Response to the *Pacific Adventurer* Incident

Report of the Incident Analysis Team

OPERATIONAL AND TECHNICAL ISSUES REPORT

Australian Government
Australian Maritime Safety Authority

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Report by the Incident Analysis Team into the Response by the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances to the Container Loss and Oil Spill from the *Pacific Adventurer* off the coast of Brisbane on 11 March 2009.

CONTENTS

LIST OF ACRONYMS USED IN THIS REPORT

4WD – 4 Wheel Drive

AIIMS – Australasian Inter-Service Incident Management System

AMSA – Australian Maritime Safety Authority

B-IC – Brisbane Incident Controller

B-ICC – Brisbane Incident Control Centre

DERM – Department of Environment and Resource Management

EMA – Emergency Management Australia

EMQ – Emergency Management Queensland

EPA – Environment Protection Agency (now DERM)

EPBC Act – Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

ESC – Environment and Scientific Coordination

GBRMPA – Great Barrier Reef Marine Park Authority

IAT – Incident Analysis Team

IC – Incident Controller

ICC – Incident Control Centre

IMT – Incident Management Team

IT – Information Technology

MERV – Marine Emergency Response Vehicle

MI-IC – Moreton Island Incident Controller

MI-ICC – Moreton Island Incident Control Centre

MSQ – Maritime Safety Queensland

NPOG – National Plan Operations Group

NRT – National Response Team

OH&S – Occupational health and Safety

ORCA – Oil Response Company of Australia

OSRA – Oil Spill Response Atlas

OSRICS – Oil Spill Response Incident Command System

OSTM – Oil Spill Trajectory Modelling

PPE – Personal Protective Equipment

QCCAP – Queensland Coastal Action Contingency Plan

QFRS – Queensland Fire and Rescue Service

QNC Act – *Queensland Nature Conservation Act 1992*

RAN – Royal Australian Navy

RSPCA – Royal Society for the protection of Cruelty to Animals

SAP – Scientific Advisory Panel

SCAT – Shoreline Clean-up Assessment Team

SC-ICC – Sunshine Coast Incident Control Centre

S-ICC – State Incident Control Centre

SITREPS – Situation Reports

UHF – Ultra High Frequency

VTS – Vessel Traffic Service

INTRODUCTION

The Incident Analysis Team (IAT) has identified a number of issues that were raised either during or after the response. Each issue has been examined in detail using a range of available information sources to ascertain its veracity.

Based on this examination a series of conclusions and recommendations are presented. This Report covers those issues which are more operational/technical in nature. This Report should be read in conjunction with the Strategic Issues Report and in particular the Recommendations section of that Report.

1. INITIAL RESPONSE

(a) Issue: Response to the Initial Report of the Loss of Containers Containing Ammonium Nitrate

Background

Following the Master's initial report at 0315 on 11 March to the MSQ's Vessel Traffic Service (VTS) of the loss of 31 containers of ammonium nitrate, the Brisbane Harbour Master acted quickly and in accordance with the Queensland contingency arrangements for marine chemical spills. The Harbour Master alerted the QFRS, the combat agency for chemical spills at seas, as well as other appropriate authorities such as Environment Protection Agency (EPA) and the Australian Maritime Safety Authority (AMSA). Also, in conjunction with AMSA, Maritime Safety Queensland (MSQ) issued appropriate navigation safety warnings to shipping in the area with a request for sighting reports of the lost containers.

The B-ICC was set up at Pinkenba and the Queensland National Plan State Committee was alerted.

Conclusion

QFRS quickly assessed the public safety risks associated with an ammonium nitrate spill as being negligible and in conjunction with EPA, provided advice recommending washing the remaining ammonium nitrate residue off the ship's deck at the Sharks Spit anchorage and the removal of the remaining containers when possible.

The initial call-out procedures and response actions taken were appropriate, effective and timely with QFRS and EPA's involvement in the decision making process for the chemical spill response being practical and effective.

(b) Issue: Safety of Navigation and Risk to Trawlers

Background

The loss of 31 containers in fishing grounds off Moreton Island may have posed a significant risk to trawlers fishing in this area. MSQ and AMSA issued appropriate navigation safety warnings with a request for sighting reports. AMSA also undertook trajectory modelling in case the containers had not sunk to the bottom and had floated partially submerged. This predicted a southerly drift. However, following consultation with industry it was generally believed that the nature of the contents of the containers would cause them to sink in the vicinity of where they were lost overboard.

Following the loss of containers and in view of the severe weather conditions the Master was concerned about the safety of the seafarers and the ship and requested that the ship be permitted to enter Moreton Bay to seek shelter. This was agreed to by MSQ.

Conclusion

The IAT concludes that the action taken by MSQ and AMSA was timely and appropriate.

