

SAFETY FIRST IN MARINE SPILL RESPONSE

Keith Brown
Australian Maritime Safety Authority

The Australian Maritime Safety Authority (AMSA) is the Australian Government agency responsible for managing Australia's National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances (National Plan). AMSA achieves this by working with State/Northern Territory governments, the shipping, oil, exploration and chemical industries and emergency services to ensure there is an effective response to pollution incidents in the marine environment.

The National Plan has been in place since 1973. The purpose of the National Plan is to maintain a national integrated Government/industry organisational framework capable of effective response to oil or chemical pollution incidents in the marine environment and to manage associated funding, equipment and training programs to support National Plan activities.

Part of AMSA's management responsibilities under the National Plan is the coordination of a comprehensive National Training Program to familiarise personnel at all levels with the requirements of planning and responding to the needs arising from an oil or chemical spill.

Over many years the training program, developed and delivered by Commonwealth and State Governments and oil industry representatives, has been enhanced with a clear emphasis of improving and integrating responder Health and Safety into the overall management of a response.

BACKGROUND

The issue of responder and third party safety is given the highest priority in any marine spill response. By their very nature, marine spills attract a large amount of attention from the media, politicians, interest groups and the public. This situation can sometimes lead to the priorities during a marine spill being influenced by factors other than the need to work in a safe environment.

In any spill response personnel are drawn from many organisations including State and Commonwealth government agencies, oil and chemical industry and community groups to work together to achieve a common goal. This creates a situation where people working within the response structure may be covered by different or a combination of occupational health and safety legislation.

To address this situation, AMSA has always adopted the following goals when integrating safety into an overall spill management structure.

- Compliance with legislation;
- Assignment of management responsibility;
- Operational risk assessments; and
- Operational briefings.

HEALTH AND SAFETY LEGISLATION

Australia has a two tier system of Government. This means that each of the eight States/Territories have their own Acts covering

Occupational Health and Safety. The Commonwealth Government also has its own Occupational Health and Safety Act. However, the general principles of the different Acts are consistent. All OH&S Acts in Australia include the 'duty of care' that require Employers to take all reasonable and practical steps to ensure the safety of employees at work.

Ensuring that the response is compliant with the correct health and safety Act is essential and must be clearly identified in the response action plan.

The first step in the development of the Response OH&S plan is to determine which Act you must comply with. In all cases, it is AMSA policy to adopt a 'best practice' approach and ensure you are meeting the highest standards available.

MANAGEMENT RESPONSIBILITY

During a marine spill response a management structure is established assigning responsibilities to each person in a management role. This structure is referred to as the Oil Spill Response Incident Control System (OSRICS). A copy of this structure is at attachment A.

Within the OSRICS structure the overall responsibility for occupational health and safety is assigned to the Incident Controller. To assist and advise them in their role there are two additional positions with specific responsibility for occupational health and safety. These are:

Incident Safety Officer

- Responsible for addressing incident OH&S issues
- Independently monitor and assess hazardous and unsafe situations; and
- Ensure that suitable control strategies are implemented.

OH&S Unit Coordinator

- Responsible for the implementation and oversight of OH&S requirements within the Incident Action Plan
- Implement OH&S induction process for all operations personnel;
- Ensure that proper OH&S procedures have been implemented for the response; and
- Rectify any practices which breach the OH&S protocols implemented for the response.

To meet these responsibilities, the OH&S Unit Coordinator works with the incident planning team to ensure that risk assessments are undertaken for all operational deployments. By working with the incident planning team the OH&S Unit Coordinator can ensure that all operational deployments are undertaken in the safest possible manner. From this, the OH&S Unit Coordinator develops a response OH&S plan for inclusion in the overall incident action plan. An example of the OH&S plan is at attachment

B. The incident controller then approves the OH&S plan in their capacity as person with overall responsibility for OH&S.

The OH&S Unit Coordinator is responsible for implementing the OH&S plan. The most effective way of doing this is by the Incident Safety Officer conducting briefings for the operational team leaders prior to any operation taking place.

