

SPILLCON 2004 – PARTNERSHIP IN PRACTICE

**SPREP'S PARTNERSHIP WITH AUSTRALIA AND NEW ZEALAND
FOR EQUIPMENT ASSESSMENT**

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ABSTRACT

Effective oil spill preparedness and response is only possible if oil spill response equipment is available and personnel are trained in its use. It has been identified that there is a uniform lack of oil spill response equipment throughout the Pacific Island region and in many cases there is no expertise within the countries to determine their own oil spill response equipment needs.

The Pacific Ocean Pollution Prevention Program (PACPOL) created Project MS 4 - The Regional Oil Spill Equipment Strategy, to address this issue. The project comprises the formulation of a strategy that evaluates each PIC's equipment needs and develops a regionally coordinated strategy that will meet these needs in a cost effective manner. This strategy will then be used as a basis for securing financing for equipment procurements and follow up services.

The four metropolitan members of the South Pacific Regional Environment Program (SPREP), Australia, New Zealand, France and the United States of America, were each assigned responsibility for the assessment of a number of PIC's. These assessments and associated recommendations will be presented to SPREP and will form the basis of the strategy.

This paper describes the assessment of the PIC's of the South Pacific conducted jointly by the Australian Maritime Safety Authority (AMSA) and the Maritime Safety Authority of New Zealand (MSANZ). It describes how these two organisations worked in partnership with SPREP to develop a uniform methodology for assessing the requirements of the PIC's. It also summarises the recommendations resulting from these assessments including the adoption of a system of model equipment packages and guidance for training, maintenance, storage, and safety.

INTRODUCTION

Pacific Island Countries are dependent on maritime shipping for the transportation of goods and people, and so are highly vulnerable to pollution from shipping incidents such as groundings, collisions or accidents in cargo handling. The South Pacific Regional Environment Program (SPREP) and the International Maritime Organization (IMO) formulated, and are implementing, the Pacific Ocean Pollution Prevention Program (PACPOL) to address shipping related marine pollution in the Pacific Islands region. The Regional Oil Spill Equipment Strategy of PACPOL is Project MS 4.

The project will evaluate each PIC's equipment requirements and develop a regionally coordinated strategy that will meet these needs in a cost effective manner. The strategy will then be used as a basis for securing financing for equipment procurements and follow up services. An important consideration is the assessment of financing mechanisms for the capital, operational and maintenance costs for marine spill response equipment.

The strategy will provide guidance to SPREP island members on the minimum requirements to ensure that oil spill response equipment is available. The strategy will make recommendations on the type and quantity of equipment, where it is to be located and the logistics of access to these equipment stockpiles.

The strategy will make recommendations at three levels:

- ❑ At the Tier 1 level, guidance is provided to individual PIC's on what equipment stockpiles they should require facility owners/operators to have in place.
- ❑ At the Tier 2 level, guidance is provided to individual PIC's on what they need to have in their national stockpiles.
- ❑ At the Tier 3 level, while no equipment recommendations are given, the strategy will highlight the benefits of all countries having Tier 1 and Tier 2 resources that are interoperable with those of other PIC's and the metropolitan members.

ASSESSMENT METHODOLOGY

The Pacific Islands Regional Marine Spill Contingency Plan (PACPLAN) was endorsed at the 11th meeting of SPREP in 2000. PACPLAN identifies the four metropolitan members of SPREP (Australia, New Zealand, France and the United States of America) and assigns them primary and secondary response responsibility for island members. This formed the basis for assigning the assessment of individual PIC's to the metropolitan members. This paper refers specifically to the element of Project MS 4 completed by the Australian Maritime Safety Authority (AMSA) and the Maritime Safety Authority of New Zealand (MSANZ). The PIC's, and the metropolitan member with responsibility for them are shown in Table 1.

Organisation	AMSA	MSANZ
PIC	Nauru Papua New Guinea Solomon Islands Tuvalu Vanuatu Kiribati	Cook Islands Fiji Niue Tonga Samoa

Table 1

In consultation with the SPREP Marine Pollution Advisor (MPA), a list of locations for on-site visits was produced. It was recognised early on that due to distance, safety and logistics a visit could not be conducted to every PIC. Even within those PIC's visited, similar restrictions prevented a visit to every site of oil transfer or risk. It was therefore intended that the locations visited would allow model recommendations to

be developed that could be applied to other locations where an onsite evaluation was not undertaken. On-site evaluations focused on major ports and oil transfer and storage locations selected in accordance with advice from SPREP MPA.

The first priority identified to assist in the development of an oil spill response equipment strategy was to develop a standardized assessment and reporting methodology to be applied to all on-site evaluations. To develop this protocol, a joint pilot mission was undertaken in Fiji between 6 – 15 January 2003. The SPREP MPA coordinated the pilot mission with assistance from two technical specialists from AMSA and MSANZ. The team developed the assessment and reporting methodology and carried out the initial assessment for Fiji.

