



GUIDELINES TO THE PROTOCOL CONCERNING MARINE POLLUTION  
RESULTING FROM EXPLORATION AND EXPLOITATION OF THE  
CONTINENTAL SHELF

# **GUIDELINES ON THE CONDUCT OF SEISMIC OPERATIONS**

# **Guidelines on the Conduct of SEISMIC Operations**

## **1. Introductory Note**

- 1.1 The Protocol concerning Marine Pollution resulting from Exploration and Exploitation of the Continental Shelf provides in Article XI 2 that:

“Each Contracting State shall take appropriate measures to ensure that seismic operations in the Protocol Area shall take into account the Guidelines issued by the Organization”.

These Guidelines are issued for the purpose of this provision.

- 1.2 In these Guidelines the word “operator” includes not only the person conducting offshore operations as a whole, but also any contractor who may be carrying out seismic operations for him, except where a distinction is expressly made between the two.

## **2. Seismic Operations Plan**

- 2.1 The Competent State Authority is to ensure that the operator has from the outset planned to carry out his operations in a manner which will not create unnecessary danger of injury to persons, or damage to property, or to the environment and its fauna and flora.
- 2.2 Contracting States should take steps to ensure that before commencing seismic operations, an operator shall have submitted to the competent State Authority a “seismic operations plan”, and have received approval in writing for that plan. Any departure therefrom should be approved.
- 2.3 Since there are recent developments in seismic technology involving non-explosives sources of seismic exploration (e.g. air guns using

compressed air and water guns) which can be used as a substitute to explosives in deep water environments and which require less precautions to be taken, the Competent State Authority should not approve a seismic operation Plan involving the use of explosives if one of the alternative techniques would be effective.

2.4 Before approving any Plan, the Competent State Authority should check on:

- (a) Sensitive areas which might be affected;
- (b) The possibility of:
  - i) Interference with the breeding cycles of any marine animals, including fish and shellfish;
  - ii) Presence of any migratory species which might be affected including sea birds;
  - iii) Commercial fishing which might be affected or interrupted;
  - iv) Sporting and amenity activities which might be affected, e.g. yachting, scuba diving.

2.5 The Plan should include express and adequate provision to meet all the requirements and precautions set out below.

2.6 The Competent State Authority should have powers of inspection, supervision and enforcement sufficient to secure compliance with the Plan.

### **3.0 Liaison with Fishing and Other Interests**

3.1 The Competent State Authority should take the necessary measures to ensure that adequate liaison is established between the operator and fisheries authorities as well as other concerned authorities regarding seismic operations.

## 3.2 Procedure for Notice of Survey

3.2.1 An operator should be required to give at least 40 days notice to Competent State Authority, to conduct a seismic survey. The notice should give:

- a) the date or dates of the proposed survey.
- b) the route to be taken by the survey vessel.

3.2.2 It should then be the duty of the Competent State Authority to inform forthwith:

- a) every other Government department, authority and agency, and every public authority, whose work or responsibility could be affected.
- b) any other persons or bodies, such as research institutes, whose work or equipment could be affected, and who have requested that such notices be sent to them.

## 3.3 Other Provisions

3.3.1 The State should identify the positions of static fishing gear and advise the operator.

3.3.2 Operator should be required to liaise with yacht clubs and tourist organizations to avoid interference with their activities.

3.3.3 Operators should be required to:

- a) avoid damage, including disturbance which may have long term effects, to or in sensitive areas.
- b) avoid disturbance of fish and shrimp breeding grounds during the breeding season and during the early stages of development.
- c) avoid any damaging disturbance of colonies of birds and marine animals.
- d) avoid damage to any undersea cables and pipelines.

3.3.4 If damage is done to any fishing gear by the survey vessel, the operator should be required to compensate the owner of the gear if:

- a) the fishing gear was static, and its position was marked by buoys; or
- b) the survey was carried out without due notice, or on different days from those published.