PRODUCTION OF AN INDUCTION/TRAINING VIDEO

AMSA identified that a safety video was an innovative method of briefing and educating response personnel and explaining the risk management procedure undertaken during a marine spill response.

A working party was established to write a script that would highlight the risk management procedure and identify some common hazards found during a marine spill response and their control methods. The working party was made up of marine spill response experts from AMSA, NSW Department of Transport and Marine Safety Queensland. The AMSA representative also has responsibility for chairing and participating in various workplace OH&S committees and has a Diploma in Occupational Health and Safety.

The working group’s research identified that no other marine spill safety videos had been produced in Australia or, as far as could be ascertained, other parts of the world. The working party

developed the script from scratch and also coordinated the producing and filming. To make the video realistic, the actors are members of State and Commonwealth government departments responsible for marine spill response and members of the oil industry with responsibility for marine spill response. It was felt that this would ensure a level of ownership by key National Plan stakeholders would be achieved.

The video will be used during training courses and also during induction safety briefs during a marine spill response. The video is not seen to be the answer to ensuring a safe working environment during a marine spill response but is an important part of the overall safety management strategy.

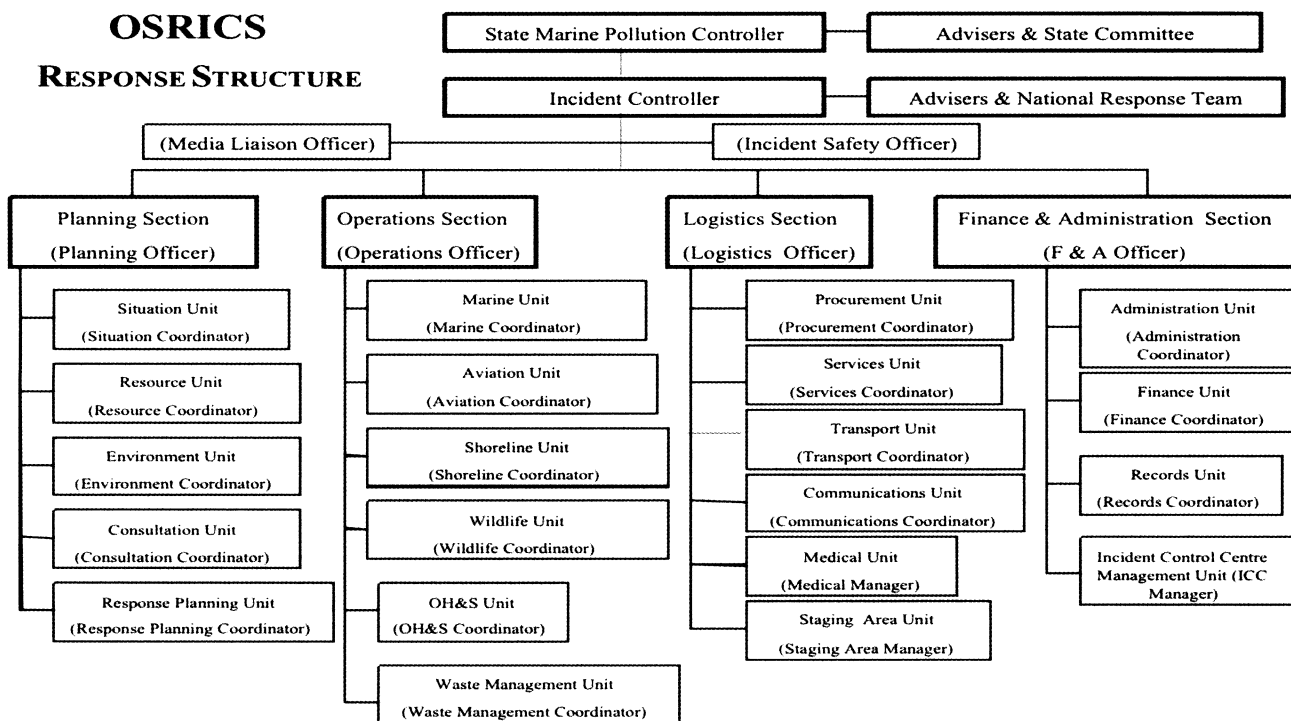
FURTHER DEVELOPMENT

AMSA see the video as a positive step to raising the overall awareness of safety during marine spill response and enhancing the development of a safety culture.

