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OIL SPILL PREPAREDNESS
IN AUSTRALIA:

THE ROLES OF INDUSTRY
AND GOVERNMENT

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OIL SPILL PREPAREDNESS IN AUSTRALIA: THE ROLES OF INDUSTRY AND GOVERNMENT

Oil spill response in Australia is organised and coordinated under the National Plan to Combat Pollution of the Sea by Oil - the National Plan - as a combined effort by the Commonwealth, State and Northern Territory Governments, the oil industry and the shipping industry.

This paper outlines the development of the National Plan, its main features and some issues for the future.

Development of the National Plan

In 1969, as part of its responsibility for combating ship-sourced pollution of the marine environment, the then Commonwealth Department of Transport began consultations with other Commonwealth departments and representatives of State and Northern Territory Governments and the oil industry to consider the establishment of a national contingency plan.

These consultations received added impetus with the grounding of the tanker *Oceanic Grandeur* in Torres Strait in March 1970 and the resultant spill of 1400 tonnes of oil.

Although there was no detectable pollution damage to the marine environment, this incident highlighted Australia's inability at the time to deal with significant oil spills.

The *National Plan to Combat Pollution of the Sea by Oil* (the National Plan) was established in October 1973, under the responsibility of the Department of Transport.

In the first stage of its development, the National Plan was essentially a cooperative arrangement between the Commonwealth and the States/Northern Territory, with the assistance of the oil industry. The National Plan was based on a likely spill of up to 1000 tonnes of persistent oil. The on-going costs of operation of the National Plan were, and continue to be, provided by a levy on commercial shipping using Australian ports.

The original concept of the National Plan was to provide dispersant and spraying equipment which could be deployed from small craft, such as fishing vessels, at nine locations around the Australian coastline, along with a central stockpile of ship-to-ship transfer equipment. This was later augmented by the acquisition of a much wider variety of equipment and resources, which were placed on long term loan with State and Northern Territory authorities.

With the establishment of the Australian Maritime Safety Authority (AMSA) in 1991, responsibility for the administration of the National Plan passed to the Authority. AMSA is a Federal Government business enterprise responsible for minimising the risk of ship-sourced oil spills and providing a response capability to marine pollution.

Through this period, the preparedness of the oil industry to deal with oil spills was largely dependent on the initiatives of individual oil companies. In 1971, the oil industry developed the *Marine Oil Spills Action Plan* (MOSAP), a voluntary mutual aid arrangement, whereby participating oil companies could obtain assistance, both in the form of equipment and support by technical personnel, from each other in combating a marine oil spill.

These arrangements were reviewed by the Australian Institute of Petroleum (AIP) in 1989, following the Exxon Valdez oil spill. The immediate outcome of this review was the purchase of additional response equipment. This equipment was located at various ports around the Australian coast, where there was perceived to be a shortage of readily available equipment, to ensure that the oil companies had ready access to equipment adequate to deal with smaller spills.

At the same time, the AIP Board recognised that the industry's capability to deal with larger spills - spills in excess of 1000 tonnes - was limited. The AIP Board decided in 1990 to establish a major oil spill response facility strategically located and capable of dealing with a major spill - nominally 10,000 tonnes of oil.

This facility - the Australian Marine Oil Spill Centre (AMOSC) - became operative in 1991 at Geelong, Victoria, as a fully owned subsidiary of AIP. Initially, nine oil companies - the major oil producers and refiner/marketing companies - participated in AMOSC. Three other companies have since joined the original group. The participating companies in AMOSC are:

- Ampol Limited
- Ampolex Limited
- Apache Energy Limited
- BHP Petroleum Pty Ltd
- BP Australia Limited
- Caltex Refining Co Pty Limited
- Esso Australia Limited
- Mobil Oil Australia Ltd
- Santos Limited
- The Shell Company of Australia Ltd
- WA Petroleum Pty Ltd
- Woodside Petroleum Ltd

AMOSC operates on a twenty four hour standby for rapid response with equipment and personnel to a major oil spill anywhere around the Australian coast.

AMOSC has five permanent staff. The Centre's technical staff is supported by a core group of forty five highly trained personnel from the participating companies. In the event of an oil spill, some or all of these personnel would be called upon to provide the key technical skills necessary to deploy AMOSC's equipment in the most effective and efficient manner.

The participating companies have pre-signed hiring agreements and have nominated call-out authorities who can mobilise AMOSC.

Participating companies may also hire the Centre's facilities, equipment and manpower, for contingency planning and training and seek AMOSC advice on matters relating to oil spills preparedness and response.

