6 CURRENT ARRANGEMENTS IN AUSTRALIA

A. DEVELOPMENT OF THE NATIONAL PLAN

130. In 1969 the Department of Transport held preliminary consultations with other Commonwealth departments and representatives of State governments and the oil industry to consider the establishment of a contingency plan, The National Plan to Combat Pollution of the Sea by Oil (National Plan). It was developed primarily to cope with oil pollution from shipping.

131. Attempts to formulate a National Plan received added impetus with the grounding of the tanker Oceanic Grandeur in Torres Strait on 3 March 1970 and the resultant spill of at least 1400 tonnes of oil (see Appendix 9). This incident highlighted Australia's inability to deal with such problems.

132. An Advisory Committee on Marine Oil Pollution was established with the task of advising on the best methods of combating oil pollution and the selection of equipment and material. A loan of $1 million was obtained from the Commonwealth Government and invested in recommended equipment. The National Plan became operational on 1 October 1973. The Advisory Committee continued in operation following the inception of the National Plan and provided, on an ad hoc basis, information on particular problems referred to it.

133. In 1975 the Advisory Committee was reconvened and given a brief to consider international developments in pollution abatement techniques and their relevance to the

Australian situation. Concurrently the membership of the Advisory Committee was expanded to provide a wider range of skills and to ensure adequate representation of interests.[1] In addition to this continuing function the Advisory Committee was seen as the ideal medium through which to carry out the five year review. This review was to evaluate the operational efficiency of the National Plan and equip it to operate through the next five years. The Review was completed in May 1978.

B. NATIONAL PLAN RESOURCES

134. The National Plan consists of stockpiles of dispersant in Cairns, Brisbane, Sydney, Melbourne, Hobart, Aelaide, Perth, Port Hedland and Darwin; spraying equipment, containment devices and an operational plan (see Appendix 7). Ship-to-ship transfer equipment is stored in Sydney and can be readily transported to centres around Australia by R.A.A.F. aircraft operating from Richmond.

135. The dispersant used is BP-AB, a product of non-ionic bio-degradable emulsifiers in a special solvent, manufactured by BP Australia, and is of relatively low toxicity and high efficiency.

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1. Current Advisory Committee Membership: Departments of Environment, Housing and Community Development, Transport, National Development, Primary Industry and Science together with CSIRO, PIECE, Australian Association of Port and Marine Authorities and Australian Chamber of Shipping.

136. The combined resources of the National Plan, State port authorities, oil industry and commercial sources, total approximately 1,400 tones of standard dispersant and 50 tonnes of concentrate dispersant. The British Department of the Environment has found that the average application rate in the field is one part dispersant to three parts oil.(2) On this basis the dispersant immediately available would be able to disperse approximately 6,000 tonnes of oil. In addition, commercial sources are capable of preparing another 2,000 tonnes of dispersants of varying toxicities, taking the dispersant capability of Australia to about 12,000 tonnes of oil,(3) (assuming that the oil spilt can be dispersed effectively). Overseas sources may also be able to provide at short notice, sufficient dispersant to treat a further 2,000 tonnes of oil.

137. The use of chemical dispersants was initially selected as the mainstay of the National Plan as recovery devices effective in open waters and capable of being rapidly transported to potential incident sites around Australia were not available.

138. Although still relying primarily on chemical disperson to combat oil pollution, the Plan and the Advisory Committee supports the use of physical recovery of oil from the marine environment in cases where such a course is safe and practicable.

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2. Accidental Oil Pollution of the Sea, p.86
3. Transcript, 1978, p.847

139. The use of National Plan resources is based on three principles:

- oil pollution should be allowed to disperse unless it is likely to cause environmental damage;
- if oil has to be removed then physical recovery techniques should be employed;
- where recovery techniques cannot be used and environmental damage is likely then then low toxicity dispersants are to be employed.

140. From the Review of the National Plan, it appears that the Advisory Committee is attempting to emphasise the importance of physical recovery by recommending an additional investment in recovery and containment equipment.

C. FUNCTIONAL ORGANISATION

141. To operate effectively the National Plan depends on co-operation between several organisational levels: the national level, the State Committee level and the local authority level.(4) The operational structure of the National Plan is outlined in figure 5. The role of the Commonwealth is to provide and manage the equipment necessary for the abatement of oil spills, and to ensure the overall co-ordination of national resources. The Department of Transport is responsible for the administration of the National Plan and the exercise of Commonwealth responsibility for dealing with oil spills in Australian waters.

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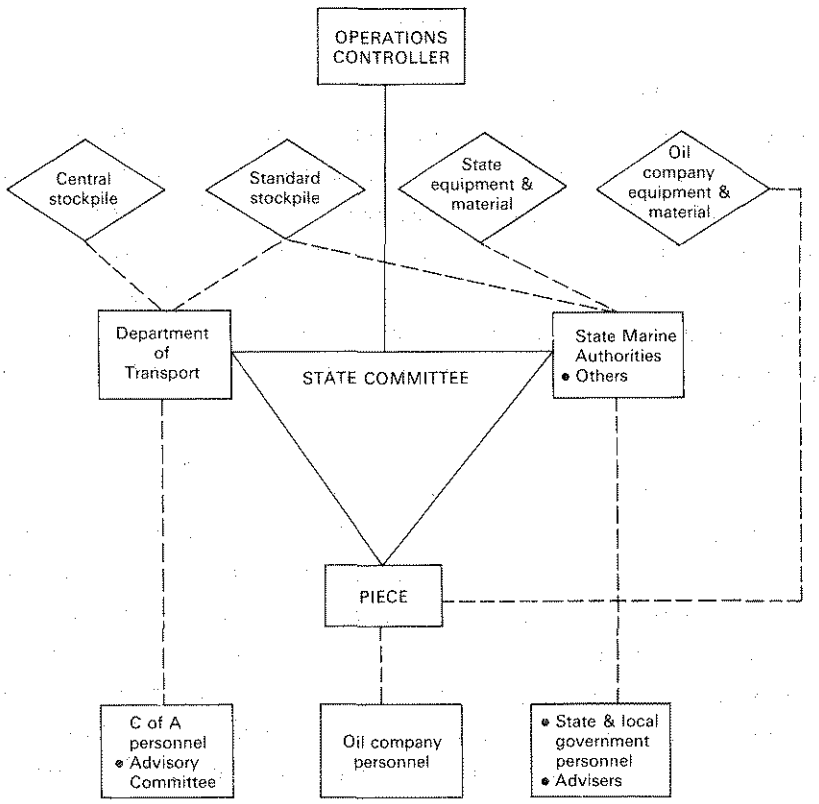
4. Transcript, 1978, p.888

Figure 5: National Plan operational structure



The Operations Controller is appointed by the Department of Transport if the spill occurs in Australian waters and by State Marine Authorities if the spill is in State waters.

Source: Review of the National Plan, Department of Transport, May 1978, Annexe IX.

142. Through the Australian Coastal Surveillance Centre in Canberra the Department of Transport provides continuous 24 hour communication facilities. The Marine Pollution Section acts as the National Co-ordinating Centre. Although the National Plan is supervised by a Commonwealth department, from its introduction emphasis has been placed on co-operation with other bodies, including State governments and the oil industry.

143. The extent of the coastline and the major role played by the States does not make centralised control of the National Plan practical. The actual control procedures are based on a decentralised system.

144. The three areas of jurisdiction are the open sea beyond territorial waters, near-shore and territorial waters, and ports and harbours. In the near-shore and territorial seas there are varying degrees of agreement between individual States and the Commonwealth as to where responsibility for the control of oil spills begins and ends. Ports and harbour authorities exercise a considerable degree of autonomy with only limited Commonwealth or State authority governing local decisions.

145. In addition to the division of responsibility across these three levels, the oil industry retains control of pollution abatement procedures in limited circumstances. The oil industry continues to concern itself primarily with small oil spills which occur at refinery jetties, marketing terminals and bunkering wharves. Combating small oil spills from sources other than directly from the oil industry, and all large spills, are matters primarily for the Commonwealth and State Governments.

146. State Committees. These have been established in each State and the Northern Territory and have the responsibility for direct action on oil pollution.

147. The Committees comprise representatives from the Commonwealth and State governments and the oil industry. Administrative arrangements have been agreed to which define Commonwealth/State areas of responsibility. These arrangements specify which party bears initial responsibility for

pollution control operations and sets out conditions of access to Commonwealth stockpiles and reimbursement for costs incurred (see Appendix 6).

148. During a major incident the State Committee will establish headquarters at a pre-arranged location and initial responsibility is determined in accordance with the administrative arrangements. An Operations Controller is posted to supervise on-site work and should the situation require more expertise, an adviser is 'on-call' at the Marine Pollution Section of the Commonwealth Department of Transport.

149. Although variations may exist between State Committees, the following criteria generally apply:

- the Commonwealth Representative (Department of Transport) assumes primary repsonsibility for the area declared as being "Commonwealth" in the administrative arrangements; arranges participation of other regional representatives of Commonwealth departments and passes requests for interstate assistance required by other government bodies;

- the State representative (marine authority) assumes primary responsibility for areas declared as being "State" in the administrative arrangements and arranges participation of other State authorities;

- the PIECE representative (oil industry) makes available oil industry facilities.(5)

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5. Transcript, 1977, p.65

150. The State Committees are non-statutory bodies meeting on a part-time basis and charged with the duty of combating marine oil pollution within areas of State jurisdiction. Each member of the Committee is an authorised releasing officer of stockpile equipment held by the National Plan. They have no authority to commandeer, hire, purchase or borrow equipment, vessels, personnel or buildings. All applications for additional equipment are processed through State or Commonwealth governments.(6)

D. MARINE OIL SPILLS ACTION PLAN

151. The oil industry has developed the Marine Oil Spills Action Plan (MOSAP) to deal with spills that are beyond the capabilites of the company responsible, but do not require National Plan facilities. Resources from other companies in the vicinity are called in, and if necessary, equipment is provided by MOSAP members in other areas. MOSAP ensures that additional contract services are available at all ports to provide equipment not held by members. The aim of MOSAP is to ensure a minimum of standardised pollution control equipment is readily available in all ports. Member companies hold well in excess of minimum equipment recommended by the Petroleum Institute Environment Conservation Executive (PIECE).(7)

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6. Transcript, 1977, p.383
7. Transcript, 1978, p.363

E. DETECTION AND REPORT OF OIL SPILLS

152. The pollution monitoring system serving the National Plan is far from adequate. Reports of oil pollution in open waters are received from the polluting vessels themselves, from random sightings by other vessels in the vicinity, or from military and civil aircraft. The Australian coastal surveillance system, as one of a number of duties, reports any suspected marine oil spills. Reports are passed to the Marine Pollution Section of the Department of Transport through the Australian Coastal Surveillance Centre and then to the regional authority responsible for the area affected. Information is passed to other Commonwealth departments including Primary Industry, and Environment, Housing and Community Development. The Australian Coastal Surveillance Centre acts as the central communications link for any action that might arise.