The Pilot Mission Terms of reference included:

- Carry out an audit of existing equipment stockpiles;
- Assess the bulk fuel terminals and determine their equipment needs;
- Carry out an initial assessment of areas of priority protection around the priority risk areas;
- Assess the human resource (staffing and skills) status and make recommendations on the appropriate level required;
- Draft format for National equipment strategy;
- Draft national equipment strategy for Fiji as template for other national strategies; and
- Prepare recommendations for equipment needs

Once the pilot mission had established the framework for assessment and recommendations, on-site visits were conducted at the remaining locations utilising the developed guidelines. To ensure site assessment consistency, the project team on completion of the visits conducted a review of the individual PIC recommendations. The recommendations were then formulated into a report covering those PIC's visited.

TIER BASED EQUIPMENT PACKAGES

Under an internationally adopted system, oil spill incidents are categorised into 3 tiers. Each tier is defined by the scale of response that is required and whether that would come from local, regional and national/international resources, hence the tiers are not related to spill volume as different oils in different locations may require significantly different responses.

PACPLAN defines these tiers as:

Tier 1:

- Small operational spills that are within the response capability and resources of an individual port or oil terminal within the PIC where the spill occurs, and
- Spills that impact or threaten to impact within the jurisdiction of that PIC only.

Oil terminal or port specific contingency plans should cover Tier 1 spills. Individual oil companies and port administrations should develop, implement and maintain such plans. The facility owner/operator is responsible for the response including the stockpiling of Tier 1 oil spill response equipment.

Tier 2:

- Medium spills that are within the national capability and resources of the individual PIC where the spill occurs, and
- Spills that impact or threaten to impact within the jurisdiction of that PIC only.

Tier 2 spills are covered by National Marine Spill Contingency Plans (NATPLANs). Each National government is obligated to develop, implement and maintain a NATPLAN. The National government is responsible for the response including the stockpiling of Tier 2 oil spill response equipment.

Tier 3:

- Large spills that are of a magnitude and/or severity that is beyond the response capability and resources of the individual PIC where the spill occurs, and/or
- Spills that impact or threaten to impact within the jurisdiction of two or more PIC's.

No PIC has the capability of responding to a Tier 3 spill nor the resources for the complete maintenance of a Tier 3 oil spill response equipment stockpile. Mutual aid response arrangements are defined in detail under PACPLAN.

In an attempt to standardise the recommendations of this project, whilst still allowing sufficient scope for each location to fulfil its own requirements, the authors proposed standard models for the contents of Tier 1 and Tier 2 equipment packages. Each location was assessed individually and recommendations for each were referred back to this model. However some variations from the standard model, based on individual assessments, were required.

Table 2 describes the content of the recommended Tier 1 and Tier 2 packages. These were used as the benchmark standard for the project's equipment recommendations. Table 3 outlines the contents of a model sorbent package.

tem	Model Tier 1	Model Tier 2	Comments
Fence boom	100m	150m	Quantities of boom may vary but a minimum total of 200m is recommended
Curtain boom	100m	150m	
Shore sealing boom	100m	150m	
Air inflation and water ballast pumps	1 set	1 set	
Towing ends	4 sets	6 sets	
Anchor connections	2 sets	4 sets	
Temporary storage	2	2	10,000 litre capacity self supporting or frame and tank design
Sorbent pads	200	300	e.g. 450mm x 450mm
Sorbent boom	100m	200m	
Skimmer	1	1	Passive weir skimmer
Recovery pump	1	1	
Anchor kits	10 x 20kg kits	15 x 20kg kits	Kit includes anchor, chain, rope, buoys and fittings

Table 2

Model Sorbent Package

Item	Quantity	Comments
Sorbent pads	200	e.g. 450mm x 450mm
Sorbent boom	100m	3m x 125mm booms
Storage container suitable for qty and size of sorbents		Portable, secure and weather proof

Table 3

RECOMMENDATIONS

Tier 1 and Tier 2 Equipment

Each site was assessed before a final recommendation for equipment was made. In general terms, it was recommended that individual ports or oil transfer facilities should meet the requirements of the Tier 1 package. . In cases where a PIC had only one port/facility, or such facilities were significantly remote from others, it was recommended that they meet the requirements of the Tier 2 package.

In cases where a number of facilities existed, they may develop agreements whereby all of the local resources are available to assist a facility if an incident is beyond its capability. In such circumstance the combined resources of all the Tier 1 sites in that region should meet the requirements of the Tier 2 package. Where this arrangement exists, equipment must be capable of being mobilised to each site in an acceptable time frame to support the spill response.

