CHAPTER I

INTRODUCTION

1.1 General

Western Samoa, the larger and more westerly portion of the Samoan Archipelago lies approximately centred on latitude 13° 45' South and longitude 172° West. There are two main islands, namely Savai'i and Upolu, the smaller islands of Apolima and Manono and five uninhabited islets. The land area of Western Samoa is approximately 1,100 square miles and the archipelago lies approximately 2,500 miles from Sydney and Hawaii, 1,800 miles north east of New Zealand, with Fiji lying approximately 800 miles to the west. Eastern or American Samoa are the closest islands, situated approximately 80 miles to the East.

Apia is the seat of Government and the centre of commerce. It is located on the island of Upolu. The population is approximately 160,000 with Apia being the major population centre and the principal port of the country. A Maritime Zone Act is in the course of preparation with the Attorney General's Department drafting exclusive economic zone and territorial seas legislation for Western Samoa. There will be a requirement to negotiate agreements regarding mid-point boundaries with Tonga, French Polynesia and American Samoa.

Missions have previously been fielded to Western Samoa by the IMCO Regional Adviser for Asia and the Pacific, Captain A.W.N. Finch, and as a result of these missions, redrafting of the Merchant Shipping Act 1972 has been undertaken to give effect to a number of IMCO Conventions relating to Maritime Safety. A legal expert from UNDAT, Mr. T. Norris, been assisting the Attorney General's Department in the preparation this new legislation.

Tourism has been developed to a considerable degree and, as in many nations in sub-tropical zones, is a major source of foreign exchange revenue. The Government of Samoa would be concerned over any beach pollution arising from a major tanker incident and its possible effects

on the tourist industry. The proximity of the marine park at Palolo Deep to Apia harbour poses concern in that any spillages which may occur in the harbour could affect the marine life in this park. The fringing reef represents a major source of protein for local inhabitants and spillages into the reef area could cause severe mortality, particularly if the product spill was a white or refined product. There was a spill in 1974 when 200 tons of gasoline were discharged into the harbour. However, it would appear that no studies were done to determine the long-term effects of this spillage upon the marine environment. There does not appear to be any chronic pollution of the beach areas and there are no reports of instances of tar balls on the tourist beaches. With the current tanker traffic patterns, none of the major routes lie adjacent to these islands, and so the predominating drift would not tend to carry pollutants to the shoreline of Western Samoa.

1.2 Harbour Facilities

The Department of Transport, Marine and Shipping Division, jurisdiction over the designated harbours in Western Samoa which are at Apia, on the island of Upolu and Asau on the island of Savai'i. The major port is Apia where the majority of imports and exports take place from the Government Wharf complex. The harbour at Asau has restricted depth of approximately 6.5 metres and is difficult to approach so it is not heavily utilized other than by vessels loading timber. The appointed Harbour Master's services are provided under an aid agreement whereby a Samoan counterpart is being trained to take over the Harbour Master's duties. The Harbour Master is responsible for the general administration of the port and also the provision of pilotage services. There are currently five pilots employed who are on a roster system for pilotage duties and also act as wharf superintendents, particularly at Asau. The radio located at Faleolo Airport, Apia, is manned on a 24-hour basis on all marine channels. In addition, the port office has a VHF/FM capability for short range communications.

1.3 Petroleum product handling and bunkering procedures

There are three bulk product terminals in Western Samoa operated by British Petroleum (BP), Mobil and Shell with the tank farms supplied by 6-inch submarine pipeline which has a flex hose attached to the flanged end of the pipeline which is buoyed off and sunk on completion of cargo discharge. Tankers are secured on three buoys, one for the bow and two for the stern. A marker buoy is attached to the end of the flex hose. The pipeline is cleared subsequent to cargo discharge by a salt water slug. The pipeline to Mobil is 6 inches in its entirety, whereas the line from Mobil to BP is 4 inches in diameter. The line is subjected to hydrostatic test immediately prior to cargo discharge. The storage capacity at the three depots is shown in Annex A.