153. Reports of oil pollution occurring within ports or other confined waters usually originate from local officials and are passed direct to the appropriate harbour authority or State department. If the pollution is serious the Commonwealth Department of Transport is called in.

154. All these reports are acted upon. For the year 1 April 1976 to 31 March 1977, the total number of surveillance reports relating to oil spills was 61. Follow-up action was taken in 60 of the 61 cases and further action was necessary for 15 of the 60 cases. As a result of such action 10 cases were shown to involve pollution by oil.(8)

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8. Transcript 1977, pp.139-140

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F. CONTROL OF SPILLS

155. The Department of Transport has produced a booklet which describes the relevant features of abatement methods and has indicated the order of priority in which methods of abatement are to be employed.

156. Most State Committees have prepared supplements to the National Plan which incorporate local knowledge and which set out preferred methods of dealing with oil pollution. On an operational basis it is the Operations Controller at the spill site, who determines the clean-up procedures.

157. The Operations Controller directs action committing local and regional resources available to the State Committee until the spill is contained and cleared or it becomes obvious that available regional resources combined are inadequate to deal with the problem. The Commonwealth representative, usually a regional officer of the Department of Transport, will then contact the Marine Pollution Section and request additional assistance.

158. If the size of the spill is such that military assistance is required, or if because of its remote location military transport is required, the Marine Pollution Section will contact the Natural Disasters Organisation which arranges assistance. The Department of Defence provides assistance in tasks which are beyond civil or commercial capability. The Department of Defence will not intervene in a disaster situation unless approached by the State concerned.(9)

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9. Transcript 1977, p.443

G. FUNDING

159. Equipment and material for the National Plan is financed from a levy on the shipping industry. To provide the initial equipment, a loan of $1 million, repayable over 5 years at current Bond interest, was obtained from the Commonwealth Government. In 1971 agreement was reached between the Commonwealth and the States on the levy, and in November 1972 the Commonwealth introduced the Pollution of the Sea by Oil (Shipping Levy) Act 1972 and the Pollution of the Sea by Oil (Shipping Levy Collection) Act 1972. These Acts, which came into force on 1 October 1973, set the levy rate and established the procedure for colleciton of the levy.

160. The levy rate, prescribed by statute not to exceed 4 cents per net registered ton per quarter, was originally set at 1 cent per net registered ton per quarter. The levy was to apply to all ships registered over 100 tons and which carried in excess of 10 tons of oil. By June 1976 the Commonwealth loan had been repaid and a reserve of $500,000 had been created. The levy was reduced to 0.8 cents per net registered ton per quarter from 1 October 1976. This figure was calculated to allow for maintenance of the reserves.

161. The $500,000 reserve, which is a notional credit as all monies are paid into Consolidated Revenue, was not created to compensate victims of oil pollution[10] nor is it meant to provide the financial reserves to pay for the abatement of a massive spill. Funds may only be used as an interim provision with the polluter reimbursing the Fund, or in cases where the polluter is not identified.

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10. Transcript, 1977, p.145

162. The National Plan was based on a 'polluter pays' principle; for small spills costs will only be met where amounts in excess of $500, or more than 450 litres of dispersant are involved. This limit was designed to emphasise the intention that the National Plan was designed to cater for major incidents and to encourage people involved in minor spills to seek reimbursement from the polluter.

163. The Department of Transport has acknowledged that the funding of the National Plan through annual Departmental estimates has created some problems. Difficulties in assessing total incident costs have led to considerable delays in meeting claims. Once the initial appropriation has been spent further demands can only be met after the Department of Finance approves additional funds.(11) The Committee notes with approval that the Department of Transport is considering the establishment of a Trust Account to control the finances of the National Plan.

H. COMPENSATION

164. Compensation claims may be brought against the owner or captain of a ship for damages arising from oil pollution. In such an action the victim must establish:

- the extent of the loss;
- the source of the pollution;
- a link between the source of pollution and the damage; and
- that a negligent or wrongful act gave rise to the pollution.(12)

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11. Report on the National Plan to Combat Pollution of the Sea by Oil, Department of Transport, May 1978 pp.21-22
12. Transcript, 1977, p.257

There may be problems with apprehending foreign parties, solvency of the defendants and delays in bringing the case before the courts. There are no arrangements in the National Plan for making compensation payments to victims of oil pollution.[13]

165. International conventions have been established which ensure that funds are available to cover clean-up costs and compensation claims. The International Convention on Civil Liability for Oil Pollution Damage 1969[14] sought to establish a uniform limit on liability for oil pollution damage and clean-up costs. A system of compulsory insurance covers clean-up costs, loss or damage arising from oil contamination and costs of preventative measures.

166. The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971[15] supplements the Civil Liability Convention to ensure compensation to parties in the event that damages exceed the Civil Liability Convention limit of US$16.8 million for one incident.

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13. Transcript, 1977, p.145
14. In force since 19 June 1975
15. Not yet in force

167. Australia has not yet ratified these Conventions. The Committee recommends that:

> **the Commonwealth Government take immediate steps to ratify the International Convention on Civil Liability for Oil Pollution Damage 1969 and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971.**

168. Australia can only ratify a convention when it is in a position to legally enforce the provisions of the convention. This usually requires the passing of complimentary legislation by both the States and the Commonwealth, and occasionally the provision of aditional facilities.(16)

169. Compensation provisions are also provided by voluntary oil industry schemes, and are currently operating in Australia. Esssentially the schemes parallel international conventions and were introduced to provide compensation mechanisms for oil spill clean-up costs until the international conventions became fully operational.(17)

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16. For example, before the International Convention for Prevention of Pollution from Ships (MARPOL) 1973 can be ratified, Australia must provide shore facilities for the collection of oily wastes. Transcript, 1978, p.892-3
17. Carven C.J. & Becker, G.L. International Oil Spill Liability and Compensation Regimes, February 1978. Exxon Corp. pp.1-2

170. Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP) places a responsibility on the tanker owner to ensure reimbursement for actions taken by national governments to clean-up oil pollution up to a limit of US$10 million per incident per vessel. Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL) increases to US$30 million funds available to claimants sustaining pollution damage. TOVALOP and CRISTAL cover respectively 95% of free-world tanker tonnage and 90% of crude and fuel oil cargoes shipped.

171. Documentation for bulk oil cargoes delivered to or loaded at an Australian port by the major oil companies stipulates that the tanker be entered by its owner as a member of TOVALOP.(18) While voluntary agreements provide adequate financial cover for compensation claims the Committee would prefer to see Australia become a party to the international conventions covering compensation.

I. LEGISLATION

172. In 1960 the Commonwealth Government enacted legislation(19) to give effect to the provisions of the International Convention for the Prevention of Pollution of the Sea by Oil 1954. The Commonwealth legislation adopted the narrow definition for 'oil' and 'oily mixtures' contained in Article 1 of the Convention. Complimentary legislation was then enacted by the Australian States.(20) All States adopted a wider definition of the term 'oil'.

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18. *Transcript*, 1978, p.365
19. Pollution of the Sea by Oil Act 1960
20. See Appendix 8

173. Witnesses stated that there is a need to expand the definition of oil contained in the Commonwealth legislation. A situation could arise where a significant pollution incident occured with no offence being committed as the petroleum product spilled was not within the definition of oil.

174. The Committee appreciates that the definition in the Commonwealth legislation cannot exceed that contained in conventions ratified by Australia. However a more recent convention[21] on marine oil pollution uses a much broader definition. Ratification of this Convention would make it possible for Commonwealth legislation to be amended to incorporate the wider definition.[22]

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21. International Convention for Prevention of Pollution from Ships 1973
22. The narrow definition limits 'oil' to crude oil, fuel oil, heavy diesel oil and lubricating oil. The wider definition includes all petroleum oils.

7 ASSESSMENT OF CURRENT ARRANGEMENTS

A. CAPACITY OF THE NATIONAL PLAN

175. The National Plan to Combat Pollution of the Sea by Oil has achieved its basic aim of developing a capability to respond to marine oil pollution.

176. Australian resources are adequate to deal with day to day problems. However, the National Plan and its resources may be ineffective in dealing with a moderately large spill, through lack of equipment or delays in transporting it to the spill site.

177. Witnesses were unable to tell the Committee the size of spill that the National Plan was designed to cope with. The justification for the current level of equipment appears to be based solely on the budget available. The Plan was equipped within the limits allowed by the Commonwealth loan ($1 million) and subsequent appropriations contained in Department of Transport annual estimates.

178. It is doubtful whether any nation has the resources to handle an Amoco Cadiz situation.(1) However, there is no economic or operational justification to equip and prepare for a major disaster which may never occur.(2) Contingency arrangements should be directed towards a specific goal: in this instance a planned response capacity able to cope with an anticipated level of oil pollution, based on the nature of shipping currently using Australian waters.

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1. Transcript, 1978, p.789
2. A U.S. estimate for providing protection from a major spill is an initial capital investment of US$20 million for each 200 miles of coastline, and an annual maintenance cost of US$2 million. Transcript, 1978, p.55.

179. The Committee considers that valid comment on equipment deficiencies can only be based on a comparison of current resources with established needs. To accurately assess those requirements it is necessary to estimate the probable extent of a major oil spill.

180. The establishment of the National Plan on a financial basis was justifiable as the initial period of operation was essentially a pilot program. The Committee was concerned that the National Plan review chose to maintain a financial basis for equipping the National Plan rather than the size of a likely spill.

181. In order to assess the adequacy of the National Plan and to properly equip it the Committee recommends that:

> **The National Plan should be equipped to respond to an estimated pollution threat calculated on the basis of the size and volume of shipping using Australian waters.**

Divisions of Responsibility

182. The division of coastal waters into areas of functional responsibility is seen as administratively desirable and necessary. However, the Committee is concerned that the division of responsibility between Commonwealth, State and local authorities may have led to unco-ordinated approaches. The possibility exists that an oil spill may be treated differently if it moves from an area controlled by one authority to that of another.

183. Witnesses expressed concern at the degree of autonomy of ports and harbours authorities and the fact that contingency plans for these areas need not necessarily be approved by the State Committee.(3) Dispersants used and techniques adopted are largely a matter of local choice.