(c) Issue: Location of the Lost Containers

Background

Following consultation with the S-ICC and EMQ, AMSA agreed to ascertain options for locating the lost containers. Through the Commonwealth's Emergency Management Australia (EMA) it was agreed that the Royal Australian Navy (RAN) would assist in this task.

The lost containers were located by two RAN survey vessels during 19-20 March in the near vicinity of where they were lost overboard from the *Pacific Adventurer*.

Conclusion

The IAT believes that the action taken by AMSA, MSQ, EMA and the RAN was appropriate and timely.

2. PERSONNEL

(a) Issue: NRT Personnel and Skills

Background

While the call-out procedures followed those specified in the National and State Plans the IAT has identified a number of issues concerning NRT personnel, skills and management including *inter alia*:

- rostering – the number of days NRT members were on duty each change over varied. Persons interviewed by the IAT thought for consistency the same individuals should come back after a break i.e. a roster could be 10 days on and 10 days back home with the person returning to the same position. This is of course dependent on the type of work undertaken. For field based personnel a 7 day roster may be more appropriate while ICC personnel may be better suited to a 10 day roster; Also NRT members should be flexible and responsive to meet operational requirements and roster at the time.
- limited availability of Queensland Harbour Masters with suitable training and experience as ICs;
- some uncertainty as to who (AMSA or State/NT) was responsible for activating commercial response organisations such as ORCA;
- under-utilisation, particularly within the ICCs of the knowledge, experience and skills of ORCA personnel who were working as part of the NRT;
- AMSA personnel organising travel for NRT members were not advised of an individual's operational requirements so could neither brief them on their tasks before they left home base, nor what equipment they should take, e.g. problems with lifejackets on aircraft;
- poor coordination of NRT relief with personnel replacements often left to the home organisation to decide who would be sent without consultation with MSQ and/or AMSA;
- consequently, some personnel despatched to the response were not NRT trained; and,
- a lack of people on the NRT with shoreline clean-up skills.

Conclusion

The IAT noted the dedication and enthusiasm of all NRT personnel including the support by the States/NT, industry and New Zealand Maritime to assist with the response through personnel deployment.

The IAT notes that under current NPOG approved guidelines the nomination of a person to only one of five different roles under the NRT is a problem that limits the available pool of expertise.

The current rostering of NRT personnel during a response requires review. If suitably qualified and performing personnel are required to stay longer then this should be provided for to improve response continuity and consistency, as long as they are able to take adequate rest breaks while on-site. This is of course dependent on the type of work undertaken. For field based personnel a 7 day roster maybe more appropriate while ICC personnel may be better suited to a 10 day roster.

The IAT notes that there are certain capacity constraints and successional gaps in the government sector in regard to pollution response personnel while at the same time significant expertise and experience now exists in the private sector.

Issues to be Addressed

- NPOG reverts to its previous policy where all available and trained personnel are included in the NRT rather than the current situation which allows a State/NT to nominate a person to only one of five different roles.
- NPOG reviews the rostering arrangement during a response.
- NPOG establishes a concerted training regime in order to enhance the available pool of NRT responders for all OSRICS positions.
- AMSA considers options for developing and maintaining a National Register of personnel in the private sector with experience including ex-NRT members that can be called upon to support the NRT in the event of a spill.
- Increase the number of trained ICs that may be deployed under NRT arrangements.

3. EQUIPMENT

(a) Issue: Communications on Moreton Island

Background

Although MSQ despatched the Marine Emergency Response Vehicle (MERV) and a supply of National Plan UHF radios to Moreton Island it appears these were not used until later in the incident. The QFRS were tasked by B-ICC to establish communications on Moreton Island. Although there were some difficulties in communications between the MI-ICC and the beach clean-up teams depending on location, generally reasonable communications were achievable.

The IAT was advised of other communication difficulties. These consisted of the problems personnel in the MI-ICC had in using their employer supplied mobile phones to contact field teams who were using National Plan satellite phones. It appears that unless a mobile phone has approved international roaming it cannot be used to communicate with a satellite phone.

Other issues arose because ICC personnel in dedicated cells such as Planning, Operations, Administration and Finance, etc., were using personal mobile phones. The problems arose when these personnel were relieved and a new mobile phone number had to be promulgated to all personnel.

The IAT was also advised by a number of personnel in the MI-ICC that the standard of computers, printers and fax machines in the ICC was substandard resulting in frequent breakdowns.

The IAT notes that both NSW and Queensland have a dedicated radio network using the previous National Plan frequencies for use during a spill, which may not be available in other States/NT.

Conclusion

High quality radio communications and information technology (IT) equipment are essential in an oil spill response and should be available to all personnel. The IAT was advised that later in the incident after Easter the MSQ radio communications system was used effectively.