In locations where a Tier 1 package was not recommended, but small quantity non-persistent oil transfer operations occur e.g. small vessel refuelling or drum transfer, the provision of a sorbent package was recommended.

Tier 3 Equipment

A Tier 3 package was not identified as Tier 3 spills are beyond the current financial and logistical capability of PICs. Under PACPLAN, the four metropolitan members of SPREP have been allocated respondent responsibilities for PICs. PACPLAN provides the framework for this to happen – what is needed are more detailed bilateral mutual aid arrangements between the metropolitan country and its respective PICs and also between neighbouring PICs. A number of these bilateral arrangements already exist between SPREP members.

Most oil companies operating in the South Pacific area are members of large international industry funded Tier 3 response co-operatives. These co-operatives can provide extensive resources both in terms of equipment and knowledge. The full capability of these organisations should also be considered when each PIC looks at their Tier 3 capability.

Equipment Specification

The report did not detail performance specifications for equipment outlined in the packages. It was recommended that when developing performance specifications, consideration be given to compatibility of new equipment with existing resources and those of Tier 3 support providers.

It was suggested that advice and support for the development of performance specifications be discussed with SPREP metropolitan member countries prior to any equipment being purchased.

Routine Maintenance Guidelines

The maintenance of oil spill response equipment is essential to ensure that it is always in a state of readiness. Whilst the equipment may spend most of its life packed and stored, it must still be maintained. It was therefore prudent to include guidelines on the routine maintenance that would be expected as a minimum.

Internationally, most organisations produce a maintenance schedule for their oil spill response equipment based around 3 monthly and 12 monthly intervals. Such a schedule was recommended for the equipment packages. Typical activities for these intervals were described and reference to equipment manufacturers and metropolitan countries who currently adopt such schedules was advised. The importance of independent auditing of the condition and content of the equipment was also emphasised.

Equipment Storage Guidelines

The storage of oil spill response equipment is especially important in the Pacific Islands due to the environmental conditions of the region. Guidelines for the storage of equipment focused on the key issues of security; cleanliness, being kept dry and well ventilated; protected from vermin and pests; protected from direct sun light; being readily accessible, and separated from flammable, explosive or dangerous goods.

Training Guidelines

Training in the use of oil spill response equipment is an essential part of preparedness. It was recommended that a program be developed, both locally and nationally, to ensure that training takes place at regular intervals. This should include industry, port authority and government personnel to ensure continued familiarity with equipment and to foster strong working relationships. This training program should cover both existing and new equipment.

It was recommended that the minimum level of training be an initial equipment familiarisation session. This should involve all personnel who are responsible for the deployment, operation and maintenance of the equipment. This must include equipment operating principals and techniques and equipment deployment. The training program should also include more advanced training to ensure that operators' levels of knowledge are maintained and enhanced.

The International Maritime Organization (IMO) has developed a model-training course addressing equipment operation and deployment. Suggested avenues for assistance in developing and running training courses consistent with the IMO model were local training providers; equipment manufacturers and suppliers; oil spill training companies; International Tier 3 response contractors; and Metropolitan countries, for example the Maritime Safety Authorities in both Australia and New Zealand have oil spill training programs.

Occupational Health and Safety

The health and safety of personnel must be given the highest priority in any oil spill response. Due to the inherent risks associated with spill response, it was decided to include recommendations on occupational health and safety issues associated with the deployment of the recommended equipment..

It was suggested that persons in charge of an oil spill response should ensure that an equipment supervisor is appointed, ensuring that they are aware of the safe operating procedures for all equipment being used. A formal risk assessment must be performed for each response and from this, a formal safety plan be developed. The plan should include the operations being performed by personnel and the associated risks. The plan must also include appropriate risk control strategies to ensure that no personnel are exposed to any hazardous situations.

IMPLEMENTATION

The report produced by AMSA and MSANZ will be tabled at this years SPREP meeting where the acceptance of the recommendations will be sought from the SPREP members. The North Pacific area assessment is underway with the United States Coast Guard (USCG) in Hawaii preparing to conduct a similar process for the PIC's for which the United States of America are the responsible metropolitan member. It is anticipated that the recommendations for this region will be available for presentation at next years SPREP meeting. Once accepted, the recommendations will be used to form the Regional Oil Spill Equipment Strategy. This strategy will then be used to develop a proposal for the funding of capital purchases, associated training and follow up services. On advice from SPREP MPA, sources of funding may include internal funding, private industry and donor funding.

The partnership between SPREP, Australia and New Zealand for this project enabled the donation of technical specialists from the Maritime Safety Authorities of these countries. This resulted in significant project savings that are now being used to fund equipment for selected PIC's in line with the recommendations made within the PIC assessment report.