The BP installation incorporates interceptor systems plus a three-stage gravity trap and any water bottoms are drained through this system with little risk of pollution. It is estimated by the manager that one drum of residue is deposited in the trap subsequent to each tanker visit which occurs approximately every two-and-a-half months. This is used for weed control in the compound. BP also operates a depot at Asau on Savai'i Island which is supplied by floating hose to a shore manifold. Again this facility incorporates a drainage system plus an interceptor, but a contract has been arranged with a target date for completion of 1981 to install a drainage system and interceptor within the bunded area. Mobil Oil is also considering the addition of a 200,000 gallon tank to provide additional diesel storage capacity, together with two 32,000 gallon tanks for naphtha. This will require a further extension of the bund system and the interceptor and drainage system.

Shell Company has a small storage facility which is supplied through the Mobil pipelines and there is an exchange agreement to provide additional quantities of kerosene, gasoline and diesel as required. The 4-inch transfer line from Mobil to Shell is about 25 years old and the above ground section was replaced at the Mobil end several years ago. It is hydrostatically tested every six months at 60 lbs. per square inch.

The Company plans to cathodically protect the line in the future. Rubber pigs are used between products which sometimes stick. This necessitates the line being dug up to remove the pig. However, this is probably the only method of ensuring good product separation. The compound is bunded and incorporates interceptors in the drains. The Shell depots on Savai'i are supplied by a tank truck several times a week, using the inter-island landing craft for transport.

There do not appear to be any specific government regulations regarding testing of pipelines and it was recommended that the flex hose at the seaward end of the submarine pipeline should be inspected and tested on a periodic basis for elongation and distortion. The fixed pipeline should be tested by x-ray or ultrasonics to determine whether there is wastage of the line due to corrosion. Any bunkering which is required is normally done by tank truck and there is no significant bunkering operation taking place at the Government wharf in Apia. Naphtha is brought in 45-gallon drums to the Mobil terminal and the current plan is to utilize the two new 35,000 gallon tanks for naphtha and thus enable discharge from the tanks directly into storage capacity rather than using the present system of 45-gallon drums.

1.4 Fisheries

The fishery is not currently a significant source of external revenue but does represent an important protein source for the local population. Artisanal fishermen work up to 25 miles offshore fishing for Skipjack and Yellow Fin Tuna and there is an inshore fishery by traps, nets and spearing of fish by use of lights at night. Double canoes are the principal vessels used in the inshore fishery and there are 240 in operation around Samoa. The fish is sold both in the local villages and also in the central market at Apia. An FAO project is underway to establish bait ponds as bait is difficult to obtain and preserve in Samoa. There is also an on-going project for prawn aquaculture utilizing ponds of up to 100 acres in size. There is a pilot project to look at a fish processing plan to produce fish cakes and fish sausage and this would involve the installation of refrigerated units and ice machines and construction of a

suitable building. A pole and line fishing boat, the Tauti Samoa, approximately 70 ft. in length, is used for training purposes and has a 4,000 lb. catch capability. This vessel is also used for developing new fishing techniques.

Lobster and Beche de mer are available offshore but not in quantities suitable for export. The Government is examining potential for deep-sea prawn fishery and they are following with interest some of the experimental work off the New Hebrides. Within the reefs the shell fish are harvested and consumed locally but there is no export market for any of these species. The Government has not yet enacted exclusive economic zone regulations and it would appear that there has been some exploitation by foreign flag fishing vessels. The Samoan Government has no readily available means of patrolling their offshore waters for infringements. The Fisheries Act of 1972 is directed towards the inshore fishery and deals principally with the mesh sizes of nets and the techniques used, prohibiting the use of dynamite and poisons to catch fish.

1.5 Marine Traffic

There are approximately 150 vessels per annum which use the port at Apia and of these a number are cruise liners. Approximately 12 tankers use the port facilities each year, ranging in size from 2,000 to 30,000 Dead Weight Tons. Mobil has a delivery schedule which includes Noumea, Tahiti and Espiritu Santo. The British Petroleum facilities at Apia and Asua are supplied by the small 2,000 ton product tankers which operate within the Islands and these vessels operate on a regular schedule. Traffic into Asau is relatively low and probably totals approximately 10 to 15 vessels per year. No offshore drilling activities are currently scheduled. However, this could change with new exploration initiatives by the major companies.

CHAPTER II

TERMS OF REFERENCE

The Consultant was tasked with advising officials from the various Ministries of the Government of Western Samoa, regarding marine pollution prevention and control; development of regional arrangements to deal with spillages of oil; the procurement of oil spill counter measures equipment and the preparation of a national contingency plan for Western Samoa. Discussions were also held regarding the applicability and relevance of the national legislation and the interface between the various government departments.