(b) Issue: Bags Used for Collecting Oiled Sand

Background

The IAT was advised that the bags used in the beach clean-up on Moreton Island for collecting oiled sand leaked some of the oil. It would appear that the bags used were made of hessian and designed to only contain sand for use in flood situations.

Conclusion

The leaking sand bags caused minor disruption to the beach clean-up process, requiring plastic sheeting to be laid under stockpiles of oiled beach debris and some double handling in recovery of oil, which had leached from the bags.

(c) Issue: Management of Vehicles on Moreton Island

Background

A number of vehicles were sent to Moreton Island to assist with the movement of people around the Island for various response operations. The majority were 4 wheel drive (4WD) vehicles. Many of the people assigned as drivers did not have 4WD experience. This, in conjunction with the rough terrain and the poor quality of some vehicles, resulted in a number of vehicles either breaking down or becoming bogged in the sand.

Conclusion

Taking response operations vehicles out of service for repair impacted on the response, causing delays. As there were no repair facilities on the Island broken down vehicles had to be returned to the mainland. Some vehicles required costly repairs while a number of others were declared 'write offs'.

The IAT is aware of instances where beach clean-up supervisors were taken off task to undertake vehicle repairs as no one had been assigned to this task.

Issues to be Addressed

- NPOG reviews the National Plan communications network including the use of dedicated mobile phones (duty phones) with international roaming for use by each designated position in the ICC.
- NPOG develops a design standard and identifies suppliers of suitable bags for beach clean-up operations.
- As far as possible 4WD vehicles should only be allocated to personnel with 4WD training and/or experience.
- In remote locations, personnel with vehicle repair experience should be identified and readily available to the response so as to ensure vehicle maintenance and repairs can be undertaken.

4. WILDLIFE RESCUE AND REHABILITATION

(a) Issue: Adequacy and Effectiveness of Wildlife Rescue and Rehabilitation

Background

Moreton Island, Moreton Bay, Bribie Island, Pumicestone Passage and adjacent areas host significant wildlife resources including:

- a variety of seabirds and shorebirds including migratory species of high conservation significance, and Ramsar-listed wetlands which provide vital habitat for these species;
- 6 species of marine turtles, including green (*Chelonia mydas*) and loggerhead (*Caretta caretta*), which are listed as vulnerable and endangered respectively under both the *Queensland Nature Conservation Act 1992* (QNC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act); as well as beaches used to some extent for turtle nesting; and
- dolphins (*Tursiops aduncus* and *T. truncatus* and *Sousa chinensis*) and dugong (*Dugong dugon*). *S chinensis* is listed as rare under the QNC Act, while *D dugon*, is listed as vulnerable. None of these species are listed on the EPBC Act as threatened species.

The spill therefore had the potential to cause significant impacts on wildlife, and an oiled wildlife response was mounted, led by EPA in accordance with the QCCAP.

National Plan oiled wildlife resources were mobilised from stockpiles in Cairns and Moggil (west of Brisbane), although a delay of 7 days was experienced due to confusion regarding the approval from the B-IC to mobilise these resources. The first few days of the spill are the most critical in terms of identifying and rescuing oiled wildlife.

Additionally, the oil spill trajectory model results were not immediately provided to oiled wildlife responders so that they could assess likely impacts on wildlife resources, and plan response operations accordingly.

The wildlife response was greatly assisted by several factors, including:

- storm conditions relating to Cyclone Hamish had caused seabirds and shorebirds which normally inhabit the seaward shore in the impacted areas, to seek shelter within Moreton Bay and the mainland coastline, thereby limiting potential for oiling in the first few days of the spill;
- 32 species of migratory wading birds of conservation concern normally inhabit inter-tidal areas within Moreton Bay, which was not affected by the spill, and would normally start migrating back to the Northern Hemisphere summer in April;
- the dolphins and dugongs that are of high conservation significance in the region, and which can be impacted by oil when surfacing to breathe, mainly inhabit areas within Moreton Bay, which was not affected by the spill;
- the time of the spill (March) is at the end of the turtle beach-nesting season; thereby reducing the chance for turtles to be oiled as they either came ashore to nest or returned to the sea;
- just prior to the spill EPA had held an oiled wildlife training course and exercise at Fort Lytton in Moreton Bay, which meant that significant equipment and expertise was already available in the immediate area;
- the spill occurred immediately adjacent to a major city with well resourced and highly organized EPA, RSPCA, community wildlife care groups, wader study groups and private zoos; and,

- the wildlife response was strongly supported by industry, with Caltex Australia Limited providing a large work shed, power, water and other support infrastructure and services free-of-charge.

Overall, 16 oiled wildlife were recovered and treated including 13 Pelicans; 1 Lessor Crested Tern; 1 Wedgetail Shearwater and 1 Sacred Kingfisher.