184. A number of witnesses stated(4) that there is an urgent need to adopt common standards and procedures, and to ensure adequate co-ordination and communication between authorities. The National Plan Review recognised these problems and recommended discussions aimed at formulating a uniform policy. The Committee welcomes developments in this direction.

B. ENVIRONMENTAL ASPECTS

185. The aim of dealing with an oil spill is primarily to protect the environment. Committees established under the National Plan, while consisting of members with expertise in many areas, may not recognise the environmental impact of oil spills.

186. The State Committees of the National Plan can co-opt advisers from State authorities including environmental specialists. On occasion, liaison between operators and environmental authorities has been inadequate.(5) Environmental agencies are only contacted if the authority dealing with the incident feels that consultation is warranted.

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3. Transcript, 1977, p.360
   Transcript, 1978, p.367
4. Transcript, 1977, p.385
5. Transcript, 1978, pp.248, 254

187. It is difficult to determine when spills become critical.[6] Accordingly, to ensure that environmental considerations are always taken into account, the Committee recommends that:

- **on-site controllers inform environmental officers of any oil spill as a matter of course; and**

- **once alerted, the environmental officers should determine the extent of their involvement, in an advisory role, in monitoring and clean-up strategies.**

188. Consultation on environmental issues is esential in the monitoring of clean-up methods, as well as in the preparation of contingency plans. Environmental input into planning should include:

- environmental information to allow identification of sensitive areas; and
- the identification of experts or organisations who should be consulted in the event of a spill.

These measures would avoid unnecessary interference with the environment by minimising the effects of oil pollution and clean-up measures.

189. Western Australia and Victoria have commenced a program of mapping environmentally sensitive areas which will identify critical areas and will assist in preparation of contingency plans. Local commercial and recreational interests such as oyster farming associations, bird watchers

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6. Transcript, 1978, P.250

clubs and protection councils should be involved. These groups would provide detailed local knowledge and would make available specialist skills. The Committee welcomes these developments.

190. The development of contingency maps and plans would limit to some extent the discretionary powers of on-site controllers.

191. As a logical extension of this program some coastal and offshore areas could be identified as areas where spills are most likely to occur. To assist in the identification of these areas, the Committee recommends that:

> **the Department of Transport in conjunction with State government and the oil industry establish a register containing information on oil cargoes and frequency and location of spillage.**

Expansion of the National Plan

192. The National Plan was originally developed as a means of dealing with oil pollution from ships. The plan is funded wholly by shipping interests. In emergency situations, the Plan can be called in to cope with pollution from sources other than ships, including offshore rigs and land-based refineries.

193. The equity of the scheme must be questioned as refining and production installations are ultimately protected by a system to which they are not required to contribute. The Committee considers that such a situation is unsatisfactory.

194. Operators of installations have prepared their own contingency plans and in addition, can call on the resources of the Marine Oil Spills Action Plan (MOSAP). Although these plans can effectively deal with small spills, operators rely on the resources of the National Plan to deal with a large-scale pollution incident[7]. In terms of the existing situation those aspects most obviously requiring amendment are:

- the need for direct National Plan involvement in contingency planning for offshore and land-based installations; and

- the need for more equitable funding arrangements.

195. The limitation which must be recognised is that contingency plans devised by offshore operators are based primarily on the resources available to the company, and the industry generally, through MOSAP. Should these resources prove inadequate, it is correctly assumed that the resources of the National Plan will be made available. Existing stocks of dispersants held on site at the Bass Strait production field would enable the treatment of 250 tonnes of oil. A contingency arrangement proposed for an exploratory well in the Abrolhos Islands envisages a dispersant treatment capacity of 150 tonnes.[8]

196. The preparation of contingency plans for offshore rigs is not the responsibility of the Department of Transport. The resources of the National Plan are available,

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7. Transcript, 1977, p.324
8. Transcript, 1978, p.851

but it is assumed that the Department of National Development, which represents Commonwealth interests in exploration and production, would take charge of the operation.(9) The Committee is concerned that in the event of a blow-out at an offshore site, administrative delays and ad hoc decisions arising from the lack of pre-planning may delay action.

197. There are no formal arrangements to co-ordinate the National Plan with MOSAP. There is no organisation for planning the use of equipment or for transporting it to the spill site. Personnel are not trained in the use of National Plan equipment.

198. The Committee recommends that:

> **the Department of Transport, in consultation with the Department of National Development and the Petroleum Institute Environmental Conservation Executive prepare an operational plan which will facilitate the movement and use of National Plan resources in the event of a pollution incident caused by offshore operations or shore-based facilities.**

199. It is not intended that such a contingency plan encroach on State powers or functions. The Committee feels that it is necessary to ensure that there are no gaps in contingency planning caused by divisions of administrative responsibility. Commonwealth involvement is seen as a means

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9. Transcript, 1977, p.156

of ensuring that administrative arrangements for release of National Plan resources are adequate, and that clean-up operations are co-ordinated.

C. FUNDING

200. The National Plan as it now operates spreads the costs of the National Plan across all shipping interests, but does not differentiate between the types of cargoes carried and the varying potential for pollution. Witnesses suggested that[10] a levy system based on the amount of oil actually carried would be more equitable as levy payments would reflect potential risk.

201. The Committee considers that the suggestion has merit but sees practical difficulties. The number of tankers in relation to general shipping operating in Australian waters is relatively small and to transfer the bulk of the costs of the National Plan to a small group could create an excessive financial burden. The suggested alternative would have to consider policy questions including part discharge and ballasted tankers which carry no oil cargo. Administrative difficulties aside, the Committee considers that vessles which pose the greatest oil pollution risk should bear a significant proportion of the cost of maintaining the National Plan.

202. The National Plan was never intended to bear the cost of a large pollution incident. In such a situation the polluter would pay as the vessel would be readily identifiable. The National Plan pays for the clean-up of minor pollution incidents which cannot be traced to a particular vessel. Such minor incidents usually arise from

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10. Transcript, 1978, p.878

operational discharges from all ships, not only tankers. In these circumstances the existing levy arrangements are equitable in that all potential polluters pay at a uniform rate.

203. The Committee recommends that:

> **the Minister for Transport evaluate alternative levy schemes to determine the most equitable and administratively effective system of levying shipping interests.**

204. The oil industry does not contribute to the National Plan other than in instances where member companies act as shipping operators - no provision is made for contributions on the basis of refinery, offshore production or pipeline capacity. Assuming that contingency arrangements will be introduced to cover such installations, contributions to the National Plan from other than shipping interests will be required. The contribution scheme should have regard to the environmental threat posed by such installations, and should also consider the existing industry investment in MOSAP and the extremely low incidence of major pollution arising from such installations.

205. The Committee recommends that:

> **the Minister for Transport determine an equitable basis for contribution from offshore and land-based installations to the National Plan.**

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8 FUTURE DEVELOPMENTS

A. THE NEED FOR RESEARCH

Research on the Effects of Oil on Marine Life

206. Many witnesses stressed the need for research into the effect of oil spills on organisms in the Australian marine environment.(1) There have been a number of minor spills in Australian waters, but these have not been used as an opportunity to gather data on the effects of oil on marine life. The Committee considers environmental experts should be called in when spills occur to allow monitoring of the effects of a spill. To date much information is based on extrapolations from overseas research which is not necessarily valid for Australian species and conditions.

207. Little information is presently available on the toxicity of locally produced crude oils. It is important that this data be obtained as the toxicity of locally used oils and crudes to local species is essential information. Data on the physical and chemical properties of all oils in use should be recorded, and made available in the event of a spill. This would help assess the likely effects on marine life.

208. Because of the lack of data available in Australia on the amount of oil present in the marine environment, the fate of oil and its effects on marine biota, it is difficult to make sound judgments for prevention of oil pollution and treatment of spills. The following information is urgently needed:

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1. Transcript, 1977, p.310
   Transcript, 1978, pp.11, 30 and 577

- quantities of oil entering the Australian marine environment from all sources;

- movement of oil in the Australian marine environment, with special emphasis being placed on the rate of degradation under various environmental conditions and the distribution of oil in marine organisms, sediments and waters;

- determinations of those areas of the Australian marine environment which would be most damaged by oil pollution, with studies to be undertaken to ascertain the likely effects of oil spills on such areas;

- lethal and sub-lethal effects of oil on Australian marine biota, with particular emphasis on sensitive inshore and coastal species;

- the effects of oil spills on seabirds and marine animals; and

- residual toxicity of oils under various environmental conditions at various stages of degradation.

209. The Committee has been made aware of the lack of detailed scientific data on the populations and distributions of marine biota. Lack of basic data on biological communities means that it is extremely difficult to assess what changes have taken place after a spill has occurred. Lack of knowledge of the biology of local species and ecosystems does not allow an accurate prediction of the effects of a spill or the likelihood of recovery.

210. The Committee recommends that:

the Minister for Science review priorities to determine the need for increased allocation of resources to marine science research.

211. The Committee considers that this research should not be restricted to the impact of pollution but encompass the whole field of the marine environment. Similarly, the Committee recommends that:

> **the Prime Minister request the Australian Science and Technology Council to examine the need for increased marine science research.**

212. At present there is no regular monitoring of Australian marine waters aimed at detecting petroleum hydrocarbons. A monitoring system would make it possible to:

- establish present day baselines;
- detect and evaluate trends and changes;
- detect accidental critical events; and
- evaluate the effectiveness of current protection strategies.

213. To supply the required information, stations must be established in areas both free from significant pollution, and in areas where there are pollution problems. At these stations it would be necessary to monitor water composition, suspended matter, sediments and individual species of marine flora and fauna.

214. Although the need for basic research is a national problem it is recommended that a comprehensive monitoring program be undertaken, commencing with a region that would be particularly sensitive, should a large spill occur. It is suggested therefore that the program initially be directed to the marine life of the Great Barrier Reef. The Committee is aware of the research facilities already available in Queensland. Administrative and support facilities at the Australian Institute of Marine Science in Townsville would

allow a signficant increase in the numbers of research staff without overtaxing the Institute. Research stations already exist at Lizard Island and Heron Island, which would facilitate field studies without incurring the establishment costs.

215. The Committee recommends that:

> **the Australian Institute of Marine Science undertake a research program aimed at monitoring marine ecosystems in the Great Barrier Reef area and that CSIRO establish stations throughout Australia to monitor marine waters.**

216. Some witnesses stressed to the Committee the need to conduct an experiment on the Great Barrier Reef involving the deliberate spillage of a substantial amount of oil.(2) Results gained from this experimental spill would enable scientists to predict the likely effects of a major oil spill disaster more accurately. These experiments were also supported by the Royal Commission into Exploratory and Production Drilling for Petroleum in the Area of the Great Barrier Reef.(3) The Committee does not accept that deliberate spills in such an environmentally significant Commonwealth region are justified. If, however, the Government does authorise an oil spil experiment, the Committee stresses the need to accurately and thoroughly assess the experiment site before any field tests are undertaken.