CHAPTER III

MISSION'S ACTIVITIES

(i) Nature of discussions and participants in same

An initial briefing session was held with the Resident Representative and Programme Officer of the UNDP in which the Consultant briefed them on the outcome of his mission to the Cook Islands, the purpose and nature of his mission to Western Samoa and the various agencies with which he wished to hold meetings. Meetings were then arranged with the Assistant Secretary of the Marine and Shipping Division, Officials of the Observatory, the Attorney General's, Foreign Affairs and Economic Development Departments, the Department of Agriculture and the Department of Economic Planning and the three oil companies which operate in Western Samoa. A detailed listing of persons met is included as Chapter VI of this report.

(ii) Findings during visit

3.1 Legislation regarding marine pollution

A UNDAT adviser is working on a revised Merchant Shipping Act, but the current Act contains no provisions regarding pollution or operational discharges from vessels. There is no legislation currently established regarding exclusive economic zones, but it is hoped that appropriate legislation will be enacted late this year. The Exclusive Economic Zone will be established 200 miles from the base line, with a 12-mile Territorial Sea. There will be a need to establish maritime boundaries with American Samoa, Wallis and Futuna Islands, Fiji and Tonga, and this will probably take some time. Fishing licences are being negotiated with Japan and it is believed that other fishing nations are active in Western S waters, but there are no resources currently available to enforce ny such licensing arrangements. It was recommended to the Attorney General's Department they should study the New Zealand Marine Pollution Act of 1974, which would give effect to a number of IMCO Conventions

but in the interim it is believed that the initial effort should be towards the drafting of regulations which would prohibit the discharge of waste oil, bilges, etc. in the harbours of Apia and Asau. The Marine and Shipping Division of the Department of Transport would appear to be the logical agency to conduct such activities and enforce any pollution prevention regulations which relate to the harbours.

3.2 Legislation regarding pollution from land sources

There is legislation in the form of Health Ordinances, the Fishery Protection Act, the Forestry Act, the National Parks and Reserves Act and the Water Act, but there is no legislation which is relevant to such problems as run-off from agricultural activities and discharge of effluent into the lagoon or reef area. There is no specific legislation relating to shore sources of pollution, but it is hoped that the forthcoming Conference on Man and the Human Environment in the South Pacific under the UNEP Regional Seas Programme will give priority to the production of model environmental legislation for use by the small island nations of the Pacific. This should incorporate standards on water quality and industrial effluents.

3.3 Marine sources of pollution

There does not appear to be any significant incidence of pollution from passing traffic. There were two reported spills from tanker discharge operations in Apia, one in 1974 and the other in 1978. In both cases this resulted in a spill of gasoline from the offshore flexible hose when it broke under pressure. Bearing in mind that Mobil have a spare hose that could be utilized during the testing procedures, there would appear to be a good case for establishing test procedures on a 6-monthly basis for this flexible line. The bunds around the storage tanks appear to be relatively porous and consideration should be given to upgrading these to prevent leaching of products from any spillage back into the marine environment.

There is no legislation prohibiting discharge of oil into the waters of the harbour and it is presumed that from time to time bilges are pumped by both local and foreign vessels. However, the enforcement of

pollution prevention laws would not be difficult in view of the disposition of vessels in the harbour. It is presumed that many of the smaller local vessels would pump bilges whilst en route. However, the larger vessels, such as the "Forum Samoa" and the "Queen Salemesina" are both newly constructed and incorporate oily water separators to prevent any possibility of pollution. The two landing craft which are owned by the Western Samoa Shipping Corporation and operated by the Colombus Line are vehicle-carrying ferries of approximately 130 ft. length which operate between the two islands of Upolu and Savai'i. As previously outlined, the bunkering is normally done by tank truck and there have been no reports of any significant pollution from this source. All of the vessels utilise light diesel and this does not constitute a pollutant under the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962 and 1969.

3.4 Shore sources of pollution

There are no immediately apparent sources of shore pollution. However, a recent study by two Consultants identified environmental problems relating to a number of practices, including dredging for reef sand on Upolu; garbage disposal within the Apia urban area; drainage of septic tanks; and agricultural waste disposal. Coastal waters are alleged to be principally affected by silting from dredging and reclamation activities, whilst agriculture and road-making activities result in smothering of coral. There is still some poisoning of and dynamiting of fish, but this is not considered to be a significant source of pollution.