The AMOSC facilities, equipment and manpower are also available for access by third parties, after completion of the required agreements to cover liabilities and indemnities.

AMOSC has about \$8.5 million of equipment and materials stored at the Geelong facility and a further \$1.6 million of industry equipment located in other Australian ports.

The equipment at Geelong includes:

- eight kilometres of containment boom, ranging from beach boom to heavy duty offshore boom
- nine skimmers of the weir and disc types
- a self-propelled oil recovery barge
- four trailer mounted rope mop systems
- 150 tonnes of oil spill dispersant, with application systems
- collapsible tanks for temporary storage of recovered oil
- four vacuum oil pick-up systems
- four trailer mounted, steam cleaning/pressure washing systems
- absorbent booms and pads; and
- satellite telephone and radio communications systems.

A rapid response to oil spills is essential if environmental impact is to be kept to a minimum. Rapid response maximises the chance of success, as the consequences of a spill and the effort and cost required escalate quickly as time progresses. All the Geelong equipment is containerised in response packages, to ensure that it can be loaded and shipped without delay and AMOSC has a contract for all road and air requirements with a major transport company. These arrangements are designed to ensure that AMOSC equipment can be delivered to any destination in Australia within twelve to twenty four hours. On each of the five occasions that AMOSC has been mobilised, the equipment has arrived on site within the prescribed time.

AMOSC also provides world class training for more than 200 people each year from the oil industry and government.

Three levels of training are offered:

- management overview, for senior managers who require an understanding of oil spill response arrangements
- oil spill response, for those directly involved in the management of an oil spill response;
- equipment deployment, for those who directly supervise and participate in response operations.

Most workshops are run at the purpose built training centre at Geelong, with easy access to the equipment and water for realistic demonstration and exercise. Workshops specifically designed to meet the requirements of individual companies are run at the Centre or at the client's own location.

Review of the National Plan

the development of Australia's oil spill contingency plans and response arrangements through the 1970's and 1980's proceeded with limited coordination and cooperation between the oil industry and Commonwealth and State Governments. By 1991, it was clear that a fundamental review of the arrangements was necessary to ensure that they were adequate in contemporary circumstances and reflected community expectations.

Key factors prompting this review included the following:

- several oil spills overseas and the *Kirki* incident in 1991 in which 18,000 tonnes of crude oil was spilt had focussed community attention on the risk of oil spills and the adequacy of response in particular.
- cooperation and coordination of the capabilities of industry and government was seen as of paramount importance in ensuring that oil spill response was swift and effective.

A Working Party was established by the Australian Transport Advisory Council, under the chairmanship of AMSA, with wide terms of reference to review the National Plan. As well as representatives of AMSA and other Federal Authorities, the Working Party included representatives of State and Northern Territory departments and authorities, the shipping industry and the oil industry. The Working Party completed its Report early in 1993 and, in June 1993, the Report was endorsed by

the Australian Transport Advisory Council.

THE NATIONAL PLAN REVIEW: RECOMMENDATIONS AND FOLLOW UP ACTIVITIES

The Report of the Working Party contains some 30 recommendations covering the full spectrum of National Plan policy, administration and operations.

The key change recommended by the Working Party from the review was that the National Plan needed to be refocussed, to ensure full integration of all government and industry activities.

The recommendations addressed several organisational issues - in particular, the need to ensure that the National Plan was carefully focussed, that its objectives were clear and that responsibilities of the various interested parties, Federal, State and Northern Territory authorities and industry, were clearly spelled out.

The key issues - and action taken to address them - are discussed below:

- National Plan Mission Statement

The working Party agreed that the purpose of the National Plan is to maintain a national integrated Federal and State Government/industry organisational framework capable of effective response to oil pollution incidents in the marine environment and to manage associated funding, equipment and training programs to support National Plan activities

- Objectives of the National Plan

The objectives of the National Plan, in accordance with Australia's obligations as a signatory to the Oil Pollution Response and Co-operation Convention, 1990 (PRC 90), are to provide a national system for responding promptly and effectively to marine oil pollution incidents by designating competent national and local authorities and establishing

- a national contingency plan for preparedness and response which includes the organisational relationship of the various bodies involved, whether public or private
- an adequate level of pre-positioned oil spill response equipment, commensurate with the risk involved, and programs for its use
- a comprehensive national training program designed to familiarise personnel

at all levels with the requirements of planning for and responding to the needs arising from an oil spill. This program includes the conducting of frequent exercises

- detailed national, state, local and industry plans and communication arrangements for mobilising resources and responding to an oil pollution incident
- an awareness by Governments, media and the community generally of the limitations inherent in a response to a major spill with particular emphasis on the need to accept that, other than in exceptional circumstances, current technology does not exist to prevent weather driven oil from an inshore incident coming ashore on the coastline.