When used during training courses and safety briefings at marine spill response operations it will go a long way to ensuring all persons involved in a marine spill response are keeping safety as an important operational consideration.

The video is in the process of being converted to .mpg format and will be available free to external sources on AMSA’s and other National Plan stakeholders’ websites.

ATTACHMENT A



ATTACHMENT B

Response Action Plan

Occupational Health and Safety Plan

The purpose of this plan is to ensure operations undertaken by the pollution response organisation during the refloat of the Doric Chariot are performed in accordance with recognised safe work practices.

1.0 Occupational Health and Safety Management

Incident Controller—Alan Boath RHM Cairns QDOT
 Operations Officer—Fred Stein QDOT
 Planning Officer—John Wright QDOT
 Marine Unit Coordinator—Chris Priestly QDOT
 OH&S Unit Coordinator—Keith Brown AMSA

2.0 Operations Area

Any necessary response operations will be carried out in the first instance within the sea exclusion zone in place around the vessel. Further response operational areas will be defined based on the fate of any released oil.

3.0 Equipment staging area

The equipment staging area will be the Queensland Transport Marine Operations Base 64–66 Tingira Street Cairns

4.0 Forward Operations Base

A forward operations base will be established at Lockhart River to facilitate the staging of response personnel and equipment.
 Staging Area Manager—Peter Postorius
 Forward Operations Officer—Peter Cramp

5.0 Safety Briefings

Safety briefings will be held prior to response staff leaving the Cairns Operations Base and before each refloat attempt. The Team Leader of each task will brief all personnel within their team prior to the commencement of any operational activity.

6.0 Identified Risks (Task risk assessments are in Appendices)**6.1 Crane operations**

Any person who is involved in operations requiring the use of mobile cranes must wear a hard hat. A no entry zone of 10 metres shall be established around the crane operating area. Only essential personnel shall enter this zone when the crane is in operation.

6.2 Fork lift operations

Supervisors must ensure that any person operating a forklift on the base has appropriate training and a current licence.

6.3 UV Radiation Protection

Personnel should apply maximum protection sun block on all parts of skin exposed to the sun. Personnel should also wear a wide brimmed sun hat, peaked cap with neck flap or a hard hat with attachable brim

6.4 Environmental conditions

Personnel should be aware of the effects from prolonged exposure to hot climates. Adequate access to cold / ambient temperature liquids will be available to all response personnel. Personnel will be briefed on the importance of ensuring their intake of fluids is maintained and that shelter is sought out of the direct sun where possible.

6.5 Insect bites

The area where the operation is taking place is renowned for biting insects. Personnel should ensure that they apply insect repellent as required.

6.6 Wildlife hazards

The response operational area is the habitat of many marine animals including crocodiles and sharks. Unless essential to the effectiveness of the operation response personnel should keep body parts within vessels and not enter the water.

ATTACHMENT A (cont.)

6.7 Fatigue Management

All response personnel are required to complete a daily time sheet.
 Personnel should take a minimum 30 minute meal break every 5 continuous hours of duty.
 Maximum operational time on shift will be 12 hours with a minimum break of 10 hours between shifts.

Where continuous response operations are required suitable shift arrangements will be established to comply with the requirements above.

7.0 Minimum Personal Protective Equipment (PPE) Operations Personnel

The following is a list of essential PPE to be worn by all operations personnel participating in the response. The task Team Leader is responsible for ensuring all personnel in their team are wearing the appropriate PPE.