There were also 2 oiled turtles (1 dead; 1 alive) responded to that did not strand due to the oil spill but rather as a result of other health issues. As they were oiled they became part of the response. There were also 2 live oiled sea snakes – 1 died and 1 was released after rehabilitation.

The total oil related mortalities where 3 dead animals comprising 1 sea snake; 1 Little Tern and 1 Petrel species.

In total 36 different people were involved in responding to the oiled wildlife associated with this incident.

Overall the wildlife cost amounted to approximately A$165,000 or about A$10,300 per bird. This cost includes all labour costs including construction, the cost of consumable items but does not include any capital expenditure. There were no costs associated with the sea snakes as these were treated under an in-kind contribution. The wildlife response costs represent approximately 0.55% of the total response costs involved in this incident.

However, it should be noted that the actual number of oiled affected wildlife may have been significantly higher, as wildlife teams were not granted access to Moreton Island beaches until seven days after the spill. During the community stakeholder debrief, Moreton Island residents reported that large numbers of oiled pied oyster catchers, which feed in the heavily oiled intertidal zone, were seen in their nesting areas in the sand dunes. The IAT understands that these areas were not surveyed by wildlife teams.

Conclusion

The oiled wildlife operations may be considered a success. However, as outlined above the circumstances surrounding the spill were favourable to a small wildlife impact. Had a larger number of wildlife been oiled, the preparedness and response arrangements may have been more vigorously tested.

Overall, the wildlife rehabilitation and rescue costs represent only a very minor component of the overall incident response costs.

Issues to be Addressed

- Oil spill trajectory model results should be immediately provided to oiled wildlife responders so that they can assess likely impacts on wildlife resources, and plan response operations accordingly.

5. PLANNING

(a) Issue: SCAT Assessments

Background

The IAT was informed of the lack of SCAT activity or SCAT reports being received by the MI-ICC. Where SCAT teams undertook foreshore assessment, the SCAT team was not multi-agency and either did its assessment by road vehicle or helicopter, whereas the National Plan guidelines clearly state SCAT should be undertaken on foot by multi-agency teams.

The IAT believes that the SCAT teams worked effectively on both Bribie Island and the Sunshine Coast.

Conclusion

In the first few days of the response there was uncertainty within the MI-ICC about who was making arrangements for foreshore assessment to be undertaken or where the SCAT advice was being sent. It appears the results of such assessments that were undertaken by-passed the B-ICC and MI-ICC and were sent directly to EPA in Brisbane. Whereas, on the Sunshine Coast, the SCAT teams worked well with their reports being fed successfully into the SC-ICC where the information was used in planning clean-up operations.

(b) Oil Sampling

Background

The main purpose for response agencies to obtain oil samples following an incident is to identify the polluter particularly for either cost recovery purposes or for prosecution action and also for dispersant testing.

There may also be occasions when a 'secondary' agency also requires oil samples.

In this response the sampling of oil from both the ship and the environment was undertaken for a number of reasons and by a number of agencies as follows:

- MSQ sampled oiled from the ship and the environment for possible prosecution purposes under the Queensland *Transport Operations (Marine Pollution) Act*. Under this Act samples must be taken by an 'Authorized Officer' according to standard procedures involving a formal chain of custody of the samples;
- AMSA sampled oil from the ship for possible prosecution purposes under the Commonwealth *Protection of the Sea (Prevention of Pollution from Ships) Act* again involving a formal chain of custody of the samples. In June 2009 the AMSA Surveyor in Brisbane reported that these samples remained secure in their safe in Brisbane;
- EPA took samples from the environment for possible prosecution purposes under the *Queensland Environment Protection Act*;
- Queensland Department of Primary Industries and Fisheries reported that they requested oil samples from MSQ so as to be able to undertake a fish contamination comparison, but were unable to obtain samples;
- Queensland Department of Health reported that they requested oil samples from MSQ so as to undertake a human health and safety assessment, but were unable to obtain samples; and,

- QFRS reported that they have expertise in standardised sampling techniques from their work with chemical spills and could be a significant resource in support of MSQ if trained and appointed as 'Authorized Officers' under the Queensland *Transport Operations (Marine Pollution) Act*.

Conclusion

Oil sampling following a spill incident can be taken for formal purposes involving investigations for potential prosecution or for informal purposes involving matters such as monitoring environmental impacts, contamination analysis and human health and safety assessment. The important difference between the two is the requirement for a formal chain of custody to ensure the integrity of the samples that are to be used for prosecutorial purposes.

The IAT understands that there are no documented arrangements for 'secondary' agencies to obtain relevant samples.

The IAT believes that the overall oil sampling effort in relation to this incident was uncoordinated with both overlaps and gaps.