3.5 Surveillance and enforcement

The resources available in Samoa are not considered adequate to conduct surveillance even of the coastal zone. South Pacific Island Airways does operate flights between the two islands of Upolu and Savai'i and also operates flights to American Samoa, so there are regular overflights of the area but there are no means of enforcing any regulations or apprehending violators. It is hoped that the findings and recommendations of the joint New Zealand/Australia mission on coastal

surveillance might include assisting the Government in conducting surveillance of the coastal zone. In the Consultant's opinion an aircraft plus high-speed patrol vessel could fulfill the surveillance task in terms of the fishery, marine pollution prevention, customs enforcement and police duties, together with any requirements the Western Samoa Government might have regarding sovereignty. Until such resources are available it is felt that the Government should concentrate on the enforcement of anti-pollution legislation in the harbours.

In the event of an infringement in the harbour, the Marine and Shipping Division could instruct its pilots to assist in obtaining sufficient evidence for prosecution, etc. There would be a need to train personnel from this division in the techniques of oil spill clean up and the enforcement of pollution prevention regulations. The Consultant has recommended participation by a nominee from the Government of Western Samoa in the forthcoming course which will be held in Manila, Philippines and hopefully this will provide basic training for a senior officer of the Department who could then instruct the pilots in the identification of sources of spilled oil.

3.6 Response to oil spills

The Marine and Shipping Division of the Department of Transport have the only marine resources as listed in Annex 'B' and should be designated as the agency responsible for operational response to marine pollution within the port. With regard to intervention on the high seas this would prove difficult due to lack of resources. However, there is a treaty of friendship with New Zealand which could possibly be used to seek assistance from the New Zealand Government in the form of aircraft or vessels. In the event of massive pollution of the shore line by an accidental oil spill, the nearest sources of equipment would be New Zealand or Australia and it is considered that bilateral agreements should be negotiated with these countries for provision of assistance in the event of a major incident. Both countries have stockpiles of pollution response equipment which is air transportable and

in view of the vast distances involved in the Pacific, this would appear to be the only practical way to assist the Western Samoa Government in the event of a major incident. There are some aircraft available locally which could be used for monitoring the movement of oil slicks but, as previously outlined, the marine resources are relatively inadequate.

There is no specialized equipment currently available to combat spillages of oil and it was the opinion of the Consultant that the three oil companies should co-operate in the procurement of a limited amount of boom, a skimmer and a small quantity of dispersant chemicals. By dividing the cost on an "oil throughput" basis it is felt that this would be feasible for the companies involved, and this equipment would be essential in the event of any spillage occurring during tanker discharge operations. The use of dispersants should not be contemplated within the harbour but is a possible solution to protect sensitive areas if spillages occur outside the reef. The Consultant would not advocate the use of dispersants within the reefs as the water is relatively shallow and there is little water exchange.

As previously outlined, it would appear that larger incidents should be dealt with under bilateral or regional co-operative agreements for the South Pacific whereby major equipment and trained personnel could be made available on a mutual assistance basis. Similarly, it would appear that agreements could be reached regarding surveillance of shipping and the exchange of reports of pollution incidents which could affect the coastline of Western Samoa.

3.7 Communications

The radio station at Faleolo Airport, Apia Marine, is manned on a 24-hour basis with coverage of the full frequency spectrum on marine bands. However, there is no other communication system available other than the VHF system which is utilized by the pilots in the course of their duties.

3.8 Disposal of oil

There does not appear to be any major problem with respect to disposal of waste oil in Samoa in that there are no slipways capable of vessel haul out (the major drydocking is done in Pago Pago in American Samoa or Suva, Fiji). Consequently, the amount of oily residues which are generated are limited to those which result from used lubricating oil and storage tank cleaning. Since it would be difficult, due to lack of resources, to enforce any oil prevention programmes outside of the harbour limits, the first priority of the Samoan Government would probably be to protect the harbour at Apia. Tank cleaning residues are presently buried within the compounds of the petroleum company and, until a pilot project can be established to examine other methods, it is felt that this represents an acceptable procedure.

