

IMCA is the international trade association representing offshore, marine and underwater engineering companies

It seeks to:

- strive for the highest possible standards with a balance of risk and cost in: health and safety; technology; quality and efficiency; environmental awareness and protection;
- achieve and sustain self-regulation in the industry;
- ease the free movement of equipment and personnel globally;
- achieve equitable contracting regimes;
- provide the framework for training, certification, competence and recruitment to support and sustain the industry globally;
- resolve industry issues; and
- promote co-operation across the industry.

Members include pipelay, heavy lift, diving, remotely operated vehicle, survey and offshore construction contractors, plus various contractors operating specialist marine equipment.

IMCA has two core activities in which all members participate:

- Competence & Training includes a comprehensive framework devoted to promoting safety by defining and encouraging training and competence in key safety-related positions.
- Safety, Environment & Legislation (SEL) includes monitoring national and international regulatory bodies, circulation of relevant information to members and advancement of industry positions where necessary

Members join in one or more technical divisions relevant to their own activities:

- Diving
- Marine
- Offshore Survey
- Remote Systems & ROV

IMCA works with a global focus, but also has regional sections covering the key offshore areas: Asia-Pacific, Central & North America, Europe & Africa, Middle East & India and South America.

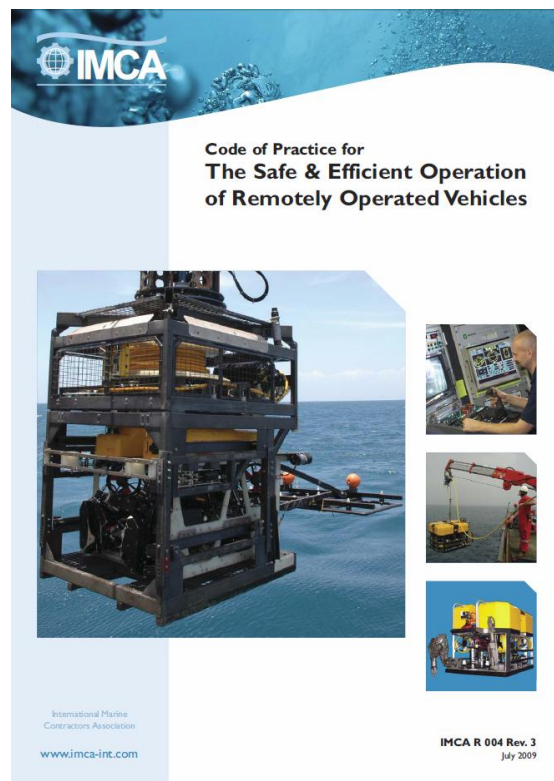
IMCA has published substantial and comprehensive good practice guidance on marine operations based on its members' experience in a range of related areas. More details on specific activities are set out on these factsheets.

One of IMCA's key aims is to promote safety in the offshore working environment. *Code of practice for the safe and efficient operation of remotely operated vehicles* (IMCA R 004) has played a vital role in providing the international community with a common set of guidelines and recommendations that provide a high level of safety and efficiency.

The document is one of IMCA's key codes of practice and used widely around the world. While local or national regulations naturally take precedence over the code, it provides a vital source of sensible advice and practical suggestions for topics that are not directly regulated.

The ROV industry is one of the most dynamic. New equipment is constantly entering the market and ROVs continue to find new applications. As the industry moves towards more and more diversless intervention, their role in construction and maintenance will increase, along with their more traditional use for underwater inspection and observation.

This code has therefore been created with that dynamism in mind. The guidance is updated periodically to reflect technical and operational developments and current good practice, ensuring that the industry has a perpetual source of relevant safety information.



## Contents

### ROV Classification

The term 'remotely operated vehicle' (ROV) covers a wide range of equipment, and no single vehicle can be described as typical. This code only considers unmanned vehicles (manned submersibles being subject to separate requirements) and identifies five ROV classifications, from observation through work-class to development and prototype vehicles.

### ROV Tasks

ROV capabilities are constantly expanding as technology improves and it is impossible to detail all the tasks an ROV may carry out. Within this code, therefore, ROV tasks are divided into six categories specifically relevant to the offshore industry: observation, survey, inspection, construction, intervention and burial/trenching.

### ROV Tools

ROV tools are continually being developed and upgraded. This chapter provides a brief introduction to some of the more commonly used tools, such as: video cameras; non-destructive testing sensors; acoustic and tracking sensors; cleaning devices; vehicle station keeping and attachment devices; and work tools, plus a mention of ongoing and future developments.



## Environmental Considerations

The safe and efficient deployment and operation of ROVs depends on suitable environmental conditions. A number of specific environmental aspects are highlighted, including weather, sea state and swell, currents, water depth and seabed characteristics. It is emphasised that there is no substitute for practical experience.

## ROV Operations

It is necessary to consider ROV operations in ensuring the safe and efficient use of ROVs in the demanding offshore environment. This chapter begins by outlining the need for risk assessment, operational procedures and documentation. Guidance is then provided on a full range of operational issues such as: system location; handling; launch and recovery; communications; navigation; and physical hazards. A variety of different ROV operating sites is addressed, from DP mono-hulls through to fixed installations.

## Certification & Maintenance

Various standards and codes are used to examine, test and certify offshore plant and equipment. Much of the equipment used in an ROV operation will need to comply with those standards. This chapter highlights pre- and post-dive checks and planned and periodic maintenance.

## Personnel

The qualifications and competence of personnel working with ROVs are discussed and team sizes are considered. Other subjects covered include working periods, training and the use of logbooks to record experience.

## Responsibilities

The responsibilities of the ROV contractor, the ROV supervisor and other personnel working on ROV operations are presented.

## Related IMCA Guidance on ROV Operations

The full set of IMCA guidance on ROV operations is available to members online and on a regularly updated CD. The full collection of printed guidance is also available for purchase by members and others from the IMCA secretariat.

For more details, visit our website at [www.imca-int.com/rov](http://www.imca-int.com/rov)