#### **4. Equipment and Manning of Vessels**

- 4.1 A vessel using explosives for seismic survey should be equipped with radar, and side scan sonar and fish-finding sonar, immediately prior to and throughout the period when explosives are used, the radar and sonar equipment should be in continuous operation.
- 4.2 During the period when explosives are used, all survey vessels should fly the applicable flag signal of the International Code of Signals, published by the International Maritime Organization.
- 4.3 Throughout any voyage on which explosives may be used within two kilometers of any commercial or sport fishing area,

the vessel should carry a fishery expert with knowledge of the area. He shall have a purely advisory function. The expert shall keep a log recording the times and positions of all detonations, which shall be kept available for inspection by the operator and the Competent State Authority.

## 5. The Explosives

- 5.1 Each explosive charge should be fitted with a safety device which renders the charge harmless if it remains in water for more than two hours.
- 5.2 Each charge should be indelibly marked with letters or symbol which will identify the operator.
- 5.3 The explosives should be kept in an appropriately safe and secure place, in accordance with any requirements laid down by the Competent State Authority.

One qualified person, experienced in the use of those types of explosives and equipment, should have sole charge of the explosives store.

He should be empowered to delegate his responsibility only to some other qualified and similarly appropriately experienced person.

The person appointed to have sole charge should be required to keep an up to date inventory of all explosives, detonators and fuses.

## 6. The Use of Explosives

- 6.1 The Competent State Authority, after approval of the seismic operations plan, should have the right to inspect the operator's equipment and explosive materials, and to supervise operations.
- 6.2 The use of explosives should at all times be under the direct supervision of a person qualified to use them, trained and experienced in the kind of work undertaken.
- 6.3 The seismic operations plan should include terms which seek to ensure the following:
  - (a) Explosives are used only when and where, in the opinion of the Competent State Authority, the use of such methods is necessary.
  - (b) Explosives are not used in such place or manner as to create a risk of significant damage in any specified sensitive area. *e.g.*
    - fish and shrimp breeding grounds;
    - established commercial or sport fishing grounds;
    - mangroves;
    - coral reefs.
  - (c) Explosives are not used in such place or manner as to cause risk of damage or injury to:
    - vessels engaged in fishing;
    - floating or stationery fishing gear;
    - shoals of fish
  - (d) Explosives are not used in such place or manner as to cause risk of damage to underwater installations, including:
    - subsea completions;
    - pipelines;
    - cables

- (e) Explosives are not used:
  - i) within two kilometers of a place where diving operations are in progress, or within such greater distance as the Competent State Authority may specify, after taking into account the type of explosive to be used and the size of the proposed charge;
  - ii) within eight kilometers of a place where diving operations are in progress, unless at least 72 hours notice had been given of :
    - the type and size of charge to be used;
    - the time of proposed detonation;
    - any other pertinent information.
- (f) Explosives are not used within two kilometers of the boundary of another Contracting State's Continental Shelf jurisdiction, except by agreement with the relevant and Competent State Authority of that State.
- (g) In all circumstances, explosives of a type likely to cause the least damage to marine life are used.
- (h) Explosive charges used are no larger than is necessary for the purpose in mind.
- (i) Explosives charges are always detonated as close to the surface of the sea as is feasible in the circumstances, taking into account the purpose of the operation.
- (j) The operator keeps a log of all explosives used including:
  - i) Type of explosive and weight of charge used;
  - ii) Time of detonation;

- iii) Any unintended effects observed;
- iv) Any misfires, and action taken as a result.

6.4 The department of government responsible for defence should be contacted before explosives are used at sea, particularly concerning:

- (a) The possible presence in the area of exploration of any unexploded mines, shells or other military or naval explosives.
- (b) Restrictions which may be imposed for the security of defence works, installations and equipment.
- (c) Naval exercises, including the use of firing ranges, in the area.

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