(c) Issue: Contingency Plans and OSRICS

The IAT has reviewed the QCCAP which implements the National Plan in Queensland and has identified the following areas to be addressed:

- better elucidation of protection and response priorities;
- more detailed description of the roles and responsibilities of all Commonwealth, State and local government agencies and other parties in a spill response;
- much clearer description of linkages with Queensland State Disaster Management Plan and system;
- inclusion of environmental sensitivity maps, coastal resource maps and pre-determined dispersant use/non-use zones. These features had been developed for most Queensland ports in the 1990s but are no longer contained in the QCCAP. They could easily be resurrected and incorporated into the Plan;
- better integration of local authorities and emergency management agencies, including the issue of OSRICS and AIIMS;
- more complete equipment and resource inventories, including private sector contractors; and,
- pre-determined arrangements for natural resource damage assessment and post-spill environmental monitoring and recovery.

The IAT has commented previously in the Report on OSRICS.

Conclusion

In reviewing the QCCAP the IAT has identified a number of components, as indicated above, which warrant further examination.

Issues to be Addressed

- More effective use be made of SCAT outputs for response planning purposes in future spills.
- AMSA/States/NT review their sampling arrangements to ensure central planning and coordination of all oil sampling occurs during a spill response, particularly where both the polluters' identity is uncertain and where secondary agencies also need to ensure the integrity of their samples.
- MSQ reviews the QCCAP in light of this incident and the issues outlined in section (c), above.

6. OCCUPATIONAL HEALTH AND SAFETY

(a) Issue: Occupational Health and Safety

Background

The National Plan and QCCAP requires that an Incident Safety Officer and OH&S Coordinators oversight response operations from a OH&S perspective (see paragraph 2.8 of QCCAP). Uncertainty arose whether an Incident Safety Officer or an OH&S coordinator had been appointed for Moreton Island and whether an OH&S risk assessment or plan had been developed and implemented. The IAT was advised that OH&S was undertaken by both the public sector work force and the MI-ICC. This resulted in uncoordinated and inconsistent OH&S procedures between agencies working together in the same areas.

The IAT understands that MSQ does not have any formal overview of all OH&S incidents that occurred during the response. However, the IAT understands that there were two major incidents involving vehicles on Moreton and Bribie Islands. The remaining OH&S issues were associated with heat stress, mainly on Moreton Island and some gastro-intestinal problems with personnel staying at Bulwer which necessitated two responders being sent home.

The IAT was advised that a serious safety concern arose when responsibility for coordinating helicopter operations was split between the B-ICC and the MI-ICC on 19 March, at the behest of the MI-IC. While it may have been desirable to have one helicopter tasked to meet the needs of the MI-ICC, coordination of its movements should have remained with the central aviation operations coordinator at the B-ICC, for obvious safety reasons.

On a positive note, the staging and decontamination areas were well organised, with clear command and control at those areas. The allocation of paramedics to beach clean-up teams on Moreton Island led to a strong focus on worker health and safety.

Conclusion

OH&S was not centrally coordinated in this incident though there were notable individual efforts to ensure a safe and healthy work environment.

(b) Issue: Toxicity of Oil

Background

There was confusion on Moreton Island initially about the toxicity of the oil being taken off the beach using rakes and shovels and also whether there was a need for responders to wear Personal Protective Equipment (PPE) in a hot climate. Although material safety data sheets were made available to the ICC when requested there was still uncertainty about the likely affects of oil coming in contact with the skin.

As previously indicated, the Queensland Department of Health reported that they requested oil samples from MSQ so as to undertake a human health and safety assessment, but were unable to obtain samples.

Conclusion

The IAT believes that oil toxicity in beach clean-up operations and the need to wear appropriate PPE in a hot climate should not have become an issue. The differing OH&S policies amongst the various workforces only added to the uncertainty surrounding an overall approach.

(c) Issue: Briefing Handbook for Response Personnel

Background

After two weeks into the incident a briefing handbook was developed for use by the labour force personnel on Moreton Island. It was given to each responder on the ferry during the transit to Moreton Island. The booklet provided basic instructions about their deployment as beach clean-up labourers, what they had to do and how to do it.

Conclusion

The IAT believes that the handbook was an excellent initiative which helped greatly in managing the large number of workers used in the beach clean-up operations and could be used to advantage in future incidents.

Issues to be Addressed

- All relevant National Plan training emphasise the importance of OH&S planning and the role of the OH&S Coordinator.
- NPOG should develop clear OH&S guidelines on the risks associated with oil coming into contact with skin and the need for appropriate PPE. The guidelines should be incorporated in State/NT Oil Spill Response Contingency Plans and be distributed to all likely responder organisations.
- NPOG should develop a template for a National Plan Handbook where large numbers of untrained beach clean-up teams are used.

