

TPR

OR-419.

AUSTRALIAN GEOLOGICAL SURVEY  
ORGANISATION

EMERGENCY  
RESPONSE  
MANUAL

FOR

MARINE OPERATIONS

ON

*R/V RIG SEISMIC*

TPR  
OR-419

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**7. EMERGENCY RESPONSE PROCEDURES****PLANNING FOR AN EMERGENCY RESPONSE**

Ship personnel should be aware of the potential hazards that exist on board RIG SEISMIC without becoming unduly alarmed. The safety training makes all crew members well prepared. Possible hazards include, but are not restricted to:

- An event that results in loss of life or serious injury, causes heavy damage to property or has a major environmental impact, or causes a potential hazard to life or property.
- Hydrocarbon or chemical spill or other emission harmful to the environment.
- A fire of any nature; a major hazard with the oil-filled seismic cable.

**IF THERE IS ANY DOUBT AS TO WHETHER THERE IS AN EMERGENCY,  
THEN INITIATE THE EMERGENCY PLAN****TRAINING FOR AN EMERGENCY**

Emergency plans involve organising and training people to perform specialised tasks such as fire fighting and first aid, search and rescue, and to restore the operation to a safe condition. Even with the help available from public emergency services, a self-help plan is AGSO's best assurance that injuries and loss will be kept to a minimum. Each person must know what he has to do in an emergency.

An emergency plan should be tested through regular drills. This will highlight shortcomings and also ensure that people know what to do and where to go, and to feel confident that the situation is under control.

When an emergency does occur, it is important to learn from the experience, whether it is major or minor. The incident should be thoroughly investigated, but in addition the response to the emergency in terms of the effectiveness of the emergency plan should be evaluated and the plan revised where necessary.

**RESCUE AND FIRST AID**

All people on the ship at the time of the emergency must be accounted for. If someone cannot be found after an exhaustive check, a rescue search must be commenced immediately.

Rescue operations must never endanger the safety of the rescuers. The rescue team must have adequate personnel protection to carry out the search safely.

## ACTION WHEN AN EMERGENCY OCCURS

Once an emergency occurs on the ship, the well-defined maritime system switches into action. At that point, responsibility clearly passes into the hands of the Master of the vessel as is laid down in maritime law. All members of the crew, both AMSA and AGSO, have been trained for such an occurrence.

Depending upon the type of emergency, appropriate action will swing into place for which the maritime crew in particular are well trained. The main role of AGSO staff is then to provide support as members of the emergency teams in tackling the problem, whatever it may be, under the direction of the Master or his delegate.

From time to time, AGSO crew will include visiting scientists and others who are classified as "passengers" under Australian maritime regulations as they have not received survival training. These people will only assist in emergency procedures as and when directed by AMSA crew.

One of three likely events will be declared:

- Emergency muster stations.
- Fire stations.
- Abandon ship.

The procedures to be followed are laid down in the "Survival at Sea" booklet, a copy of which is placed in every cabin. Drills will also have taken place on a systematic basis as laid down in the AGSO Health, Safety & Environment manual for RIG SEISMIC.

At this point, it is important to remain calm and render every assistance to the AMSA crew. The Master is charged with seeking assistance as he finds necessary from the outside world. The main actions are likely to include some or all of the following:

- Notifying, alerting or calling for assistance from any one of the emergency services, eg. Fire Brigade, Police or Medical Services.
- Distancing all non-essential people from the danger zone in so far as is practical.
- Rescuing of injured persons and making them as comfortable as possible.
- Advising the Maritime Rescue Centre in Canberra as appropriate.
- Notifying senior AGSO and AMSA personnel in Canberra and Brisbane.

## STANDBY ACTION

Both AGSO and AMSA head offices are to be informed as soon as is practicable recognising that the highest priority is to protect life and limb. As soon as possible the Master, or the Ship Manager acting on his behalf, is to advise the AGSO Head of Marine Operations in Canberra and the AMSA Manager Ship Operations in Brisbane or one of their alternates depending upon circumstances.

## COMMUNICATIONS

Effective communication is usually the most difficult and demanding aspect of an emergency. The need for simple standard procedures, frequent training, testing and retraining cannot be overstressed.

The communications systems on RIG SEISMIC are fortunately simple and straightforward and well understood by all on board as they largely parallel shore systems.

- Motorola voice-actuated portable hand-held radios provide primary communication around the deck and provide ready access in many areas beyond the phone network.
- The ship's Stentafon phone network is a widely available network of somewhat lower flexibility and coverage than can be achieved with the small radios.
- The public address system will reach all work areas and deck areas. The Bridge can address all cabins as well as the work spaces.

