

Offshore Surveyor

July 2006

As a natural resource of raw materials, such as fuel and food, the seas and oceans of the world have never been so important. They also represent a very fragile environment whose exploitation must be carefully and considerably managed. It is the work of the hydrographic surveyor to chart these great wildernesses and to provide the expertise for their exploration and for much of the engineering needed for their development.

Traditionally, the hydrographer has been associated with making the sea charts that allow ships to navigate the world in safety. This is still an important role but, as a science and profession, hydrographic surveying has developed into an exciting, multi-disciplinary occupation. The hydrographer is involved with every aspect of ocean data from measuring currents, tides and waves, observing the ocean environment, mapping the ocean floor and exploring for the minerals that lie far beneath. Some of the activities where hydrographers are involved are:

- ◆ exploring for fossil fuels, such as oil and gas
- ◆ offshore engineering and construction
- ◆ charting the seas and oceans
- ◆ ports, harbours and coastal engineering operations
- ◆ trans-oceanic telecommunication cables
- ◆ similar work in lakes and inland waterways
- ◆ environmental studies

Graduates entering the profession today are following in the footsteps of some of the world's most famous explorers such as William Baffin, George Vancouver and Captain James Cook. Unlike their predecessors, today's hydrographic surveyors use high technology instruments to probe the depths, and sophisticated computer systems to map the sea floor; for example, modern differential GPS equipment can pinpoint a vessel's position in the ocean to within an accuracy of a few metres.



IMCA members include organisations that employ hydrographic surveyors and other marine technology specialists.

Education or Qualifications Required

There are a number of colleges and universities offering suitable courses throughout Europe, North and South America and the Asia-Pacific region. Entrance to these establishments varies from country to country but normally requires good passes at the highest level of secondary education in such subjects as:

- ◆ mathematics/statistics
- ◆ geography
- ◆ physics/general science

In some countries, technical colleges offer practically oriented technician courses in surveying. The other route into training and education is via a military career, especially in the navy.

In some countries, surveyors are encouraged to add a professional qualification following graduation by becoming a Licensed Surveyor, as is common in Australia and North America, or by joining a body such as the UK's Royal Institution of Chartered Surveyors (RICS).

Skills and Training Required

A hydrographic surveyor requires many skills – the key academic skills are acquired through specialist courses while others, such as seamanship and instrument handling, are acquired on-the-job and via in-house training courses. In general, hydrographic surveyors enter the profession either with a relevant bachelor's degree in the surveying sciences (sometimes referred to as 'geomatics') or through a qualification gained in military (normally navy) service. Other degree courses offering surveying options include geography and geophysics. Degrees in physics, mathematics or statistics can also offer points of entry especially for those who intend to specialise in processing or data manipulation.

To work offshore in any capacity it is usually necessary to complete a basic offshore safety induction and emergency training (BOSIET) course. This generally includes first aid, safety at sea, the basics of fire and fire fighting and helicopter underwater escape training (HUET). In many regions, someone who has not successfully completed a course of this nature will not be permitted to work offshore.

Medical Fitness

In many areas of the world, potential offshore workers must undergo and pass a special medical examination. These requirements may vary from country to country, but usually involve a medical leading to a certificate which may be valid for one or more years. The requirements are not unduly onerous for fit and active people but certain common conditions, or previous injuries, can be a cause for failure. If in any doubt, interested persons should seek out a doctor knowledgeable about offshore standards before they seek work or embark on a course of training.

Working Conditions and Prospects

Hydrographic surveyors can expect to travel overseas and to be away from home anywhere between 2 weeks and 3 months at a time. They have to be resourceful, resilient and be able to work in a team environment. Hydrographic surveying is not a profession for the introverted or the faint hearted but it is a job providing much personal satisfaction as well as good companionship.

The most senior post in surveying offshore is often that of Party Chief, who will be responsible for all the technical and surveying personnel involved in an offshore survey. Such a position can be reached after 5-7 years offshore. Thereafter, surveyors might move into managerial and technical support roles. Prospects for moving up through the ranks are good and, for the ambitious, there is no limit to what can be achieved.

Further Information

For a list of educational establishments, including details of entry qualifications, visit

www.imca-int.com/divisions/survey/profile/personnel/training/

For contact details of offshore survey contractors in IMCA membership contact IMCA or visit

www.imca-int.com/members/survey.html