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2. Transcript, 1977, pp.310-312
3. Parliamentary Paper No.38, 1974. Report - Volume 1, pp.10-21

Research into the Toxicity of Dispersants

217. While toxicity ratings are available for disperant brands used throughout Australia, it should be noted that toxicity tests are not performed on Australian species. Although the Committee does not wish to doubt the accuracy of research undertaken by overseas laboratories many witnesses stressed the need for testing dispersants under Australian conditions.(4) To date neither the funds nor the expertise for this research have been available in Australia.(5) Given that dispersants will continue to be an important means of dealing with oil spills it is essential to develop information which will indicate the potential threat of the use of these products. The Committee considers the oil industry as well as government, has an obligation to ensure that such research is undertaken.

218. The Committee recommends that:

> **the Commonwealth Government and the oil industry undertake a joint research project on the toxicity of dispersants and oil/dispersant mixtures on Australian species under Australian conditions.**

219. Dispersants still have a major role to play in combatting oil spills. Where intervention is necessary, disperants appear to be the only really effective and generally applicable method of dealing with oil pollution at sea. The Committee's endorsement of the continuing role of dispersants is made with reservations and in the light of the

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4. Transcript, 1977, p.360
   Transcript, 1978, pp.21, 235
5. Transcript, 1978, pp.144, 147, 148

fact that the disadvantages of existing mechanical recovery equipment effectively precludes their use as an alternative to chemical dispersion in most open water situations.

220. The Committee recommends that:

> **the Department of Transport continue to monitor international developments in recovery equipment to determine suitability for the Australian situation. Should such equipment become available, the reliance on dispersants as a primary method of treating oil pollution should cease.**

221. Despite large scale use of dispersants (252,000 litres of BP-AB from the National Plan stockpile in five years)[6] and an inestimable amount applied by other authorities, there appears to be little documentation of the circumstances in which dispersants have been used and the success that has been achieved with them.[7] The Committee considers that such documentation is essential if accurate assessments are to be made on the efficiency of dispersants.

222. The Committee recommends that:

> **in situations where dispersants from the National Plan stockpile are used, a report be presented to the Department of Transport, as controller of the National Plan, to enable the compilation of data on the usage and success of dispersants.**

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6. Review of the National Plan, p.11
7. Transcript, 1977, p.361

B. INCREASING SIZE OF TANKERS

223. At present Australia produces sufficient oil to meet 70% of its demand, but by 1990 it is estimated that 89% of Australia's oil requirements will be imported.(8) Oil is currently imported in vessels ranging from 50,000 to 66,000 Dead Weight Tonnes (DWT) and refined product carriers of 19,300 to 25,600 DWT. The upper limits for tanker size is determined by draught limitations of Australian ports, and sets the upper limit for possible oil spills in Australia waters. There are at present no ports in Australia that can accommodate a VLCC.(9)

224. Throughout the Inquiry, concern was expressd that as oil imports increase, there will be increasing pressure to permit much larger tankers to operate in Australian waters. On 13 March 1978 Ampol Petroleum Limited announced it was ordering a new 100,000 DWT tanker to replace the much smaller P.J. Adams on the Australian coastal run.(10)

225. Evidence concerning the likely introduction of VLCC's was conflicting. One representative from the Department of Transport stated that because of relatively low oil imports to Australia, he did not think ships larger than 200,000 DWT would be seen in Australian waters in the foreseeable future.(11) Another representative from the Department of Transport said it was likely that Australia

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8. Transcript, 1978, p.843
9. Very Large Crude Carriers, 150,000 to 250,000 DWT
10. Sydney Morning Herald, 1 May 1978
11. Transcript, 1977, p.179

would have to accept very large carriers as the smaller ones would gradually disappear from service.(12)

226. The Committee is concerned that economies of scale of carrying oil in bigger ships will eventually bring VLCC's into the Australian oil trade. Although the introduction of VLCC's would reduce the number of ships operating, and thus the possibility of a collision, should an accident occur the results would be catastrophic.

227. The Committee believes that before VLCC's are permitted to operate in Australian waters, the environmental implications should be carefully assessed. A decision to allow VLCC's should not be based solely on economic considerations.

228. The only two ports in Australia that can be modified to accept VLCC's relatively easily are Botany Bay in N.S.W. and Westernport Bay in Victoria. In both cases extensive dredging would be required, which could seriously affect the marine ecosystems in the bays. The Committee notes the conclusions made by the Botany Bay Port and Environmental Inquiry (Simblist Inquiry) that the advantages of introducing VLCC's were not of such significance as to outweigh environmental factors.(13)

C. MONOBUOYS

229. If, in the future, a decision is taken to permit VLCC's to trade in Australian waters, procedures to reduce the threat of accidents must be considered seriously. One suggestion put to the Committee is the use of monobuoy ports,

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12. Transcript, 1977, p.176
13. Botany Bay Port and Environmental Inquiry, p.37

whereby a docking terminal is established some distance offshore. Tankers unload at this terminal and their cargo is pumped ashore via pipeline. The tanker does not need to enter crowded ports and harbours.(14)

230. Bad weather does not seem to be a valid argument against installation of monobuoy ports, as they operate effectively in the rough sea conditions of the North Sea. The Committee was informed that in rough or severe weather conditions, it is safer for a tanker to put out to sea than it is to remain in port.(15) No convincing evidence was put forward to the Committee on why such facilities should not be established. Pipelines have proven to be an efficient and trouble-free method of transporting oil in the Australian situation.(16)

231. The Committee firmly believes that should VLCC's be permitted to operate in Australian waters, monobuoy ports should be installed offshore to receive tanker cargoes.

D. THE LAW OF THE SEA CONVENTION

232. The outcome of Law of the Sea deliberations will have serious ramifications in terms of oil pollution prevention and control. If a Convention on the Law of the Sea is agreed to, it is likely that international standards to control and prevent marine pollution with limited coastal State enforcement rights with regard to ship-sourced pollution in territorial waters will be introduced.

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14. Transcript, 1977, p.201
15. Transcript, 1977, p.171
16. Transcript, 1978, p.207

233. The Informal Composite Negotiating Text of the Third United Nations Conference on the Law of the Sea provides for a coastal State to control pollution from foreign ships as follows:

> It can prosecute a foreign ship for a pollution offence in its EEZ(17) when that ship comes into its port, or it can require the flag State to take action in regard to such an offence. As a general rule, a coastal State may not interfere with a foreign ship in the EEZ except to obtain information relating to a pollution offence. It may not arrest a foreign vessel in the EEZ except in the case of flagrant or gross violations. In the event of a major pollution casualty (e.g. Amoco Cadiz), a coastal State can intervene to take any measures necessary to protect itself.(18)

E. OTHER HAZARDOUS SUBSTANCES

234. Although not specifically considered under the terms of reference of this inquiry, the possibility of severe marine pollution coming from spills of noxious cargoes other than oil, was raised by many witnesses.

235. Many of the controls applicable to oil discharges from ships are relevant to other hazardous substances and IMCO is devoting a considerable effort to these areas. Codes have been developed for the carriage of dangerous chemicals (Bulk Chemicals Code) and gas (Gas Carrier Code). The

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17. Exclusive Economic Zone
18. Joint Parliamentary Committee on Foreign Affairs and Defence, Sub-Committee on Territorial Boundaries, Australia, Antarctica and the Law of the Sea, Parliamentary Paper No. 198 of 1978, p.54

International Convention for the Prevention of Pollution from Ships 1973, which, in addition to dealing with oil pollution, also regulates the discharge of harmful substances other than oil, including noxious chemicals, sewage and garbage. It applies to any ship of any type. The Convention also prescribes design and construction standards for tankers and other vessels with the objective of minimising spills likely to result from casualties.(19)

236. As a result of the 1973 MARPOL Convention, work on guidelines for reception facilities and discharge procedures for other noxious substances has been proceeding. In addition the provisions relating to intervention and liability in regard to oil spills can in principle be applied to other hazardous substances. These matters are also under active consideration in IMCO.

237. It would appear reasonable to give consideration to appropriate controls to prevent or deal with pollution caused by substances other than oil. Although there will be some practical problems, the need for contingency plans is still vital.(20)

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19. Transcript, 1977, p.261
20. The Committee notes that the United States Marine Environmental Protection Program is concerned with both oil and other hazardous substances.

238. The Committee recommends that:

the Department of Transport and the Department of Environment, Housing and Community Development hold discussions to consider the possibility of extending the National Plan to combat Pollution of the Sea by Oil to include pollution by other hazardous substances.

J.C. HODGES
Chairman

21 September 1978

APPENDIX 1

LIST OF WITNESSES

ANGEL, Captain B.J.	Technical Adviser Marine Pollution Section Department of Transport CANBERRA
BARKLEY, Mr D.P.	Chief Engineer (Operations) Ports and Harbours Division Victorian Public Works Department MELBOURNE
BARNETT, Mr B.K.	Committee Member Victorian Branch of Australian Chemical Specialities Manufacturers Association MELBOURNE
BENNELL, Mr D.J.	Financial Analyst Esso Australia Limited
BERGSMA, Mr R.C.T.	Acting Director Marine Pollution Section Department of Transport CANBERRA
BICKNELL, Mr J.	Marine and Fleet Operations Manager Australian National Line MELBOURNE
BRANSON, Mr R.W.	Senior Supervising Engineer Production Department Esso Australia Limited
BUNT, Dr J.S.	Acting Director Australian Institute of Marine Science, TOWNSVILLE
BURKE, Mr C.P.	Engineering Superintendent Australian National Line MELBOURNE
BURNS, Dr K.A.	Research Officer Marine Chemistry Unit Marine Studies Group Victorian Ministry for Conservation