Shore communications are varied and their effectiveness will depend heavily upon location. These include most of the familiar systems:

- The Satcom-A terminal in the AGSO office gives world-wide voice communications almost instantly. It also provides a FAX facility which could prove useful in sending information in picture form, plus a TELEX capability if required.
- The Satcom-C system on the Bridge provides a slightly slower TELEX facility.
- There are three mobile phones on the ship, two connected to the PABX in the AGSO office plus another on the Bridge. Anywhere within reasonable range of the coast near centres of population, we can talk directly to shore-based emergency services people.
- Lastly there is a mobile-phone connected FAX which can be used close to shore.

The Maritime regulations also require the ship to carry radio facilities which help to fill the gap between the satellite-based systems and mobile phones. In some cases these require more specially trained personnel:

- Sailor radio operating in the HF band which is used by almost all ships at sea.
- VHF radio for close ship-to-shore links such as to the port authority.
- VHF Seaphone with semi-automatic hook-up to the land phone network.

## USE OF EMERGENCY SERVICES

The Emergency Services will be notified for assistance as required by the Master of the vessel. The most likely requirement while at sea will be for medical advice or for emergency hospital services should someone be seriously injured.

In case of injuries that require rapid transfer to hospital, emergency evacuation procedures have been put in place for those areas around Australia in which RIG SEISMIC works.

Shore treatment is available at one or more hospitals, depending upon the medical treatment required and the local facilities available. Necessarily this must be left to the judgement of the Master who should consult with both Canberra and Brisbane at the earliest opportunity.

It then becomes Head Office responsibility to advise the Executive in an appropriate manner. The Ship Manager and Master should keep their offices advised on an continuing basis within the constraints of recovering from the emergency.

## ACTION IN CASE OF OIL SPILLS

There is always a small but finite chance there will be an oil spillage from RIG SEISMIC, either accidentally or because of damage to the ship or its equipment. The relevant authorities must be informed if spillage exceeds 40 litres, and appropriate action taken to contain the oil.

Spillage of the ship's fuel oil represents an environmental hazard because of its known toxicity. Its greatest impact would be when close to the coast, where marine wild life such as sea birds in particular could be affected. However, stringent procedures are in place to keep this risk at an acceptably low level.

Deployment of the oil-filled seismic streamer cable could represent a potential pollution hazard should any of the sections rupture. However the segmented construction of the cable means that the amount of oil that can be released at any one time is limited. It would require almost virtual destruction of a section to release a total of 300 litres of oil into the sea.

The ISOPAR-M oil used in the cable is a special light oil of low flammability and toxicity that rapidly evaporates leaving a negligible residue. Any loss of oil from a section usually results from slow leakage through fish bites or small abrasions, representing a loss of a few litres of oil per day in the worst case, which would be difficult to detect and impossible to contain.

All sections are routinely checked on deployment and retrieval of the seismic streamer cable. Faulty sections that show leakage of oil and contamination with sea water are drained into special holding tanks on the ship following strict procedures to prevent any accidental discharge into the sea. These procedures avoid polluting the environment, stop unnecessary waste and prevent the ship's decks becoming slippery and hazardous to the crew.

**Under the MARPOL 73/78 Conventions, any significant spillages of oil at sea must be reported to the Marine Rescue Coordination Centre in Canberra (open 24 hours-a-day), and/or State and local authorities where appropriate, depending upon the spill location.**

2. STANDARD EMERGENCY RESPONSE CONTACTS

RIG SEISMIC	Satcom-A	Phone 872-154-5120 Office FAX 872-154-5121 Office TELEX 582-154-5120 Office
RIG SEISMIC	Satcom-C	TELEX 582-4503-00183 Bridge
RIG SEISMIC	Mobile communications	Phone (018) 898-200 Office FAX (018) 632-656 Office Phone (018) 620-515 Mess Phone (015) 242-302 Bridge
AGSO (Canberra)	Head Office	Phone (06) 249-9111 b/h
AGSO (Canberra)	Head, Marine Operations	Phone (06) 249-9252 b/h Phone (06) 254-4556 a/h
AGSO (Canberra)	Shore Manager	Phone (06) 249-9444 b/h Phone (06) 288-7643 a/h
AMSA (Brisbane)	Head Office	Phone (07) 835-3600 b/h
AMSA (Brisbane)	Manager Ship Operations	Phone (07) 835-3622 b/h Phone (07) 398-5068 a/h
AMSA (Brisbane)	Personnel Officer	Phone (07) 835-3620 b/h Phone (07) 379-6639 a/h