7. ENVIRONMENTAL SUPPORT SERVICES

(a) Issue: Use of Oil Spill Trajectory Modelling

Background

To assist with spill response planning, AMSA arranged at 0747 on 11 March 2009 for Oil Spill Trajectory Modelling (OSTM) to be undertaken by its modelling contractor, Asia-Pacific ASA. The oil spill trajectory modelling predicted considerable oiling would occur along the coastline at Moreton with some oiling of Bribie Islands and the Sunshine Coast. This proved to be highly accurate.

The OSTM results provided by Asia-Pacific ASA at 0901 on 11 March on the basis of a 20 tonnes spill, predicted oil would come ashore near Cape Moreton at 1115 and there was a chance that some oil would reach the Sunshine Coast, from just south of Mooloolaba to Coolum – probably as oil patches and emulsion. The oil was expected to mousse rapidly while offshore, but should remain on the surface. While some evaporation was expected, about 80% of the spill would come ashore. The OSTM results were sent to the S-ICC at 1054 on 11 March. However, the OSTM results were not passed on to MSQ Mooloolaba or the Sunshine Coast Regional Council. The OSTM results did not indicate the amounts of oil likely to beach on Moreton Island compared to the Sunshine Coast.

Conclusion

While modelling of the likely slick trajectory of a 20 tonne spill was highly accurate, effective use was not made of the modelling results – as these were not transmitted to the Bribie Island and Sunshine Coast local authorities, where the model clearly showed the oil would impact. Modelling results were also not immediately provided to oiled wildlife response agencies to allow them to begin planning oiled wildlife response, despite these areas containing extremely significant wildlife resources.

(b) Issue: Use of the Oil Spill Response Atlas

Background

It would appear the National Plan's Oil Spill Response Atlas (OSRA) was not used in the early part of the response to identify specific areas in need of protection i.e. wetlands on Moreton and Bribie Islands and rivers and wetland areas particularly in the region of the Sunshine Coast. The Sunshine Coast Regional Council was not aware of OSRA; while others interviewed by the IAT advised it has not been updated and that the Queensland and the National OSRA GIS platforms are not compatible.

Conclusion

The IAT believes that there is a need for a better understanding of the OSRA system at all responder levels through a greater emphasis on training and the collection and input of data. Also, the skill sets afforded by an OSRA operator should be recognised as a specific element for inclusion in the NRT.

(c) Issue: Environmental Advice and Support

Background

The designated ESCs who were based at the B-ICC reported that once the disaster situation was declared with an associated large number of emergency services personnel operating from the B-ICC, the ability of the ESC to provide effective support and advice to the IC was severely limited.

The ESC was also hampered by the fact that more senior EPA staff were providing input directly to the MI-ICC and the SC-ICC, short-circuiting the ESC, who was based at the B-ICC.

Indeed throughout this response it appeared to the IAT that to keep relevant personnel in the local incident management teams fully informed, the flow of information from field personnel would have been improved if information was passed through the ICC, as well as to senior agency management,

The effectiveness of EPA's 3 day assignments on Moreton Island were constrained in that they were too short. Assignments should have been extended to ensure greater continuity and less repetitive catch-up time at each staff change-over. Consideration might also be given to alternating individual change-overs, so as to ensure each new arrival works with an incumbent before receiving and mentoring the next change-over in turn.

Coordination of environmental assessment and monitoring plans was limited and those responsible for taking the lead could have been more involved. Effective prioritisation of sites, setting of clean-up end-points and decisions regarding the most appropriate clean-up methods can only be achieved if supported by proper assessments carried out by joint teams with both environmental and operational expertise present.

Also, there did not appear to be any pre-established plans or procedures in place for post-spill monitoring. In general, while post-spill monitoring tends to fall outside of the confines of the National Plan it is incumbent upon State/NT environment agencies to ensure that these matters are provided for in contingency plans. Post-spill monitoring plans were developed late and at the time of this Reports' interviews (June/July 2009) had still not been fully finalised and implemented.

The formation of a high-level SAP on the initiative of Queensland Transport was innovative and unique for oil spills in Australia and provided a degree of independent oversight of scientific issues relating to the spill, including in relation to the potential impacts of the ammonium nitrate spillage.

The issue of the delayed clean-up operations of Spitfire Creek is covered in the Strategic Issues Report at page 18.

Conclusion

The IAT believes that environmental advice and support could have been more effective. The IAT notes that:

- Coordination of environmental assessment and monitoring plans was limited and those responsible for taking the lead could have been more involved; and,
- there did not appear to be any pre-established plans or procedures in place for post-spill monitoring.

