

## 22 Seismic Surveys

Seismic surveys for the exploitation of offshore oil and mineral resources are conducted in all Canadian and adjacent waters. Details of these surveys may be broadcast to mariners by coastal Marine Communications and Traffic Services Centers; however, mariners may encounter surveys in progress without prior notice.

In accordance with the requirements of the *Oil and Gas Production and Conservation Act*, operators of seismic surveys are required to obtain authorization to conduct a geological or geophysical survey from the National Energy Board (NEB). When requesting an authorization from NEB, the proponent shall provide information concerning the dates of activity, the proposed location of the survey, and a full description of the vessel(s) and equipment. In addition, NEB requires that operators forward weekly telex reports which describe the progress of the survey, location of the vessel (s) and any significant details.

Seismic survey vessels that are restricted in their ability to maneuver are required to exhibit the lights and signals described in *Rule 27* of the *Collision Regulations*; and sound the appropriate sound signals described in *Rules 34 and 35* of the *Collision Regulations*. Mariners should give such vessels a wide berth.

Survey vessels can operate independently or in company and may tow sensing devices streamed 2.5 to 3.5 miles astern, and if there are multi-streamers, they may be 50 m or 100 m apart. The sensing device is ballasted so that it remains submerged just below the surface or at streamer depths ranging between 10 m and 20 m. An orange float is usually attached to the end of the cable to mark the extent of the streamers. A white light and a radar reflector are fitted on this float. The display of this light is consistent with the intent of *Rule 24(g)* of the *Collision Regulations*.

In the process of surveying, repeated shock waves may be generated at intervals of 5 to 10 seconds by mechanical or electrical energy sources or by using compressed air. Dynamite is rarely employed for this purpose, but if used, large charges of up to 1000 Kgs may be fired. In the course of the survey, the vessel will usually be making way through the water at speeds of 4 to 5 knots; however, vessels may stop for extended periods during the survey while repairs are made to equipment.

If charges are being fired by radio or electrically triggered detonators, survey vessels may suspend radio and radar transmissions in order to avoid accidental firings. Vessels being called by a signaling light should, therefore, answer by the same means and not use their radio.

Explosive charges may be contained in cylinders, canisters, tubes or bags which may not be marked as dangerous. No attempt should be made to recover such items, and any inadvertently taken aboard in trawls, etc., should be jettisoned immediately.

Authority: Transport Canada