

Former *Annual New Zealand Notice to Mariners, No. 15*, published 1 July 2022 is cancelled. This is a repetition of the former Notice.

Authority: Maritime New Zealand

1. Seismic and other surveys are occasionally undertaken off the New Zealand coast in connection with hydrocarbon exploration. It is seldom practical to publish details of the areas of operation except in general terms and vessels carrying out surveys may be encountered without warning. Three types of surveys are practiced:
  - (a) **Seismic reflection surveys**  
This is by far the most common form of operation. The survey vessel tows one or more multichannel receiver cables up to 12 km in length at a depth of a few metres, with the end marked by a tail buoy and radar reflector. The seismic energy source is usually an array of airguns mounted below large marker buoys and towed immediately behind the vessel. The cable and airgun arrays may have a lateral extent of a hundred metres or more. Survey speed is typically 4-5 knots.
  - (b) **Seismic refraction surveys**
    - (i) Single vessel operation: The seismic vessel tows a conventional source array (e.g. airguns) away from a stationary sonobuoy. The buoy contains an amplifier and radio transmitter which transmits the received signals to a shipboard recorder. In the rare case of long range (20 – 30 nautical miles) experiments, explosive charges may be used.
    - (ii) Two vessel operation: One vessel tows a conventional reflection acquisition system (generally a cable of 1.5 nautical miles in length) away from another vessel at a fixed location firing a source array.
  - (c) **Electromagnetic surveys**  
Another type of survey uses controlled source electromagnetic technology. The survey vessel deploys receiver stations along the survey lines, and then traverses the lines at approximately 2 knots towing a cable several hundred metres long with a transmitter near the sea floor.
2. Survey vessels generally carry the signals described in Rules 23 (a), 24 (a) and 27 (b) and (c) of the *International Regulations for Preventing Collisions at Sea 1972*.
  - (a) They may also show the signals **PO** and **IR** (International Code):
    - \*IR (India Romeo)**  
'I am engaged in submarine work (underwater operations). Keep clear of me and go slow.'  
\* The use of this signal does not relieve any vessel from compliance with the *International Regulations for Preventing Collisions at Sea, 1972*.
    - PO (Papa Oscar)**  
'You should pass ahead of me (or vessel indicated)'.
  - (b) The shooting vessel may display signal B (International Code) or at night a single red light in addition.
3. Survey vessels are unable to manoeuvre freely and masters should therefore give them a wide berth of at least 5.5 km.
4. Refraction survey vessels occasionally keep radio silence if charges are fired by radio so as to avoid uncontrolled firings. Vessels being called by light by a survey vessel should therefore answer by the same means and not by radio or radiotelephone.
5. Further information can be found in Chapter 13 of the Admiralty publication, *The Mariner's Handbook* (NP100).