3.9 The legal and economic implications if Samoa ratifies the various Conventions relating to oil pollution

As previously outlined, the Merchant Shipping Act and regulations made thereunder are being redrafted by a legal adviser provided under the UNDAT Programme. The Adviser is working with the Attorney General's Department on integrating convention provisions into the national laws. The current programme includes the International Convention for the Safety of Life at Sea, 1960, the International Convention on Load Lines, 1966 and the Convention on the International Regulations for Preventing Collisions at Sea, 1972. The study of legislation required to implement the various Conventions relating to oil pollution was discussed with the Attorney General's Department and it was recommended that they examine the New Zealand Marine Pollution Act, 1974, which would provide a useful basis for implementing such Conventions.

The International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962 and 1969

The only registered vessels which fall under this Convention are both relatively new and it is not anticipated that there will be any difficulty in implementing the convention requirements. The principal

task for the Marine and Shipping Division would be to police the harbours of Apia and Asua so that vessels do not discharge oily mixtures. However, until the general surveillance capability of the Samoan Government is increased, there would appear to be little likelihood of effective enforcement of the provisions of this Convention in Samoan territorial waters.

The International Convention on Civil Liability for Oil Pollution, 1969

It would be to the advantage of the Samoan Government to ratify this Convention and there would be no economic disadvantage as it would merely require that pilots, as part of their boarding procedures, ensure that any tank vessel carries a certificate of insurance which gives adequate compensation under the Civil Liability Convention.

The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969

Ratification of this Convention would be largely a paper exercise until such time as the Government of Samoa can enhance its capability to intervene on the high seas. This could be accomplished by a co-operative agreement with the Government of New Zealand or Australia for provision of assistance and should be the subject of further study at the intergovernmental level.

The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971

There would be no financial commitment on the part of the Government of Samoa if this Convention is ratified. However, it is considered to be to the advantage of the Government to ratify this Convention to ensure that adequate financial compensation would be available in the event of a massive pollution incident.

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972

The 1972 London Dumping Convention is considered a must for the small developing island nations and would provide valuable guidelines to assist governments in establishing standards for the prevention of pollution arising from the international disposal of various hazardous wastes by dumping into the sea, as well as allowing governments to keep a check on dumping by other countries in the Pacific region.

CHAPTER IV

CONCLUSIONS

1. The Marine and Shipping Division of the Department of Transport has responsibility for the Merchant Shipping Act and it is presumed that this would also be the Division which would be responsible for enforcement of any Oil Pollution Prevention Acts or Laws.

2. There are currently no laws relating to prevention, control and clean-up of marine pollution in effect in Samoa at the time of writing this report.

3. There is currently no significant oil spill response equipment available in Samoa in the event of marine pollution from oil cargo handling operations.

4. The Marine and Shipping Division would benefit from training programmes for personnel in marine prevention pollution control and clean-up.

5. A national oil spill contingency plan should be prepared and reviewed by the Disaster Relief Committee.

6. Surveillance of Samoan waters is not conducted on a regular basis and it would be difficult to enforce existing or new legislation relating to Territorial Seas and Exclusive Economic Zones.

7. Considerable benefits would accrue to all the island countries in the region from the development of either co-operative or bilateral agreements for surveillance of marine traffic and response to oil spills.

CHAPTER V

RECOMMENDATIONS

1. That the Marine and Shipping Division of the Department of Transport be formally tasked with the co-ordination of surveillance, prevention and response to marine pollution in Samoan waters.

2. That the Attorney General's Department examine the New Zealand Marine Pollution Law, 1974, and utilise this law as a basis to prepare national legislation to give effect to the various IMCO Conventions relating to marine pollution.

3. That the Oil Companies co-operate to secure stocks of oil spill response equipment with a minimum of 500 ft. of inshore boom, a skimming device and 10 drums of concentrated dispersant, together with dispersant spray equipment.

4. That training in pollution prevention control and clean-up training be provided either by the Port of Singapore Authority or in conjunction with the United Nations Environmental Programme Regional Seas Activities for selected personnel from the Marine and Shipping Division, Department of Transport.

5. That the draft contingency plan at Annex C be reviewed, amended as necessary and implemented by the Disaster Relief Committee.

