



How Australia Responds to Oil and Chemical Spills in the Marine Environment

Australia's National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (the National Plan) is a national integrated Government and industry organisational framework enabling effective response to marine pollution incidents. The Australian Maritime Safety Authority (AMSA) manages the National Plan, working with State/Northern Territory Governments and the shipping, oil, exploration and chemical industries and emergency services to maximise Australia's marine pollution response capability.

For further information on the National Plan see separate Fact Sheet at www.amsa.gov.au under Marine Environment Protection.

Methods of spill cleanup under National Plan arrangements

Each spill incident involves a unique environment and set of circumstances requiring an individual plan of action and response decisions based on proven clean up options. New technology may develop to improve methods of dealing with marine spills, but until extensively proven will not be exclusively used in spill response.

The National Plan recognises there are limitations in responding to a spill in the marine environment. The ability to respond effectively depends on what is physically and scientifically possible. Currently there is not the technology to prevent weather-driven slicks or airborne contaminants from coming ashore, nor can prevention of environmental damage or economic loss be guaranteed.

Sometimes the most environmentally friendly solution is to allow the oil or chemical to disperse and break down naturally. Unnecessary actions taken to demonstrate 'concern for the environment', or in

response to public or media pressure, can result in much more serious damage to the environment than if the spill was left alone to disperse naturally.

Use of dispersants - Chemical dispersal of oil may be used only when all environmental effects have been considered. The effective use of dispersant requires quick decision-making so that oil can be dispersed at sea before it can come ashore. The National Plan has in place a Fixed Wing Aerial Dispersant Capability (FWADC) program for the application of oil spill dispersant. The FWADC uses large agricultural aircraft with a dispersant capacity of between 1850 and 3100 litres. This complements dispersant spraying arrangements using helicopters, which are confined to close inshore work.

Containment and recovery - Spilled oil is contained and recovered using booms and skimmers. The effective operation of booms and skimmers can be limited by adverse wind, current and sea conditions. Sorbents are materials used to recover oil by absorption or adsorption. They are used as alternatives or to complement booms and skimmers, especially when dealing with small oil slicks.

Biodegradation - This is the natural process whereby bacteria and other microorganisms found in the sea break down spilled oil.

Bioremediation - This is the application of fertilisers or other nutrient materials to a contaminated site (such as an oil spill) to accelerate natural biodegradation.

For chemical spills, response methods are tailored to the characteristics of the chemical involved. The impact on the environment is monitored and warnings are issued in areas of community use.

Equipment

The National Plan holds a wide strategic range of response equipment at nine regional stockpiles. Equipment provided by AMSA is generally targeted at larger spills (Tier 2 and 3). This is complemented by equipment held by port authorities for Tier 1 spills, individual oil and chemical companies and by the Australian Marine Oil Spill Centre stockpile in Geelong. Equipment can be rapidly deployed to the scene of a spill.

Types of equipment include oil spill control booms of varying types and sizes, self-propelled oil recovery vessels, static oil recovery devices and sorbents. A range of storage devices including free standing tanks and towable storage bladders and bags complement recovery devices.

Equipment used for chemical spills depends on the type of chemical. Chemical substances have properties that vary widely and can damage or cause failure to some types of equipment. Appropriate chemical response and clean up equipment is identified by the chemical industry and fire authorities. Suitable oil response equipment may be used in a chemical spill.

Support systems

A computer-based Oil Spill Trajectory Model (OSTM) is used to simulate and predict the movement of oil spills. The information provided assists those making decisions on measures needed to counter the threat to the marine environment.

The National Plan Oil Spill Response Atlas (OSRA) is a computer-based digital mapping system that allows operators to overlay various types of data to identify biological, cultural, geomorphological and socio-economic resources and how a marine pollution incident may impact these resources.

To assist in predicting, modelling and preventing chemical spills, the National Plan also has access to a range of chemical spill and emergency decision support tools. These tools provide information on bulk chemicals and packaged goods transported by sea, chemical toxicity and properties, atmospheric plume dispersion and safety emergency procedures.

For more information see: www.amsa.gov.au/Marine_Environment_Protection/