- Steel capped boots;
- Overalls or industrial clothing (long sleeved shirt and long pants suggested);
- Safety glasses with UV protection;
- Personal Flotation Device (PFD) for all vessel operations;
- Wide brimmed sun hat, peaked cap with neck flap or hard hat with attachable brim;
- Maximum protection sun screen;
- Leather gloves;
- Chemical respiratory protection safety glasses and chemical resistant gloves for dispersant loading.

8.0 Medical & First Aid

First Aid
 All vessels will be issued with a suitable first aid kit

Hospitals
 Thursday Is
 Douglas Street
 (07) 4069 1109

Cairns Base Hospital
 165 The Esplanade Cairns
 (07) 4050 6333

Emergency Medivac
 A helicopter is available on site for transport and evacuation of injured or ill response team personnel. Personnel will be transported to Lockhart River for initial treatment then transfer to Cairns by aircraft.

In the event of an emergency the Emergency Services helicopter located at Thursday Island will be tasked to evacuate any seriously ill or injured personnel.

Risk assessment

Task 1 Rapid deployment of 250 metres of Structurflex General Purpose boom to contain spilt oil close to source.
 Recovery of oil with Marco vessels
 Discharge of recovered oil into vessel of opportunity and/or towable storage bags.
 Vessels: Boom—Douglas Cairns—Mike Marriott
 Oil Recovery—Cassis and Baler

Team Leader: Peter Finn

Identified Risks	Control strategies
Manual handling of booms	<ul style="list-style-type: none"> • Trained personnel • Follow supervisors' instructions on correct deployment • Use team lifting techniques • Use mechanical assistance eg cranes, if available
Vessel operations	<ul style="list-style-type: none"> • The Master/Coxswain is in charge of the vessel at all times. • All personnel on the vessel must follow the Master's/Coxswain's instructions. • All personnel on the vessel must wear a PFD • Keep body parts within the vessel at all times
Recovered oil transfer operations	<ul style="list-style-type: none"> • Do not let oil free fall into storage devices • Wear respiratory protection if necessary • Wear eye protection

ATTACHMENT A (cont.)

Risk assessment

Task 2 Deployment of between 200 and 600 metres Ro Bay 1500 boom
 Operate boom in J configuration from barge
 Recovery of oil with Marco vessels
 Discharge of recovered oil into vessel of opportunity and/or towable storage bags.
 Vessels: Boom—Straits Express and A.J Ford
 Oil Recovery—Cassis and Baler
 Team Leader: Dennis Offord

Identified Risks	Control strategies
Manual handling of booms	<ul style="list-style-type: none"> • Trained personnel • Follow supervisors' instructions on correct deployment • Use team lifting techniques • Use mechanical assistance eg cranes, winches
Operation of boom deployment power pack	<ul style="list-style-type: none"> • Only equipment operator to be with in 5 metres of operating power pack • Equipment operator must wear ear protection • Equipment operator must wear eye protection • Only operate equipment when given instruction by supervisor
Operation of inflation pump	<ul style="list-style-type: none"> • Equipment operator must wear ear protection • Equipment operator must wear eye protection
Vessel operations	<ul style="list-style-type: none"> • The Coxswain is in charge of the vessel at all times. • All personnel on the vessel must follow the coxswain's instructions. • All personnel on the vessel must wear a PFD • Keep body parts within the vessel at all times

Risk assessment

Task 3 Deployment of 250 metres of Structurflex General Purpose boom and up to 100 metres or Structurflex Shoreline boom to protect identified sensitive resources.
 Vessels: GP Boom—VOO
 Shoreline Boom—VOO
 Team Leader: TBA

Identified Risks	Control strategies
Vessel operations	<ul style="list-style-type: none"> • The Coxswain is in charge of the vessel at all times. • All personnel on the vessel must follow the coxswain's instructions. • All personnel on the vessel must wear a PFD • Keep body parts within the vessel at all times
Manual handling of boom	<ul style="list-style-type: none"> • Follow supervisors instructions on correct deployment • Use team handling techniques
Recovered oil transfer operations	<ul style="list-style-type: none"> • Do not let oil free fall into storage devices • Wear respiratory protection if necessary • Wear eye protection