Maritime Rescue Coordination Centre (Canberra)	Phone (06) 247-5244 FAX (06) 257-2036
Oil Spills at sea, report to MRCC (Canberra) (plus State & local authorities as appropriate)	Phone (06) 247-5244 FAX (06) 257-2036

**3. EMERGENCY RESPONSE CONTACTS FOR NORTHWEST SHELF**

Emergency evacuation procedures have been arranged with Lloyd Helicopters in Karratha, who have three types of helicopters available that are cleared to land on RIG SEISMIC. These are:

- Bell Long Ranger
- Bell Model 412
- Sikorsky Model 76

Hospital treatment is available from the Karratha Base Hospital or the Port Hedland Hospital depending upon the medical treatment required and the facilities available.

Lloyd Helicopters (Karratha)

Phone (091) 853-355 Airport  
Phone (091) 854-579 Town

Lloyd Helicopters (Onslow)

Phone (091) 846-133 Airport  
Phone (091) 846-124 Town

Hospital (Karratha - Nickol Bay)  
(Port Hedland)

Phone (091) 853-444  
Phone (091) 731-244

Ambulance (Karratha)  
(South Hedland)

Phone (091) 851-222  
Phone (091) 721-800

Dentist (Karratha)

Phone (091) 442-979 b/h

Port Authority (Dampier)

Phone (091) 442-222

Port Authority (Port Hedland)

Phone (091) 731-400

Sea Rescue Information Centre (Perth)

Phone (09) 336-1666

**4. EMERGENCY RESPONSE CONTACTS FOR OTWAY BASIN**

Emergency evacuation procedures have been arranged with Professional Helicopter Services, a Melbourne based firm, who have two types of helicopters available that are cleared to land on board RIG SEISMIC. These are:

- Bell Jet Ranger
- Hughes 500

Hospital treatment is available from the Portland Base Hospital or hospitals in Melbourne, depending upon the medical treatment required and the facilities available.

Professional Helicopter Services (Melbourne)	Phone (03) 580-7433 Airport Phone (018) 333-960 Mobile Phone (018) 333-961 Mobile
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Hospital (Portland)	Phone (055) 210-333
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Seaport Medical Centre (Portland)	Phone (055) 232-322
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Ambulance (Portland)	Phone 11440 (direct dial)
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Dentist (Portland)	Phone (055) 232-966 b/h
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Port Authority (Portland)	Phone (055) 250-900
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Air Ambulance (Rescue Centre, AIR 495)	Phone (03) 379-9155
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SE Ambulance Service (HELIMED 1)	Phone (051) 344-666
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**5. EMERGENCY RESPONSE CONTACTS FOR TASMANIA**

Emergency evacuation procedures for the ship have been arranged with Helicopter Resources, a Tasmanian based firm, who have two types of helicopters available that are cleared to land on board RIG SEISMIC. These are:

- Bell Jet Ranger
- Squirrell

Hospital treatment is available from the Royal Hobart Hospital or hospitals in Devonport and Queenstown, depending upon the medical treatment required and the facilities available.

Helicopter Resources (Hobart)

Phone (002) 485-130  
FAX (002) 485-342

Hospital (Hobart), Dr Smart

Phone (002) 388-608

Ambulance (Hobart)

Phone 000 (direct dial)

Dentist (Hobart), Andrew Browne

Phone (002) 296-775 (all hours)

Marine Board (Hobart)

Phone (002) 351-000

Air Ambulance (Rescue Centre)

Phone (008) 008-008

(Support available in Devonport, Hobart, Launceston and Queenstown)

**6. EMERGENCY RESPONSE CONTACTS FOR TIMOR SEA**

Emergency evacuation procedures have been arranged with Lloyd Helicopters in Darwin, who have two types of helicopters available that are cleared to land on RIG SEISMIC. These are:

- Bell Model 412
- Sikorsky Model 76

Hospital treatment is available from the Darwin Base Hospital depending upon the medical treatment required and the facilities available.

Lloyd Helicopters (Darwin) Phone (089) 453-888

Hospital (Darwin) Phone (089) 228-888

Ambulance (Darwin) Phone (089) 279-000

Dentist (Darwin, 24 hours) Phone (089) 411-899

Port Authority (Darwin) Phone (089) 895-511

Sea Rescue Information Centre (Canberra) Phone (06) 247-5244

Medical advice at sea (24 hours) Phone (02) 960-0252