BUTTNER, Captain A.J.	Marine Superintendent Mobil Oil Australia Limited, representing Petroleum Institute Environmental Conservation Executive
CALDER, Captain M.	Hydrographer, RAN Department of Defence CANBERRA
CARROLL, Dr W.S.	Chairman Westernport & Peninsula Protection Council, VICTORIA
COLEMAN, Captain M.	Harbourmaster Fremantle Port Authority representing the Western Australian Marine Oil Plan Combat Committee
CROOK, Mr R.D.	Executive Director Petroleum Institute Environmental Conservation Executive and Overall Controller of Oil Industry Marine Oil Spills Action Plan
CUMING, Dr B.D.	Committee Member Westernport & Peninsula Protection Council, VICTORIA
DANN, Captain K.H.	Marine Superintendent Ports (Commercial) Ports and Harbours Division Victorian Public Works Department MELBOURNE
DEMMLER, Mr W.G.	Committee Member - Victorian Branch of Australian Chemical Specialties Manufacturers Association MELBOURNE
DODWELL, Captain J.F.	Harbourmaster Sydney Ports State Nautical Co-ordinator Maritime Services Board NSW State Government
DRAKE, Mr R.J.	Hon. Secretary Georges River Branch NSW Oyster Farmers' Association
ECCLES Mr P.B.	Acting First Assistant Secretary Coastal Services Division Department of Transport CANBERRA

ELLIOTT, Captain R.R.F.	Chief Marine Surveyor Department of Transport CANBERRA
ENDEAN, Dr R.	Reader in Zoology University of Queensland
EVANS, Mr M.R.	Municipal Health Surveyor North Sydney Municipal Council, NSW
FALCONER, Dr A.	Lecturer in Geography University of Queensland
FARRANT, Mr R.H.	Marine Manager Esso Australia Limited
FIRTH, Mr I.	Technical Assistant Environment and Fisheries Department of Conservation and Water Resources NSW State Government
FLETCHER, Mr W.W.	Marine Branch Department of Environment, Housing and Community Development CANBERRA
FURZER, Dr I.	Senior Lecturer in Chemical Engineering University of Sydney
GIBBS, Dr C.F.	Deputy Officer in Charge of Marine Chemistry Unit Marine Studies Group Victorian Ministry for Conservation
GODDEN, Captain J.E.	Senior Supervisor Shipping Esso Australia Limited
GRANT, Mr E.M.	Special Adviser in Marine Biology Queensland Department of Harbours and Marine, BRISBANE
GREEN, Mr R.D.	TOTAL Australia Limited, representing Petroleum Institute Environmental Conservation Executive
GUPPY, Mr D.J.	Acting First Assistant Secretary Offshore and International Division Department of National Resources CANBERRA

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GURR, Mr G.J.	Marine Branch Environment Division Department of Environment, Housing and Community Development CANBERRA
HANCOCK, Dr D.A.	Chief Research Officer Western Australian Department of Fisheries and Wildlife PERTH
HARRIS, Mr F.B.	Director Townsville Regional Conservation Council
HEALEY, Mr B.O.	Water Pollution Control Officer Department of Environment Tasmanian State Government
HEARN, Captain P.J.G.	Pilot Port Phillip Sea Pilots MELBOURNE
HERD, Mr R.G.	Marine Standards Division Department of Transport CANBERRA
HIGGS, Mr H.J.	Director of Environment Department of Environment, Housing and Community Development and Acting Chairman of the Great Barrier Reef Marine Park Authority
HOLMES, Captain P.R.	Director, Marine Pollution Section Department of Transport CANBERRA
HORSCROFT, Captain G.P.	Nautical Adviser Department of Transport CANBERRA
HORSLEY, MR F.C.	Co-ordinator Environmental Conservation Australian Oil Refining Pty Ltd., representing Petroleum Institute Environmental Conservation Executive
HUTCHINGS, Mr E.	Committee Member Westernport and Peninsula Protection Council, VICTORIA

JACOBE, Mr L.	First Assistant Secretary Coastal Services Division Department of Transport CANBERRA
JITTS, Mr H.R.	Acting Assistant Secretary Marine Branch, Environment Division Department of Environment, Housing and Community Development CANBERRA
KAY, Dr D.G.	Project Leader Marine Studies Group, Victorian Ministry for Conservation MELBOURNE
KEITH, Mr G.N.	Project Development Manager Broken Hill Proprietary Co. Ltd., Oil and Gas Division, representing Petroleum Institute Environmental Conservation Executive
KOROKNAY, Mr S.J.	Area Technical Manager Esso Australia Limited
LEFOE, Mr N.F.	Pollution & Control Development Engineer BP Australia Limited, representing Petroleum Institute Environmental Conservation Executive
LOVELL, Mr A.H.	Cargo Superintendent Ampol Petroleum Limited representing Petroleum Institute Environmental Conservation Executive
MANUELL, Mr R.W.	Environment Conservation Co-ordinator Esso Australia Limited
MARSHALL, Mr R.F.	Chief Inspector of Mines Department of Mines NSW State Government
MAXWELL, Dr W.G.H.	Executive Director Australian Petroleum Exploration Association Limited SYDNEY
McGREGOR, Mr E.M.	Acting Chief Invesigations Officer Environmental Protection Authority Victorian Ministry for Conservation.

McKENZIE, Lieutenant-Commander J.A.	Staff Officer to Director Fleet Maintenance Department of Defence CANBERRA
MILLINGTON, Mr P.J.	Acting Biologist Resources Management Section Fisheries Division Department of Primary Industry CANBERRA
MOREHEAD, Mr T.	Director of Marine Department of Transport Tasmanian State Government
NORRIS, Mr R.C.	Acting Australian Government Analyst Department of Science CANBERRA
OZINGA, Mr C.	Protection Systems Officer National Parks and Wildlife Service Department of Lands NSW State Government
PERCY, Commodore R.	Director General Joint Operations and Plans Department of Defence CANBERRA
PHILLIPS, Mr N.G.	President NSW Oyster Farmers' Association
RAMSAY, Mr J.A.	Solicitor General's Department Tasmanian State Government
REDDAN, Mr P.J.	Engineer State Pollution Control Commission Department of Planning and Environment NSW State Government
REIDY, Mr B.L.	Executive Director Australian Chemical Specialties Manufacturers Association
ROBERTSON, Dr D.G.	President Bird Observers' Club MELBOURNE
ROBINSON, Mr K.	Production Superintendent Esso Australia Limited

RODGER, Captain J.S.	Marine Manager The Shell Company of Austrlia Limited, representing Petroleum Institute Environmental Conservation Executive
RYAN, Mr J.F.	Director Technological Policy Studies, Department of Science CANBERRA
SMITH, Captain I.G.	Navigational Spokesman of the Queensland Coast and Torres Strait Pilot Service BRISBANE
SMITH, Mr J.F.A.	Representative of member company of Australian Chemical Specialties Manufacturers Association MELBOURNE
SMITH, Mr P.R.	Marine Protection Branch Department of Environment, Housing and Community Development CANBERRA
SPRINGALL, Captain C.C.	Secretary Port Philip Sea Pilots VICTORIA
THOMPSON, Mr K.E.	First Assistant Secretary Office of Environment Protection Department of Environment, Housing and Community Development CANBERRA
TILLEARD, Mr J.F.	Honorary Secretary Westernport and Peninsula Protection Council, VICTORIA
TOBIN, Alderman J.T.	Mayor Municipality of Botany, NSW
TUCKER, Captain C.H.	Traffic Manager Port of Brisbane Authority QUEENSLAND
TURNER, Mr G.	Principal Engineer Maritime Services Board NSW State Government

VARDANEGA, Mr R.	Assistant Secretary Natural Disasters Organisation Department of Defence CANBERRA
WALKER, Mr R.H.	Director Resources Management Section Fisheries Division Department of Primary Industry CANBERRA
WALLACE, Mr D.A.	Refinery Safety Superintendent Petroleum Refineries (Australia) Pty Ltd, Port Stanvac, South Australia representing Petroleum Institute Environmental Conservation Executive
WATERS, Captain D.M.	Assistant Secretary Marine Crews and Services Department of Transport CANBERRA
WATSON, Mr W.R.	First Assistant Secretary Environment Division Department of Environment, Housing and Community Development CANBERRA
WEBB, Mr H.R.	Assistant Secretary Research, CSIRO CANBERRA
WHITE, Mr J.A.W.	Chief Petroleum Technologist Petroleum Exploration Branch Bureau of Mineral Resources Department of National Resources CANBERRA
WHITEMAN, Captain B.B.	Superintendent of Pilotage and Navigation Queensland Department of Harbours and Marine BRISBANE
WIGGINS, Mr J.C.	Chief Engineer and Town Planner Municipality of Botany, NSW
WILLIAMS, Mr R.J.	Senior Biologist Environment and Fisheries Department of Conservation and Water Resources, NSW State Government
WILLIAMS, Mr R.T.	Executive Officer Great Barrier Reef Marine Park Authority, TOWNSVILLE

WILSON, Mr G.D.	Assistant Solicitor Maritime Services Board NSW State Government
WOODLEY, Mr S.J.	Liaison and Planning Officer Great Barrier Reef Marine Park Authority, TOWNSVILLE
WRAY, Mr K.	Economist Australian Petroleum Exploration Association Limited

APPENDIX II

LIST OF EXHIBITS

1. COMMONWEALTH GOVERNMENT DEPARTMENT OF TRANSPORT
   Part II of Submission.

2. COMMONWEALTH GOVERNMENT DEPARTMENT OF TRANSPORT
   Map entitled "Marine and Navigation Aids".

3. COMMONWEALTH GOVERNMENT DEPARTMENT OF ENVIRONMENT HOUSING AND COMMUNITY DEVELOPMENT
   Appendixes to Submission.

4. COMMONWEALTH GOVERNMENT DEPARTMENT OF SCIENCE
   Appendix to Submission.

5. VICTORIAN PUBLIC WORKS DEPARTMENT
   Appendixes A to F to Submission.

6. AUSTRALIAN CHEMICAL SPECIALTIES MANUFACTURERS' ASSOCIATION

   (a) "ACSMA - Its Objectives and Activities"
   (b) "Australian Chemical Specialties Manufacturers' Association Sub-Committee on Oil Spill Dispersants - Industry Policy on Oil Spills Dispersants" (Draft).
   (c) "Oil Dispersants and Surface Film Chemicals approved by Warren Spring Laboratory and licensed for use by the Ministry of Agriculture, Fisheries and Food under the Dumping at Sea Act 1975".
   (d) Australian Chemical Specialties Manufacturers' Association "Notes for Introduction".
   (e) "Dorset County Council: Oil Pollution - Scheme for Early Warning and Control of Clearance Operations".

7. BIRD OBSERVERS' CLUB
   (a) "The Status of Oiled Wildlife".
   (b) "Cleaning Agents for Oiled Wildlife".

8. WESTERNPORT AND PENINSULA PROTECTION COUNCIL
   Appendixes A, B & C to Submission.

9. N.S.W. STATE GOVERNMENT
   Appendixes A to L of Submission.

10. BOTANY MUNICIPAL COUNCIL
    Appendixes 1 to 6 to Submission of 24 March 1977.

11. DR I. FURZER
    "Polluted Muds of the Parramatta River".

12. PETROLEUM INSTITUTE ENVIRONMENTAL CONSERVATION EXECUTIVE
    Copy of Marine Oil Spills Action Plan together with five extracts from reference documents.