6. That the Government of Western Samoa follow up on the initiatives of the Joint Australia/New Zealand mission on Civil Surveillance and examine the possibility of the provision of the required resources by external aid programmes.

7. That the Government of Western Samoa participate in the forthcoming United Nations Environment Programme activities to promote the concept of regional co-operation to combat marine pollution.

CHAPTER VI

LIST OF PERSONS MET

Mr. W.A. Strong	BP South West Pacific Ltd., Sogi Terminal Manager
Mr. D. Halliday	Resident Representative, UNDP
Ms. Sachiko Natsume	Programme Officer, UNDP
Mr. O. Betham	Assistant Secretary, Marine and Shipping Division, Department of Transport
Captain R. Sharp	Harbour Master, Apia
Mr. P. Muller	Apia Observatory, Department of Agriculture
Ms. Carla Herbert	Acting Attorney General
Mr. Bola	Mobil Oil Terminal Manager, Sogi Terminal
Mr. Ata Maiai	Foreign Affairs Officer, Prime Minister's Department
Mr. Hans Kruse	Director, Economic Development
Dr. Ian Fairburn	Senior Economic Office, Department of Economic Development
Mr. R. Voight	Shell Company Pacific Islands Ltd.
Mr. P. Berg	Chief Forestry Officer, Department of Agriculture
Mr. A. Phillips	Chief Fisheries Officer, Department of Economic Planning
Mr. S. Sesega	Chief Superintendent of Police

ANNEX A

PETROLEUM PRODUCT STATISTICS

PETROLEUM PRODUCT STATISTICS

British Petroleum

Apia

1 tank	32,000 gallon capacity	Avgas
3 tanks	206,000 gallon capacity	Jet A1
2 tanks	80,000 gallon capacity	Gasoline
2 tanks	80,000 gallon capacity	Diesel

Asau

1 tank	60,000 gallon capacity	Gasoline
1 tank	80,000 gallon capacity	Diesel

Mobil

Apia

1 tank	280,000 gallon capacity	Gasoline
1 tank	360,000 gallon capacity	Diesel
1 tank	120,000 gallon capacity	Kerosene

Asua

1 tank	50,000 gallon capacity	Kerosene

Shell

Apia

1 tank	30,000 gallon capacity	Gasoline
1 tank	30,000 gallon capacity	Diesel
1 tank	12,000 gallon capacity	Kerosene

POWER GENERATION PLANT

Apia

1 tank	18,000 gallon capacity	Diesel
1 tank	40,000 gallon capacity	Diesel (under construction)

ANNEX B

RESOURCE INVENTORY

Vessels

Pualele Savai'i	60 ft. LOA Tugboat) 40 ft. LOA Workboat)	Operated by Marine and Shipping division
2 - Landing Craft	120 ft. LOA	Operated by Western Samoa Shipping Corporation
Tauti Samoa		Department of Economic Planning
Inshore Launch	16 ft. LOA	Operated by Police Department

Aircraft

The following local airlines operate to Paleolo Airport and it is presumed some of their smaller aircraft, such as Hawker-Siddeley 748, Cessna and Normandy Islanders, could be made available in the event of a major incident:

Polynesian Airlines, 2 Normandy Islanders, 2 Cessna

Pacific Island Airways, 4 Twin Otter aircraft

ANNEX C

DRAFT NATIONAL MARINE POLLUTION CONTINGENCY PLAN FOR WESTERN SAMOA

General

The vessel traffic, especially oil tankers, into Apia Harbour presents some risk of marine pollution from collisions, stranding and other marine accidents. Such pollution can threaten amenity beaches, marine parks, sea birds, marine life in the inter-tidal zones and the fishery with subsequent loss of revenue and protein sources.

The Department of Transport has been designated as the government agency responsible for the implementation and enforcement of the Marine Pollution Prevention Law and this contingency plan has been prepared by the Assistant Secretary, Marine and Shipping Division, on behalf of the Minister.

Scope and introduction

This plan is intended to delineate responsibilities for the operational response to marine incidents which could result in spillage of oil or other noxious materials into the waters of Western Samoa. Such waters will be defined in the Territorial Seas and Exclusive Economic Zones Act. The Department of Transport will have lead agency responsibility for any incidents involving shipping and is empowered by law to intervene and take whatever measures are deemed necessary to prevent pollution or to expedite the flow of marine traffic when an accident occurs.

