Recognised Certification

For those successfully completing the course and eligible for IMCA-recognised certification (see 5), the training provider is to issue a certificate showing an expiry date two years from the final day of the training course.

The front of the course completion certification should include the following information:

- Certificate number (unique to the training provider);
- Trainee name (full legal name as it appears on photographic ID, e.g., passport);
- Trainee date of birth (used to distinguish between individuals with the same name);
- Date of issue;
- Details of issuing body – name, issuing person (name, role, and signature) and seal

The back of the course completion certificate should list the main course contents.

The certificate should also refer to the IMCA verification portal (www.imca-int.com/verify) – see the scheme document for details on submission of trainee data to IMCA for this purpose.

10 Evidence Portfolio

Applicants for approval of ROV Introductory Training courses must submit a portfolio containing the following evidence of being able to operate in accordance with the requirements of this document and the IMCA Training Course Approval scheme.

	Details of the course administration requirements/arrangements.
	Details on the applicant organisation's previous experience providing courses for the ROV industry.
	Detailed course programmes, which must demonstrate that the training provider will fully cover the syllabus set out in section 6.
	Copies of detailed teaching/lesson plans for each lesson delivered as part of the course, including details of the lesson objectives, and supporting training materials, the duration of each session and which instructor(s) will teach which parts of the course. Copies of all PowerPoint or similar presentations developed to support each lesson. A list of training videos intended for use during the course(s).
	Details of documentation supplied to students, including any course textbooks and notes used.
	Copies of course quizzes and the final course examination(s). Details of the practical assessments and exercises together with the assessment sheets and marking guides.
	Details of proposed trainers/assessors for the course(s), including their names and particulars of their ROV experience. CVs of proposed trainers/assessors, including copies of all relevant certificates (see 8) Evidence of currency, either through continuing professional development (CPD) or ongoing field experience, should also be provided.
	Risk assessments for all training activities together with details of how the identified risks are managed to a level as low as reasonably practicable (ALARP).
	Confirmation that appropriate insurance is in place.
	Site/induction safety briefing details.
	A detailed list of the training aids for the course.
	A copy of the school's course completion certificate.

For each location for which approval is sought:

	Details on the proposed course venue(s) including: name and address; a description of the type of premises to be used (e.g. training rooms in own establishment, simulator, etc.); and the maximum number of trainees to be accepted per course.
	An indication on the anticipated source(s) and numbers of trainees, together with the number of courses planned for each year.
	Details on conduct of the end-of-course examination, including the nomination of an invigilator.
	Details of any practical exercises and assessments including supporting documentation and marking guide.
	Details of any simulator training or actual practice used on the programme.

Where approval is being sought for online or hybrid delivery (see 4), , the following additional evidence must also be submitted:

	Details on the proposed method of online delivery
	Details on the equipment and facilities to be used by the course instructor(s)
	A description of the support available to trainees during and following the course
	The identity/prerequisite verification process followed by the training provider
	Details on the proposed assessment and invigilation platform

Example Trainee Certificate

Below is a template for providers' own certificates issued to successful trainees who meet the admission requirements set out in section 5.

[Training provider branding]

Certificate of ROV Introductory Training

Recognised by IMCA – the International Marine Contractors Association

Issued by: **[Training Provider]**
[Training Provider Details]

Certificate number: **[012345]**

Issued to:

[Full legal name, as per photographic ID]

Date of birth:
[Date]

[Seal of training provider]

[Signature]
[Name and title/position of signatory]

Date of issue: **[Date]**

This training has been provided in accordance with IMCA R 002 – *Requirements for IMCA-Approved ROV Introductory Training Courses*.

To verify the authenticity of this certificate, please visit www.imca-int.com/verify