- Scope of the National Plan

It was agreed that the National Plan should plan for and combat marine oil pollution from any source

This is a significant departure from the intention of the previous arrangements in that the plan was originally conceived to deal exclusively with ship-sourced oil pollution. In practice, the National Plan had been developed into an organisational framework capable of responding to marine oil spills originating from any source. The potential sources of marine oil pollution now identified for National Plan response include ships, offshore oil industry (both wells and pipelines) and land sources (including oil industry, other industry and domestic sources).

- National Plan Responsibilities

Australia faces unique challenges in creating a workable national oil spill response plan. Under the Constitution, jurisdiction over the foreshore, coastal waters, territorial sea and exclusive economic zone is shared by the Commonwealth and State Governments. In addition, Australia has over 36,000 kilometres of coastline and a relatively small population. Therefore, a national response plan is required which will accommodate the jurisdictional issues and make the best use of limited resources available.

The Working Party acknowledged that clearly defined responsibilities are essential if the National Plan is to operate effectively. These fall into two key areas:

- Primary Agency
- Lead Agency

The Primary Agency has statutory responsibility. Therefore, in all instances, the Primary Agency is the appropriate Federal or State/Northern Territory Government authority.

The Lead Agency has operational responsibility to take action. Should the incident be beyond the capability of the Lead Agency, the Primary Agency has the authority to take over the response.

Lead Agency responsibility, that is for initiating a response, is as follows:

- *for spills emanating from oil exploration rigs, platforms and pipelines*
- the relevant oil company
- *at oil terminals* - the relevant oil company
- *in ports (other than oil terminals and within the three mile coastal waters limit*
- the relevant State/Northern Territory authority
- *beyond the three mile coastal waters limit* - the Federal Government via AMSA except in those incidents close to shore when oil is likely to come ashore. In these circumstances, the relevant State/Northern Territory authority is the Lead Agency for protecting the coastline while AMSA assumes responsibility for overseeing ship operational matters, for example, salvage arrangements.
- *in the Marine Park of the Great Barrier Reef in an area covered by REEFPLAN*
- the relevant Queensland Government authority.

These Lead Agency responsibilities are shown in Figure 1.

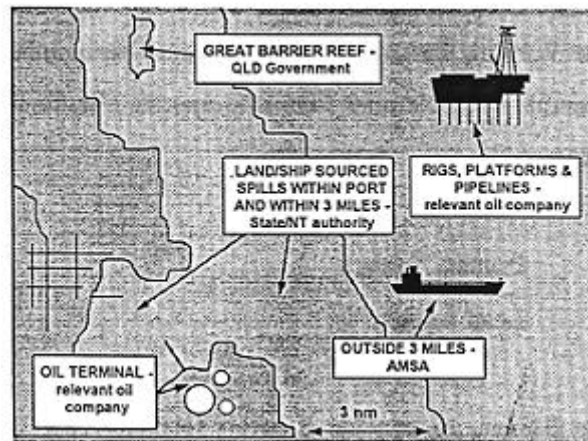


Figure 1 - Lead Agency Responsibilities

- Management Responsibility

Recognising the scale and complexity of a major oil spill response, the relevant government authorities have pre-designated Oil Spill Commanders who will take overall control in their area of jurisdiction. Each oil company has nominated Senior Industry Advisors whose role is to represent the interests of an affected oil company. This is by the input of company and industry resources to the response and the linkage of the National Plan response to the company crisis management activities.

A simplified response organisation for a major spill is shown in figure 2.