This plan provides the framework for co-ordination of an integrated response by government agencies to protect the environment from the deleterious effects of pollution, from spillages of oil or other noxious substances. Over-all policy direction will be provided by the National Disaster Relief Committee and this plan will be initially reviewed by this Committee and subsequently exercised and assessed on a periodic basis.

The objectives of this plan are:

1. To develop appropriate systems for the detection and reporting of spillages of oil or other noxious materials or of incidents related to the operation of shipping which could result in such a spillage.

2. To ensure prompt response is made to either prevent pollution or to restrict the spread of the contaminants.

3. To ensure that adequate protection is provided for the public health and welfare and the marine environment.

4. To ensure that the correct response techniques are used to clean up the pollution and that disposal of recovered product is carried out in an environmentally acceptable manner.

5. To ensure that complete and accurate records are maintained of all expenditures to facilitate cost recovery.

The following government departments will act as resource agencies as required to support the actions of the Department of Transport:

The Police Department will make the facilities of their Watch House available to receive and disseminate reports of marine accidents or pollution. If it is deemed necessary, one or more patrol vehicles will be despatched to the incident site to act as the shore on-scene command centre.

The Department of Agriculture will provide scientific advice to the Marine and Shipping Division regarding shoreline sensitivity, environmental priorities, beach cleaning methods, etc.

The Department of Economic Planning Chief Fisheries Officer will provide advice on species at risk and use of dispersant chemicals.

The Prime Minister's Department will be responsible for all negotiations with the vessel and cargo owners and insurers and will also conduct all negotiations regarding compensation and indemnification, with legal advice from the Attorney General's Department.

The Petroleum Industry may provide tank trucks for storage of recovered oil or oil in water emulsions and will arrange for storage and eventual disposal of recovered oil.

The Petroleum Industry will assist by the provision of technical expertise and resources as required.

Notification and alerting procedures

When an incident occurs which could result in marine pollution or there is an actual spillage of oil this should be reported to the Police Watch House who will advise firstly the Harbour Master, for action and other departments, for information, in accordance with the attached list (Annex 1). The reports may also be made to the nearest police station who will then relay the report to the Police Watch House for dissemination.

Organization (Annex 2)

The Assistant Secretary, Marine and Shipping Division, has the over-all responsibility to ensure the appropriate response is made to any incident in the waters. He will direct the various aspects of the operation and will be assisted by the Harbour Master who will be the on-site representative for the Marine and Shipping Division and act to co-ordinate all activities. He will pass regular situation reports to the Police Watch House and will also relay requests for additional resources through this facility.

The Harbour Master or the designated members of his staff are responsible for:

(a) directing the employment of needed resources for prevention of pollution, containment, clean-up and disposal of any pollutants and restoration of the site;

(b) providing a focal point of information for all agencies concerned;

(c) preparing cost analyses and a detailed report covering all aspects of the spill; and

(d) collecting samples for possible analysis.

In order to facilitate the foregoing division of tasks the National Disaster Relief Committee should form a Sub-Committee with representation from all the foregoing agencies. This Sub-Committee will formulate procedures for provision of resources and technical assistance and will address the various administrative and logistic problems which can be foreseen.

Spill control and clean-up procedures

An accurate assessment of a spill incident is essential before appropriate spill controls and clean-up procedures can be implemented. Generally, containment and recovery are preferred, but in some instances it may be necessary to use dispersant chemicals. Details of these various methods of oil spill clean-up may be found in Part IV of the IMCO Manual on Oil Pollution, "Practical information on means of dealing with oil spillages".

Disposal of contaminants

Arrangements should be made for reception, storage and disposal of recovered oil or oil in water emulsions. Depending on the type of oil, e.g. crude, refined or residual, it can be stored, separated and either refined or sold as fuel. With regard to contaminated debris, this can be disposed of by burning or burying. Technical assistance should be obtained from the Department of Agriculture in the selection of disposal sites close to the shoreline resources.