Issues to be Addressed

- State/NT environment agencies should review their currently nominated ESCs to ensure they are sufficiently senior and with appropriate level of delegation to represent their agencies without being over-run by more senior staff in their agencies.
- Where relevant, a Scientific Advisory Panel be established to provide independent and high-level scientific and environmental advice based on the model used by Queensland during the *Pacific Adventurer* incident.
- A register of environmental and scientific expertise available from the scientific and consultancy communities be developed and maintained under the National and State/NT Plans.
- That States/NT undertake pre-planning for post-spill damage assessment and monitoring according to relevant international guidelines.

(d) Issue: Waste Management

Background

Beach clean-up techniques can generate considerable quantities of waste oil and sand. Unless waste management is handled competently it can potentially become a limiting factor in both the rate of, and duration of, any clean-up.

In this incident, waste management arrangements appear to have been well undertaken. Management of oily waste appeared to be highly controlled, with strict systems and procedures in place, including bagging of all oily-waste; lining of storage and transfer areas, covering of storage piles and bins, and supervision by EPA officers at each site.

Contamination control was highly supervised, with designated clean and dirty areas and highly effective systems in place for decontaminating personnel and equipment before allowing them to leave oiled areas. This is extremely important on a highly sensitive National Park island like Moreton Island.

Prevention of secondary contamination was ensured with all skips being fully lined and covered and strict control of access to and from designated clean and dirty areas via decontamination stations and the posting of EPA monitors at all waste transfer sites.

The use of existing, scheduled barge services to remove waste from Moreton Island was fully supported as this is more cost effective than specifically chartering commercial vessel or landing-barges.

However, the use of helicopters to remove skips and wastes from areas which were road accessible may have been excessive other than to prevent delays due to waste bins not being available. For example, the use of helicopters to remove skips and waste from the rocky northern coastline was acceptable but not for a similar removal from the east coast beaches accessible by Middle Road.

Removal of waste from the Sunshine Coast and Bribie Island beaches was much easier due to good road access for large trucks and the availability of nearby sites, approved by the EPA.

The IAT notes that the use of purpose made prefabricated skip bin liners may have been more efficient than double lining with polyurethane sheets.

The IAT was advised that the recovered waste from Moreton Island (3,000 tonnes) was sent to Willowbank for processing, while waste from Bribie Island (330 tonnes) and the Sunshine Coast (4,800 tonnes) was dealt with by the Moreton Bay and Sunshine Coast Shire Councils at their Caboolture and Caloundra facilities, respectively. Due to the high amount of litter contamination in the waste sand stockpiles, EPA advised that the only option for recycling was into road base and only a small portion could be used for this purpose. As a result recycling was not a viable option and it is most likely that all of the waste sand stockpiles will be sent to landfill.

Conclusion

The IAT concluded that the issue of waste management at Moreton Island was well handled however the following issues need to be addressed.

Issues to be Addressed

- The results of oil spill trajectory modelling should be transmitted by the ESC or another appropriate IMT member to local authorities and other concerned agencies in the areas that are predicted to be impacted so that better use can be made of them for planning and operational purposes including the protection of wildlife.
- NPOG reviews current policy on OSRA's use and maintenance so as to ensure that it is kept up to date and functional.
- The OSRA operator should be recognised as a specific position in the NRT.

8. ADMINISTRATIVE SUPPORT SERVICES

(a) Issue: Forms for Recording Use of Equipment and Maintaining Financial Records

Background

The B-ICC was established and functioning under OSRICS when QFRS, which uses AIIMS, was brought in to assist the response – in particular the setting up of the ICCs on Moreton Island and the Sunshine Coast. This resulted in some confusion as personnel attempted to reconcile the two incident management systems.

Two areas of concern identified by B-ICC personnel were the reconciliation of accounts to be paid and the need to switch over to different forms. In particular, the forms used for recording use of personnel, equipment and maintaining financial records, and also situation reports (SITREPS) – are different under OSRICS and AIIMS.

Conclusion

The IAT believes that the fundamental importance of these forms is often overlooked by those not familiar with National Plan arrangements. The administrative support personnel at the B-ICC who where acutely aware of the importance of recording this information accurately were frustrated by these changes.

(b) Issue: Task Tracking System

Background

The IAT was advised by several people working in the ICCs of the significant advantages of the Task Tracking System (called 'Free to Move') used by QFRS under AIIMS for tracking records of communications, placement of orders, and a range of other actions.

Conclusion

While the IAT was unable to review this System, the comments by many of the responders as well as the advice received from EMQ and QFRS officers indicate that further investigation as to the utility of the Task Tracking System is warranted.

Issues to be Addressed

- The need for the forms used under OSRICS and AIIMS be reviewed with a view to achieving better integration so that in the future no change over is required.
- NPOG examines the use of the Task Tracking System used by QFRS to determine its suitability by the National Plan.