13. AUSTRALIAN INSTITUTE OF MARINE SCIENCE
    (a) AIMS Report of the Council 1976-77.
    (b) AIMS Research Report 1976-77.
    (c) Appendix 1 to Submission "Some Considerations in the Development of Research Details for a Program into the Effects of Oil Spillage on the G.B.R.".
    (d) Appendix 11 to Submission "The Effects of Oil Spillage on the G.B.R.".

14. GREAT BARRIER REEF MARINE PARK AUTHORITY
    (a) GBR Marine Park Act 1975
    (b) "The GBR Marine Park" - Information about Act.
    (c) "The Marine Park Concept".
    (d) The GBR Marine Park Authority Annual Report 1976-77.
    (e) Reeflections, Vol 2, No. 1, March 1978.
    (f) Reeflections, Vol 1, No. 1, September 1977.

15. QUEENSLAND COAST AND TORRES STRAIT PILOT SERVICE
    (a) Brochure "The Queensland Coast & Torres Strait Pilot Service".
    (b) Brochure "M.S. 'Norvegia Team'".
    (c) Problems associated with non-piloted ships".
    (d) "The Management & Operation of a Private International Pilot Service".
    (e) Letter concerning Increased Draught, Gannett Passage, Prince of Wales Channel.

16. DR A. FALCONER
    (a) Third Canadian Symposium on Remote Sensing.
    (b) "Monitoring Environmental Pollution" by J. Ester and B. Golomb.

17. QUEENSLAND DEPARTMENT OF HARBOURS AND MARINE
    (a) National Plan to Combat Pollution of the Sea by Oil Operations Manual - Queensland Supplement.
    (b) Brochure "National Plan to Combat Oil Pollution at Sea".
    (c) Brochure "Lockheed Clean Sweep - R2003 Series".
    (d) Brochure "Lockheed Clean Sweep - The Problem Solver".

18. DR R. ENDEAN
    "Pollution of Coral Reefs".

19. MR E. GRANT
    "Effects of Crude Oil on Corals".

20. CAPTAIN M. CALDER RAN

(a) Report by Hydrographer of the Navy 1976 (Extract, p.1).
(b) The Mariner's Handbook, 4th ed. 1973 (Extract, pp 41-43).
(c) Report of the Hydrographic Study Group, July 1974, (Extract, p.5, Appendix 4, fig. 1).
(d) Graphic Representation of 150,000 DWT Bulk Carrier.
(e) Typical Line Spacings Encountered in Surveys of Great Barrier Reef waters.
(f) Air Survey and Satellite Imagery, by P.M. Byrne and F.R. Honey (Extract, pp. 101, 106).
(g) International Hydrographic Review (Extract, p.14).

21. ESSO AUSTRALIA LIMITED

(a) International Oil Spill Liability and Compensation Regimes.
(b) Tanker Advisory Center - Worldwide Tanker Casualty Returns.

22. COMMONWEALTH DEPARTMENT OF TRANSPORT

(a) Report on the National Plan to Combat Pollution of the Sea - Including Review after 5 years of Operation.
(b) Appendixes A, B, and C to the Department's Supplementary Submission.

23. COMMONWEALTH DEPARTMENT OF TRANSPORT

"International Maritime Consultative Organisation - Comprehensive Anti-pollution Manual, Section II".

APPENDIX III

SUBMISSIONS

The following individuals and organisations assisted the Inquiry by providing written submissions, but were not required to appear at a public hearing.

Australian Chamber of Shipping
Sydney, NSW

Mr E.R. Bartlett
St Marys, SA

Department of the Capital Territory
Canberra, ACT

Essochem Australia Ltd
St Kilda, VIC

Friends of the Earth
Canberra, ACT

Gamlen Chemicals (Australasia) Pty Ltd
Lane Cove, NSW

Mrs B. Haas
Seaforth, NSW

Mrs B.R. Hardy
Seacliff, SA

Mr P.R. Kennedy
Dalkeith, WA

Northern Territory Port Authority
Darwin, NT

South Australian State Government
Adelaide, SA

Mr G.A. Swan
Beecroft, NSW

Tecalemit Australia
Woodville, SA

Mr G. Thompson
Mt Waverley, VIC

Woodside Petroleum Development Pty Ltd
Perth, WA

APPENDIX IV

GLOSSARY OF TERMS

IMCO - INTER-GOVERNMENTAL MARITIME CONSULTATIVE ORGANISATION

This is an international organisation designed to allow cooperation between governments in the areas of maritime safety and navigation and to minimise undue interference by coastal states in the shipping industry.

LOT - LOAD ON TOP

This system is designed to eliminate most of the oily sludge left in ships' tanks without emptying it into the sea. The seawater that has been used for washing all the tanks is pumped into slop tanks where the oil eventually rises to the surface. The residual water is pumped out to sea and the new cargo of oil is loaded on top of the old oil.

TOVALOP - TANKER OWNERS VOLUNTARY AGREEMENT CONCERNING OIL *POLLUTION*

TOVALOP was adopted in 1969 and was designed to provide a compensation mechanism for oil spill clean-up at least until the International Convention on Civil Liability for Oil Pollution Damage, 1969 came into force (1975). It is the tanker owners' responsibility to compensate national or local governments who either clean up a spill or remove the threat of a spill to any coastline area. The shipowner's liability for such government clean-up costs is $100 per gross registered ton of the tanker involved or $10 million whichever is less.

CRISTAL - CONTRACT REGARDING AN INTERIM SUPPLEMENT TO TANKER LIABILITY FOR OIL POLLUTION

CRISTAL became effective in 1971 and will remain in effect at least until the IMCO International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 (Fund Convention) comes

into force. This program provides compensation for clean-up costs by tanker owners incurred above certain limits and for third-party damage claims after other remedies available to claimants have been exhausted.

PIECE - PETROLEUM INSTITUTE ENVIRONMENTAL CONSERVATION EXECUTIVE

PIECE is the Environmental Division of the Australian Institute of Petroleum Limited (A.I.P.) and was formed in 1970 by the nine major groups of oil companies in Australia. Members of PIECE are represented on and provide inputs into the various committees of the National Plan.

MOSAP - MARINE OIL SPILLS ACTION PLAN

The Marine Oil Spills Committee of PIECE instituted the Oil Industry Marine Oil Spills Action Plan and the manual for it. Over 200 copies of the manual are held by key personnel likely to be involved in combating marine oil spills including over 70 in Government departments.

SOLAS - SAFETY OF LIFE AT SEA

Australia is a party to the International Convention on the Safety of Life at Sea which was developed at IMCO in 1960.

EEZ - EXCLUSIVE ECONOMIC ZONE

CHRONIC OIL SPILL - The long term slow release of oil from repeated spills.

EPISODIC OIL SPILL - A 'once-only' occurrence such as the break-up of a large tanker.

APPENDIX V

STATUS OF INTERNATIONAL CONVENTIONS DEALING WITH SHIP-SOURCED POLLUTION

The International Convention for the Prevention of Pollution of the Sea by Oil 1954 as amended in 1962 (Oilpol '54)

- 55 countries have ratified or otherwise accepted this Convention which has been in force since May 1967. The original Convention came into force in May 1958.

- the 1969 Amendments to this Convention have been accepted by 38 countries and will come into force on 20 January 1978.

- the 1971 (Tanks) Amendments to this Convention have been accepted by 19 countries and require 17 additional acceptances before they can come into force.

- the 1971 (Great Barrier Reef) Amendments to this Convention have been accepted by 18 countries and require 18 additional acceptances before they come into force.

- Australia is a party to the Convention as amended to 1969.

- The Convention contains measures for the control of operational discharges from ships through generally prohibiting all discharges with 50 miles from nearest land, (outer edge of Great Barrier Reef is considered nearest land for this purpose) and by controlling the volume of discharge beyond that area. To give a measure of control in case of collision or grounding the maximum size of tanks of a tanker is limited.

The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties 1969 (Intervention '69)

- 31 countries have ratified or otherwise accepted this Convention which has been in force since June 1975.

- Australia has signed but not ratified the Convention.

- This Convention deals with the right of a coastal State to intervene and take measures to protect its coastal and other related interests where a maritime casualty involving oil occurs on the high seas, which may be reasonably expected to result in grave and imminent danger to those interests.

The International Convention on Civil Liability for Oil Pollution Damage 1969 (Civil Liability '69)

- 32 countries have ratified or otherwise accepted this Convention, which has been in force since 19 June 1975.

- Australia has signed but not ratified the Convention.

- This Convention aims at ensuring that adequate compensation (through compulsory insurance) is available to persons who suffer oil pollution damage resulting from maritime casualties involving ships carrying oil as cargo. The liability placed on the shipowner is strict, but limited except in cases where the owner is actually at fault.

The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 (Fund '71)

- 11 countries have ratified or otherwise accepted this Convention. This Convention is not yet in force. Although sufficient ratifications have been received, the total annual tonnage of oil received by these countries is below the required 750 million tons.

- Australia has neither signed nor ratified the Convention.

- This Convention augments the Civil Liability Convention as a supplementary source of compensation in those cases where either (a) there was no compensation due from the owner of the ship involved in the casualty or (b) the compensation due from that owner was insufficient to cover the compensation required. The Fund when in force will be funded from levy placed on oil received in shore terminals after being transported by sea.

The International Convention for the Prevention of Pollution from Ships 1973 (Marpol '73)

- 2 countries have ratified or otherwise accepted this Convention which is not as yet in force as there are many technical difficulties to be overcome. The Convention requires the acceptance by 15 States representing not less than 50% of gross tonnage of world merchant fleets.

- Australia has signed but not ratified the Convention.

- This Convention will eventually replace the 1954 Oilpol Convention. The main objective of the Convention is to eliminate pollution of the sea by oil and other harmful substances which may be discharged operationally, and to minimise the accidental discharge of such substances. It

goes well beyond the present Convention as it also covers ship construction, equipment, provides for regular surveys and certification as to compliance with the requirements of the convention.

Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil 1973 (Protocol '73)

- 2 countries have ratified or otherwise accepted this Protocol which needs to be accepted by 15 States before entry into force.

- Australia has neither signed nor accepted the Protocol.