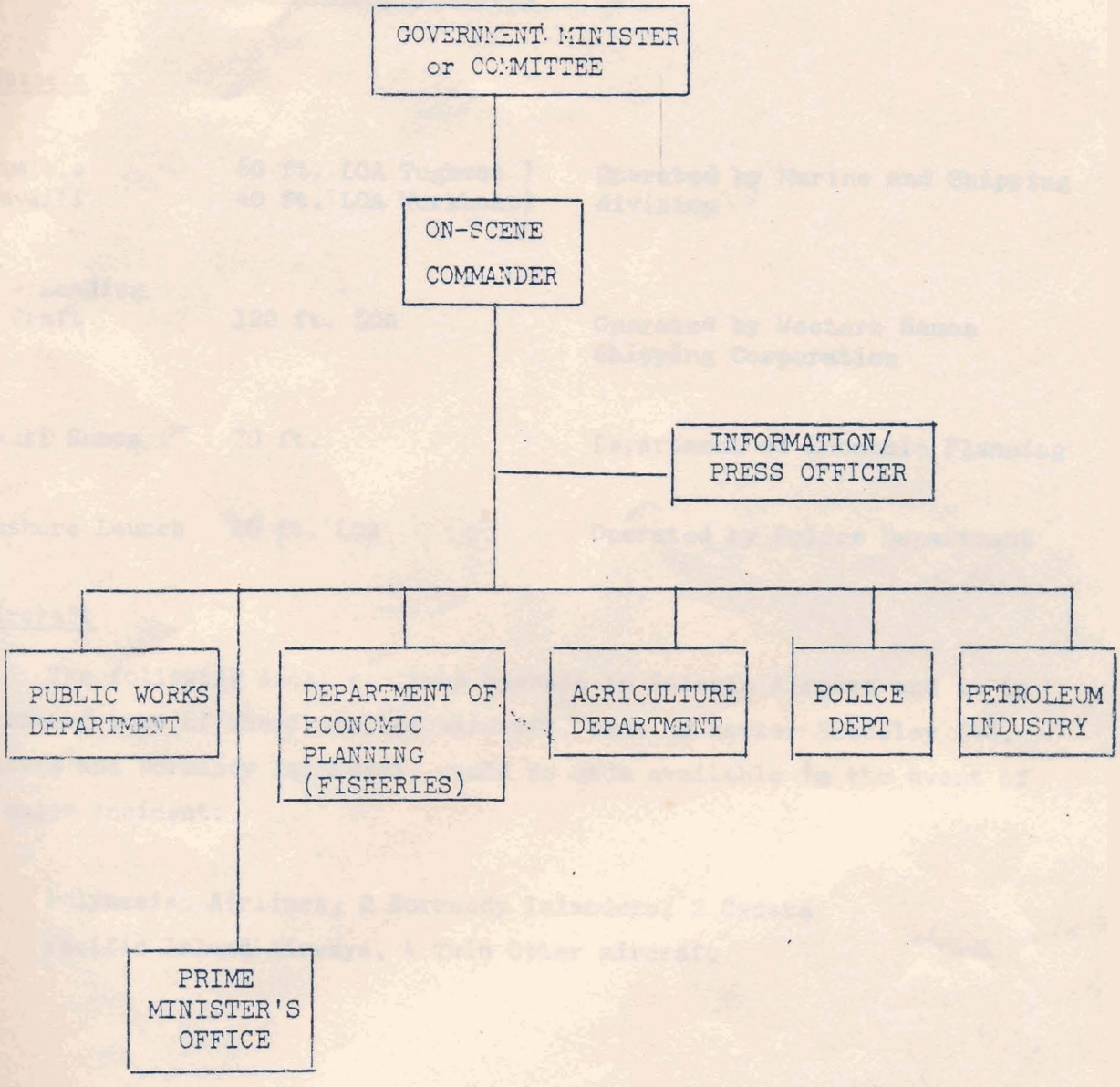
The available resources are listed in Annex 3; agencies should provide periodic up-dates to the Marine and Shipping Division reflecting any new acquisitions.

Annex 1

REPORTING AND ALERTING LISTINGS

Agency	Telephone numbers	
	Business	Home
Marine and Shipping Division		
First alternative		
Second alternative		
Department of Agriculture		
First alternative		
Second alternative		
Chief Fisheries Officer		
First alternative		
Second alternative		
Prime Minister's Office		
First alternative		
Second alternative		
Petroleum Industry		
First alternative		
Second alternative		

Annex 2



TYPICAL OIL SPILL RESPONSE ORGANIZATION

Annex 3

RESOURCE INVENTORY

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