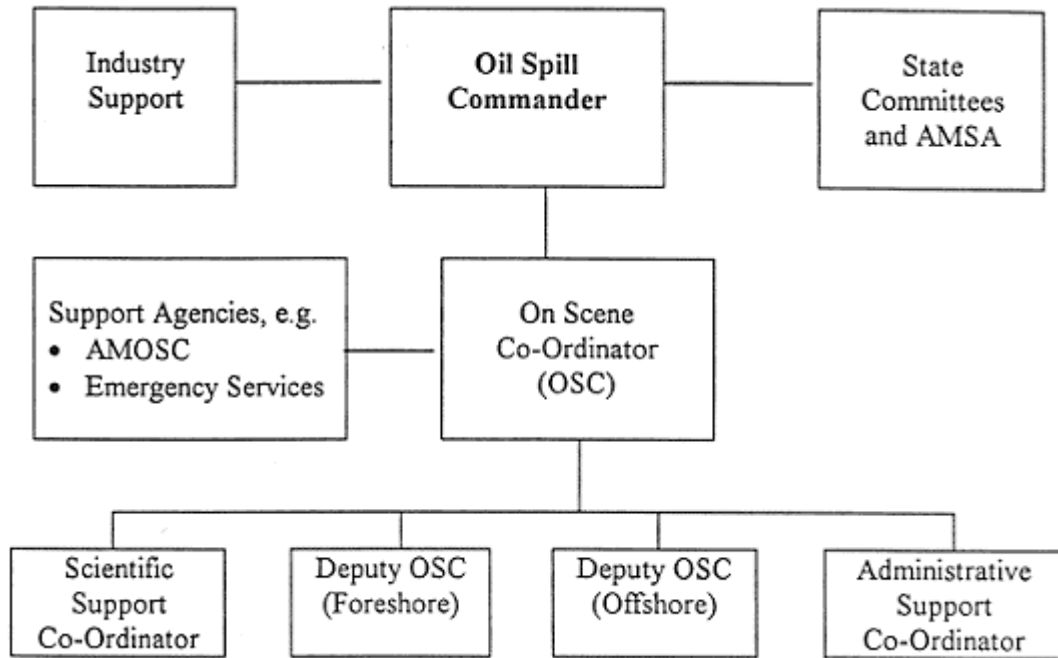


Figure 2 - The National Plan Response Organisation

- The National Plan Advisory Committee

The review of the National Plan confirmed the role of AMSA as managing agency of the National Plan. The National Plan Advisory Committee (NPAC) was established on completion of the Review to provide assistance and advice to the AMSA Board in the development and implementation of the range of National Plan activities.

A major task of NPAC is to coordinate national activity to ensure that Australia's readiness to respond to oil pollution is both relevant to Australia's circumstances and as efficient and cost effective as possible. To this end, sub-committees comprising representatives of government and industry have been established to address training, response and logistics issues.

The activities of industry and government, in the followup to the National Plan Review Report, have helped to ensure that appropriate oil spill response capabilities are in place. The activities of the National Plan Advisory Committee (NPAC) will ensure that the efficiency and effectiveness of the present arrangements reflect changing circumstances and experience.

- Training and Exercises

An important element in planning effective oil spill response is regular training and exercise of contingency plans

A wide range of courses and workshops are conducted in Australia at the three recognised levels of training, these being senior management, middle management and operator level. Conducted by AMSA, AMOSC, and the State/Northern Territory agencies, they form part of an integrated training program developed jointly by government and industry to eliminate duplication of effort and resources and to meet program objectives.

The objectives of the integrated government/industry program are to :

- provide sufficient trained personnel at middle management level to both manage an oil spill response and act as deputies to response managers
- provide a sufficient pool of trained personnel at operator level to allow effective response operations to be planned and undertaken
- provide arrangements for scientific and environmental input to oil spill response operations, and
- provide personnel with oil spill response skills at senior and middle management and operator levels to enable Australia to meet its obligations as a signatory to OPRC 90.

Annually, approximately nine hundred personnel attend training courses and workshops conducted throughout Australia. Of these, seven hundred attend operator level training with the remainder attending senior and middle management training forums.

In 1994, a program of Oil Spill Commanders Workshops commenced. These are valuable forums for senior government and industry personnel to improve understanding of the response arrangements and the way that government and industry bodies will work together in response to oil spill incidents.

In 1995, an Administrative Support Coordinator program will commence. This will

provide those who will be required to supply to a multitude of services required in a response with an improved understanding of an oil spill response and the services required.

As part of the integrated training program, AMSA, AMOSC and the States/Northern Territory conduct desktop and practical exercises to allow response equipment to be deployed and tested, to test lines of communication and to prove and test plans and procedures. Dependent upon the aims and objectives of particular exercises, participation may be restricted to an individual agency or may involve all agencies in a local or regional area. The scope of other exercises are such that they involve testing of procedures on a larger scale.

A major exercise was held in Gladstone, Queensland in May 1994. *Exercise Capricorn* involved 150 personnel from some twenty agencies representing Federal and State governments, the oil and shipping industries, local government and emergency services. Umpires and observers from all States, New Zealand and Papua New Guinea were on hand to judge the ability of the National Plan arrangements to respond to a major oil spill.

The scenario for *Exercise Capricorn* was a collision between a large foreign flag fishing vessel and an Australian flagged tanker which resulted in some 2500 tonnes of crude oil and heavy fuel oil carried as cargo being spilled to the marine environment.