- This Protocol deals with the right of a coastal State to intervene and take measures to protect its coastal and other related interests where a marine casualty involving substances other than oil occurs on the high seas, which may be reasonably expected to result in grave and imminent danger to those interests.

APPENDIX VI

COMMONWEALTH/STATE ADMINISTRATIVE ARRANGEMENTS

Applicable to action taken to prevent or clean up pollution by oil from ships

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1. (a) These arrangements apply to action taken to prevent or clean up marine pollution by oil.

   (b) For administrative purposes the following provisions may be read as having equal effect for action taken to prevent or clean up pollution by oil from ships within State limits.

2. The designation of each State authority responsible for preventive or clean up action shall be made known to the Department of Transport.

3. (a) Initial responsibility for prevention and clean up action in waters outside State limits other than the high seas shall, except in the case of Victoria and Tasmania lie as follows:

   (i) for pollution from ships in waters outside port limits;
   - with the Department of Transport

   (ii) for pollution from ships in waters with port limits;

   - within the appropriate State authorities unless otherwise decided between the Commonwealth and respective State Ministers responsible for Marine Affairs.

   (b) In the case of Victoria and Tasmania initial responsibility shall rest with the appropriate State authorities in the case of both (i) and (ii) above.

4. Whenever any doubt exists as to which authority bears the initial responsibility, representatives of the authorities concerned will confer to decide which authority is to be initially responsible.

5. Regardless of which authority bears the initial responsibility, other authorities shall assist with preventive and clean up measures, so far as is practicable, in accordance with requests from the authority which bears initial responsibility.

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6. (a) The Department of Transport will set up and maintain a stockpile of equipment and material for use in the prevention and clean up of marine oil pollution.

(b) The stockpile will be kept in depots which will be established at or near Cairns, Brisbane, Sydney, Melbourne, Hobart, Port Adelaide, Fremantle, Port Hedland and Darwin.

(c) The contents of the stockpile and of each depot will be determined by the Department of Transport based on recommendations from an advisory body which will include a representative of the Australian Association of Ports and Marine Authorities, CSIRO, PIECE and others.

(d) The Department of Transport will keep records of the equipment and material kept in each depot and those records will be open to inspection by a State authority. State authorities will be kept informed of any significant changes to the contents of the stockpile.

7. (a) Persons are to be authorised by the Department of Transport and State authorities to release equipment and materials from the stockpile referred to in 6 above.

(b) Each State authority will keep the Department of Transport informed of the names and designations of its authorised releasing officers.

8. (a) A State authority may through its authorised releasing officers at any time obtain equipment and material from the stockpile depot or depots established in the relevant State.

(b) The Department of Transport will provide facilities for that purpose.

9. Before any authorised releasing officer nominated by a State authority may obtain equipment or material from the depot of ship-to-ship transfer equipment maintained at Sydney, or basic feedstock held by ICIANZ, Botany Bay, prior approval must be obtained from the Department of Transport.

10. Where materials or equipment have been obtained from the stockpile in either of the following circumstances, those materials or that equipment shall be returned to the stockpile, in good condition, as soon as is practicable or the Department of Transport shall be paid the cost of replacement if:

(a) less than 450 litres of dispersant is used in cleaning up any single incident of marine pollution caused by oil from a ship source;

(b) the materials or equipment are used for purposes other than preventing or cleaning up marine pollution caused by oil from a ship source.

11. Subject to paragraphs 12 and 13, the Department of Transport will replace material used, or reimburse expenditure incurred, by a State authority or its agent, relative to the prevention or clean up of marine pollution caused by oil from a ship source, as follows:

(a) where total expenditure incurred in any one incident exceeds $500, regardless of the quantity of dispersant used, that expenditure will be refunded;

(b) where more than 450 litres of dispersant is used in any one incident, but total expenditure does not exceed $500, the dispersant used will be replenished free of charge from the stockpile.

12. For the purposes of paragraph 11, expenditure does not include:

(a) the cost of patrol, search, surveillance or other activities not directly related to a particular incident, actual or reported;

(b) a payment, other than the premium for insurance cover directly relevant to persons concerned in a particular incident, made pursuant to legislation relating to workers' compensation; or

(c) the payment of compensation or damages for the death of or injury to a person or the loss of or damage to property where recovery for such payments can be obtained under the terms of an existing insurance policy.

13. For the purposes of paragraph 11, the State authority will furnish the Department of Transport with a report of the incident which shall include details of:

(a) the methods used to determine whether the oil came from a ship source;

(b) the preventive and cleanup measures taken; and

(c) the dispersant used and expenditure incurred.

14. In any case to which paragraph 11 is applicable, and it is practicable to do so, the Commonwealth and State authorities will take such steps as are available to them, including the institution of legal proceedings, for recovery of the expenses incurred in the preventive and clean up measures. Actions for recovery of expenses will be subject to the provisions of the Civil Liability Convention in cases to which that convention applies. The obligations of the Department of Transport to a State authority under paragraph 11 will be diminished to the extent of any recovery effected by that authority.

APPENDIX VII

DISTRIBUTION OF AUSTRALIA'S OIL POLLUTION COMBAT EQUIPMENT

	BOOMS Metres (number)		SKIMMERS max. capacity tonne/hr (number)		DISPERSANT Tonnes
Queensland					
Port Authorities	1388	(5)	30	(3)	3.6
Oil Indust.	-		-		18
Nat. Plan	-		-		200
TOTAL	1388	(5)	30	(3)	221.6
New South Wales					
Port Authorities	1288	(4)	50	(5)	14.6
Oil Indust.	2092	(12)	60	(6)	100
Nat. Plan	488	(1)	20	(2)	100
TOTAL	3868	(17)	130	(13)	214.6
Victoria					
Port Authorities	892	(2)	10	(1)	14.8
Oil Indust.	560	(4)	-		127
Nat. Plan	-		-		100
TOTAL	1452	(6)	10	(1)	241.8
Tasmania					
Port Authorities	229	(2)	-		10.6
Oil Indust.	-		-		8.6
Nat. Plan	-		-		100
TOTAL	229	(2)	0		119.2
South Australia					
Port Authorities	-		-		5.5
Oil Indust.	117	(4)	10	(1)	9.3
Nat. Plan	-		-		100
TOTAL	117	(4)	10	(1)	114.8
Western Australia					
Port Authorities	500	(1)	-		unknown quantity
Oil Indust.	246	(1)	-		30.6
Nat. Plan	-		-		200
TOTAL	746	(2)	0		230.6 +
Northern Territory					
Port Authorities	-		-		-
Oil Indust.	-		-		4
Nat. Plan	-		-		100
TOTAL	-		-		104

APPENDIX VIII

LEGISLATION RELATING TO OIL POLLUTION

A. COMMONWEALTH

1. Pollution of the Sea by Oil Act 1960
2. Pollution of the Sea by Oil Act 1972
3. Pollution of the Sea by Oil (Shipping Levy) Act 1972
4. Pollution of the Sea by Oil (Shipping Levy Collection) Act 1972
5. Petroleum (Submerged Lands) Act 1967
6. Petrolem (Submerged Lands) (Exploration Permit Fees) Act 1967
7. Petrolem (Submerged Lands) (Production Licence Fees) Act 1967
8. Petroleum (Submerged Lands) (Pipeline Licence Fees) Act 1967
9. Petroleum (Submerged Lands) (Registration Fees) Act 1967
10. Petroleum (Submerged Lands) (Royalty) Act 1967
11. Navigation Act 1912
12. Petroleum Search Subsidy Act 1959
13. Pipeline Authority Act 1973

B. STATE

Queensland

. Pollution of Waters by Oil Act 1973

New South Wales

. Prevention of Oil Pollution of Navigable Waters Act 1960 (as amended)

Victoria

. Navigable Waters (Oil Pollution) Act 1960 (as amended)

Tasmania

. Oil Pollution Act 1961 (as amended)

South Australia

. Prevention of Pollution of Waters by Oil Act 1961 (as amended)

Western Australia

. Prevention of Pollution of Waters by Oil Act 1960 (as amended)

Northern Territory

. Prevention of Pollution of Waters by Oil Ordinance 1962 (as amended)

RECENT OIL SPILLS IN AUSTRALIAN WATERS

DATE	SHIP INVOLVED	LOCATION	NATURE OF INCIDENT	APPROXIMATE QUANTITY OF OIL SPILLED (Tonnes)	METHOD OF DISPOSAL OF OIL
3.3.70	OCEANIC GRANDEUR	Torres Strait	Grounding	1400 to 4100	-
8.7.73	CHERRY VENTURE Singaporean Freighter	Telwah Beach (120 miles north of Brisbane)	Grounding	No significant amount spilled	Removal by road tankers driving across beach
25.5.74	SYGNA Norwegian Bulk Carrier	Stockton Bight (3 miles north of Newcastle	Grounding	407	Oil that fouled the beach was removed by mechanical scraper subsequently buried
5.1.75	LAKE ILLAWARRA Australian Bulk Carrier	Hobart	Sank after collision with bridge	81	Chemical dispersant and remaining oil was later removed in a salvage operation
4.2.75	ESSO DEN HAAG Dutch tanker	Port Stanvac	Spillage occurred when vessel fouled the submarine discharging pipeline while berthing	Not known	100 drums of dispersant released
3.7.75	PRINCESS ANNE MARIE Greek tanker	Approximately 300 miles off WA coast	Suffered structural damage during heavy seas	15,272	Remaining oil on ship was transferred to another ship and any spillage here was chemically dispersed

DATE	SHIP INVOLVED	LOCATION	NATURE OF INCIDENT	APPROXIMATE QUANTITY OF OIL SPILLED (Tonnes)	METHOD OF DISPOSAL OF OIL
24.7.76	FU LONG NO II Taiwanese Fishing Trawler	Geraldton	Grounding	Not known	-
18.12.76	BETHIOUA Algerian Tanker	Tamar River Bell Bay (Tasmania)	Grounding	356	-
31.3.77	STOLT SHEAF British	Ballast Point Sydney	Spillage occurred from open manhole when vessel developed a list while berthed	20	36,000 litres of dispersant used
8.1.77	AUSTRALIS Panamanian	Sydney Cove	A fault in the blow down pipe which passed through tank allowed oil to escape	Not known	8,600 litres of dispersant used
7.3.77	YUN HAI Peoples Republic of China	Western Basin Newcastle Harbour	Spill occurred during deballasting operations i.e. oil leak into ballast tanks	100	Oiled debris removed by mechanical means. Dispersant used on oil
15.3.78	Not known	Coastline contaminated with tar balls from Teewah (Qld) to Ballina (NSW)	Apparent discharge of oil at sea from unknown vessel	Not known	Beaches cleaned by mechanical means

APPENDIX X

ARRANGEMENTS FOR DEALING WITH OIL SPILLS IN OTHER COUNTRIES

A. CO-ORDINATION AND CONTINGENCY ARRANGEMENTS

With most maritime nations, oil spill contingency plans have included the following criteria:

- the response capacity is regionally and locally dispersed;
- the response is land-based;
- the organisation is based on central and local government

Responsibility for oil pollution is often shared by a number of authorities. Primary responsibility usually lies with a central government department or Ministry which in turn co-ordinates action with several other local and regional authorities.

In their arrangements for dealing with oil spills, some countries exhibit certain distinctive features which reflect national differences in environmental sensitivies, local administration and geographical variations.

The following summaries give an outline of the state of preparedness of other countries, and the emphasis placed on different types of oil pollution control methods.

1. United Kingdom

The Department of Trade has overall responsbility for dealing with oil spills at sea and has developed a contingency plan based on nine regional marine survey districts. Overall responsibility for dealing with oil spills is placed on one man in the region affected.

Each marine survey district has evolved its own specific plan based on the following principles:

- a response should in general be made only to oil spills that threaten serious pollution of the coast, coastal fisheries, or harm to important concentrations of sea birds;
- where action is necessary, approved dispersant of low toxicity, followed by agitation of the oil/dispersant/sea mixtures should be used.

Local authorities and councils are responsible for the treatment of beaches and those offshore waters that are too shallow for seagoing ships.

2. Denmark

The contingency organisation for the prevention of oil pollution at sea is the responsibility of the Ministry of Environment. The main principle of the plan is to rely on existing government authorities and their equipment and personnel. The Flag Officer Denmark (Navy) co-ordinates combat of oil pollution at sea and regional authorities have locally applicable contingency plans to deal with spills in ports and harbours.

Upon receiving pollution reports, the Ministry of Environment, in co-operation with the Flag Officer Denmark, decides whether any action is required; the need for verification or surveillance of an oil slick and whether abatement measures and the contingency plan should be initiated.

3. The United States of America

The coastline of the United States is extensive, but the U.S. has a large response capability in terms of money, equipment and manpower.

The major thrust of U.S. policy in relation to oil spills has been the development and implementation of a national contingency plan. The plan's objectives are to determine and assign duties and responsibilities to the appropriate authorities. The contingency plan relates to equipment and supplies, procedures and techniques, and the establishment of bodies and centres to deal with spills and to provide a system of reimbursement of expenses. The plan has established seven organisations to co-ordinate spills. For spills of major proportions which pose a threat to public health or welfare, the U.S. National Contingency Plan involves a response by representatives of various government agencies co-ordinated from a National Response Centre.

The U.S. Coast Guard has responsibility for prevention and treatment action in all U.S. navigable waters and the contiguous zone. The Environment Protection Agency has a similar responsibility for inland waters. It has divided its area of responsibility into ten regions and attendant sub-regions and has appointed an On-Scene Commander for each. The U.S. Coast Guard has prepared itself for major emergencies by maintaining a National Strike Force which gives support, advice and assistance to the On-Scene Commander in matters relating to oil removal from the water

surface and from stricken ships. It is fully equipped with its own pollution abatement equipment, and has expertise in ship salvage, diving and removal techniques and methodology.

The U.S. plan principally envisages primary action by the polluter, under government supervision. The oil industry has formed co-operatives in many areas to enable the most effective use of resources, and will often pre-arrange oil spill response services with a specific contractor as part of their overall contingency plan.

4. New Zealand

Responsibility for the treatment of oil spills in New Zealand waters rests with shipping operators, harbour boards and the Ministry of Transport. The Ministry of Transport has created a New Zealand Committee on Pollution of the Sea by Oil.

In October 1976 the Ministry of Transport presented a draft contingency plan for dealing with oil spills outside areas under harbour board jurisdiction, for consideration. The plan provides that in the event of an oil spill outside waters controlled by harbour boards, an officer of the Minister of Transport will assume the duties of "On-Scene Controller". With the assistance of an Oil Spill Action Committee, the Director Marine, Ministry of Transport, decides the methods of treatment to be adopted. Oil spills in ports and harbours remain the responsibility of the respective harbour.

B. METHODS OF CLEANING UP OIL SPILLS

Once an oil spill has occurred there are a number of steps that should take place. Firstly, the spill is discovered and notification is given to the appropriate authority. Secondly, the spill is evaluated and a course of action initiated. Thirdly, there are containment and counter measures, and lastly, documentation and cost recovery of the cleanup operation.

The first and second steps do not vary to a significant degree from country to country, however containment and clean-up operations vary a great deal. Strategies vary from emphasis on dispersants to reliance on mechanical retrieval.

Sweden and the US rely heavily on mechanical retrieval, whilst the UK relies on low toxicity dispersants. Many countries doubt that dispersants can be used with safety, and attempt to minimise their environmental impact by requiring all dispersants to meet strict specifications,

while relying on mechanical containment and retrieval systems.

The following is a description of the policies some maritime nations have chosen in relation to using dispersants to deal with oil spills:

United Kingdom

The policy taken by the UK has been that except in very calm waters and in ecologically sensitive areas, the most effective way of treating oil is by spraying it with dispersant. The UK maintains that, provided dispersants are used correctly, there is no danger to the marine environment. However, it has recently undertaken a three-year program aimed at evaluating containment and recovery equipment under practical conditions at sea. Oil on beaches is physically removed.

Israel and New Zealand

Similarly, these two countries rely primarily on dispersants but each country has specifications that a dispersant must meet before it can be used.

Japan and the Netherlands

In Japan and the Netherlands, the use of dispersants is restricted and dispersants must meet strict specifications before approval for use is given.

The United States of America

The emphasis in America is on control of oil spills by mechanical means and a wide variety of equipment has been developed. The use of dispersants is restricted to incidents where human life or property are in danger from fire or explosion.

France, USSR and Sweden

Sweden, France and the USSR also emphasise the mechanical removal of oil. The general view is that oil should be removed from the surface by mechanical means wherever possible with dispersants only being used where mechanical methods are not suitable. The French and the Swedes have developed a variety of equipment to cope with oil spills and Sweden's Coast Guard service of 120 vessels has 30 vessels which are specialised in combating oil spills.

APPENDIX XI

PRESIDENT CARTER'S STATEMENT ON OIL POLLUTION OF THE OCEANS, MARCH 1977

To the Congress of the United States:

The recent series of oil tanker accidents in and near American waters is a grave reminder of the risks associated with marine transportation of oil. Though we can never entirely eliminate these risks, we can reduce them. Today I am announcing a diverse but interrelated group of measures designed to do so.

These measures are both international and domestic. Pollution of the oceans by oil is a global problem requiring global solutions. I intend to communicate directly with the leaders of a number of major maritime nations to solicit their support for international action. Oil pollution is also a serious domestic problem requiring prompt and efective action by the federal government to reduce the danger to American lives, the American economy, and American beaches and shorelines, and the steps I am taking will do this.

The following measures are designed to achieve three objectives: First, to reduce oil pollution caused by tanker accidents and by routine operational discharges from all vessels; Second, to improve our ability to deal swiftly and effectively with oil spills when they do occur; and Third, to provide full and dependable compensation to victims of oil pollution damage.

These are the measures I recommend:

RATIFICATION of the International Convention for the Prevention of Pollution from Ships. I am transmitting this far-reaching and comprehensive treaty to the Senate for its advice and consent. This Convention, by imposing segregated ballast requirements for new large oil tankers and placing stringent controls on all oil discharges from ships, represents an important multilateral step toward reducing the risk of marine oil pollution. In the near future, I will submit implementing legislation to the Congress.

REFORM of ship construction and equipment standards. I am instructing the Secretry of Transortation to develop new rules for oil tanker standards within 60 days. These regulations will aply to all oil tankers over 20,000 deadweight tons, US and foreign, which call at American ports. These regulations will include:

- Double bottoms on all new tankers;
- Segregated ballast on all tankers;
- Inert gas systems on all tankers;
- Backup radar systems, including collision avoidance equipment on all tankers; and
- Improved emergency steering standards for all tankers.

These requirements will be fully effective within five years. Where technological improvements and alternatives can be shown to achieve the same degree of protection against pollution, the rules will allow their use.

Experience has shown that ship construction and equipment standards are effective only if backed by a strong enforcement program. Because the quality of inspections by some nations falls short of US practice I have instructed the Department of State and the Coast Guard to begin diplomatic efforts to improve the present international system of inspection and certification. In addition, I recommend the immediate scheduling of a special international conference for late 1977 to consider these construction and inspection measures.

. IMPROVEMENT of crew standards and training. I am instructing the Secretary of Transportation to take immediate steps to raise the licensing and qualification standards for American crews.

The international requirements for crew qualifications, which are far from strict, will be dealt with by a major international conference we will participate in next year. I am instructing the Secretary of Transportation to identify additional requirements which should be discussed, and if not included, may be imposed by the United States after 1978 on the crews of all ships callings at American ports.

. DEVELOPMENT of Tanker Boarding Program and US Marine Safety Information System. Starting immediately, the Coast Guard will board and examine each foreign flag calling at American ports at least once a year and more often if necessary. This examination will ensure that the ship meets all safety and environmental protection regulations. Those ships which fail to do so may be denied access to US ports or, in some cases, denied the right to leave unti lthe deficiencies have been corrected. The information gathered by this boarding program will permit the Coast Guard to identify individual tankers having histories of poor maintenance, accidents, and pollution violations. We will also require that the names of tanker owners, major stockholders, and changes in vessel names be disclosed and included in this Marine Safety Information System.

. APPROVAL of Comprehensive Oil Pollution Liability and Compensation Legislation. I am transmitting appropriate legislation to establish a single, national standard of strict liability for oil spills. This legislation is designed to replace the present fragmented, overlapping systems of federal and state liability laws and compensation funds. It will also create a $200 million fund to clean up oil spills and compensate victims for oil pollution damages.

. IMPROVEMENT of federal ability to respond to oil pollution damages. I have directed the appropriate federal agencies, particularly the Coast Guard and the Environmental Protection Agency, in co-operation with state and local governments to improve our ability to contain and minimize the damaging effects of oil spills. The goal is an ability to respond within six hours to a spill of 100,000 tons.

Oil pollution of the oceans is a serious problem that calls for concentrated, energetic, and prompt attention. I believe these measures constitute an effective program to control it. My Administration pledges its best efforts, in co-operation with the international community, the Congress, and the public, to preserve the earth's oceans and their resources.

JIMMY CARTER

The White House
17 March 1977