The exercise was designed as a real time combined desk-top and practical deployment exercise to test not only the management skills of those involved but also to the ability of the agencies to move and deploy oil spill response equipment within an acceptable timeframe. Local response equipment from Gladstone was deployed and additional equipment brought in by road from Townsville and Brisbane. Oil industry personnel and equipment from AMOSC in Geelong was pre-positioned in the central Queensland area and available after a real time delay.

The exercise was acknowledged as a success by participants, umpires and observers alike. Areas in which the National Plan arrangements worked extremely well included.

- local, regional and national notification and callout procedures
- determination of protection priorities

- mobilisation and transportation of oil spill response equipment within acceptable time frames
- inter-agency cooperation, both government and industry
- identification of a safe haven to accept the damaged tanker
- declaration of a State of Emergency

Areas where improvement is required included:

- the relationship between the incident management group and the technical advisory group
- resource availability information and prioritisation of these resources,
- financial management.

Further major National Plan exercises are being planned. The results of these exercises will be carefully evaluated and applied to improving operational arrangements and response capabilities.

OIL SPILL RESPONSE

Australia has had very few major oil spills. In only two instances have spills been larger than 1,000 tonnes- in the grounding of the *Oceanic Grandeur* in 1970 when 1,400 tonnes of oil was lost and in 1991 when 18,000 tonnes was lost from the *Kirki*.

Oil spill incidents in recent years in which the Natplan and AMOSC resources have been mobilised include the *Kirki* and the *Era*, when 296 tonnes of bunker fuel were lost during a berthing accident at Port Bonython in South Australia. The resources of AMOSC were also mobilised following the grounding of a woodchip carrier, the *Daishowa Maru* at Eden in New South Wales, although the accident did not result in any loss of oil, and two incidents in the ports of Melbourne and Sydney involving loss of small amounts of oil in discharging operations.

The responses to these incidents were rapid and effective. However, they also served to highlight aspects of the organisational arrangements and the deployment of equipment and personnel where improvements could be made. These matters are being addressed as part of the ongoing activities of the National Plan Advisory Committee.

FUTURE DIRECTIONS

With the major advances in industry and government activities - in contingency planning, in training and in equipment availability - Australia's preparedness to deal with oil spills is now at a very high standard.

Nevertheless, there are several areas where Australia can do more to improve our preparedness to respond to oil spills.

The main areas are:

- improving understanding of topography, sensitive environments, tides and winds around the Australian coast. Better understanding of these matters will ensure the development of more effective response strategies.
- timely application of dispersant may be the most effective response to oil spills in many parts of the Australian coastline. Some operators have been identified and contracted to provide this service. This arrangement needs to be expanded to ensure that fixed wing and helicopter aerial dispersant capability is available at short notice throughout Australia.
- More testing of contingency plans is needed - to ensure that equipment is appropriately located; that it can be moved rapidly to locations where it will be required; and to build confidence that equipment can be successfully deployed and recovered oil dealt with effectively.
- organisational arrangements, particularly the overall management and supervision, need to be clearly understood - to ensure that the development and direction of oil spill response strategies are efficient and effective.

More can also be done to develop and enhance cooperative arrangements in the Asia Pacific region.

Regional cooperative arrangements are envisaged by the International Convention on Oil Pollution Preparedness, Response and Cooperation which comes into force in May 1995.

Last year, Australia, through the Australian Maritime Safety Authority, signed a memorandum of understanding with New Zealand and is negotiating similar arrangements with Indonesia and Papua New Guinea. Countries bordering the Malacca Straits are negotiating cooperative arrangements for preventing and responding to oil spills in the Straits.

Cooperative regional oil spill preparedness and response arrangements, as contemplated by the International Convention, has also been identified as an appropriate issue for consideration by the Asia Pacific Economic Forum (APEC).

These, and other cooperative arrangements, will clearly be beneficial to the countries of the region. Cooperation should aim to maximise the degree of coordination of response effort between governments and between governments and industry.

Such arrangements could address:

- coordination and understanding of oil spills contingency plans;
- cooperation in training of personnel in the techniques of oil spill response;
- the availability of equipment for oil spill response; and
- exercises to train personnel and test contingency plans for oil spill response.

CONCLUSION

In the past five years, Australia's preparedness to deal with oil spills has been significantly improved.

Equipment levels have been increased, training activity has been intensified and, most importantly, the organisational arrangements - between the industry Federal and State authorities - have been improved. With these improvements, Australia now has in place an effective arrangement capable

of rapid response to oil spills anywhere around the Australian coast.

The activities of the industry and the National Plan Advisory Committee are ensuring that these arrangements are kept under review and further improvements are made as the need arises.