APPENDIX 1 – TERMS OF REFERENCE

National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances

Response to the Pacific Adventurer Incident

Aim: To undertake a comprehensive analysis of the response to the oiling of the Queensland coastline by oil discharged by the *Pacific Adventurer* into the Coral Sea off Brisbane on 11 March 2009 (the '*Pacific Adventurer* Incident'), as provided for under the National Plan Inter-Governmental Agreement.

Incident Analysis Team: The incident analysis team is to comprise persons with expertise in response to ship-sourced marine pollution incidents and related matters, but who had no direct role in the response to the *Pacific Adventurer* incident. Members of the incident analysis team are:

- Mr Mike Julian (Chair) – Director of M.H Julian Pty. Ltd and former Chair, IMO Marine Environment Protection Committee
- Mr Graham Edgley – Senior Manager, Marine Operations, Sydney Ports Corporation
- Mr John Gillies (Executive Officer) – Australian Maritime Safety Authority.

Terms of Reference: Analyse the management of the incident from the oil pollution preparedness / response perspective and make recommendations to improve the National Plan arrangements and how the actual response to the *Pacific Adventurer* incident might be improved upon for future reference. In this context:

1. Assess the oil pollution response aspects with particular reference to:
   - (i) the call out procedures used, the effectiveness and timeliness of the initial and subsequent response;
   - (ii) the suitability and accessibility of National Plan equipment including State and industry equipment;
   - (iii) availability, timeliness and management of the National Response team arrangements;
   - (iv) the decisions made in respect of calls for equipment and personnel in regard effectiveness, sufficiency and timeliness;
   - (v) the adequacy and effectiveness of the wildlife rescue and rehabilitation response;
   - (vi) the adequacy and effectiveness of incident response plans and their implementation;
   - (vii) the adequacy of the management of Occupational Health and Safety issues;
   - (viii) the adequacy of the administrative support, environmental advice and support, and other related activities;
   - (ix) the interaction with the media and other interested parties;
   - (x) the adequacy and effectiveness of communications with affected and interested stakeholders.
2. Assess the involvement of the various parties to the response from the viewpoint of appropriateness, timeliness and adequacy. In this regard, particular attention should be given to:
   - (i) the effective involvement of the parties; and,
   - (ii) the interaction and cooperation between agencies.

3. Within the context of this incident, assess the National, State and local contingency plans and report on the adequacy of each, including the Oil Spill Response Incident Control System (OSRICS).
4. Review the effectiveness of Australia's current liability regime pertaining to ship-sourced marine pollution incidents and related matters, with special reference to the adequacy of the Limitation of Liability for Maritime Claims Convention in relation to significant bunker oil spills and the new Bunkers Convention regime and its implementation in Australia.
5. Review the effectiveness and contribution to the response of the Declaration of a disaster situation on 12 March, under the Queensland Disaster Management Act 2003, covering the areas affected by the oil spill.
6. Provide recommendations for improvements and initiatives based on the lessons learned from the incident.

In construing the Terms of Reference, the incident analysis team should consider the loss of containers and the request for assistance from the ship and how these actions impacted on any decision of management of the response.

As far as is practicable, the incident analysis team or member(s) thereof should attend the various debriefing sessions to be carried out by relevant agencies and bodies involved in the incident and consider the written reports of the various entities in the response.

Administrative support for the incident analysis team will be provided by AMSA.

A written report on the findings and recommendations of the incident analysis is to be submitted to the Australian Maritime Safety Authority.

APPENDIX 2 – DEBRIEFS ATTENDED AND PERSONNEL INTERVIEWED BY THE IAT

a) Debriefs Attended by the IAT

Date	Venue	Group
13 May 2009	MSQ, Pinkenba	Personnel based at the Brisbane & Moreton Island Incident Control Centres
14 May 2009	Moreton Island	Field inspection and discussions with response personnel still on Moreton Island
21 May 2009	MSQ, Brisbane	Scientific Advisory Panel
	MSQ, Brisbane	Community Advisory Panel
22 May 2009	Kawana Surf Club	Personnel based at the Sunshine Coast and Bribie Island Incident Control Centres
25 May 2009	AMSA, Canberra	AMSA Responders
18 June 2009	Queensland Department of Premier & Cabinet	Personnel based at the State Incident Control Centre and representatives from Brisbane and Canberra based Departments and agencies

b) Personnel Interviewed by the IAT

Date	Venue	Name	Affiliation
14 May 2009	Moreton Island	Mr Ben Tidy	Queensland Parks & Wildlife Service
		Mr Darren Burns	Queensland Parks & Wildlife Service
20 May 2009	MSQ Brisbane	Mr Patrick Quirk	Queensland Transport
		Superintendent Scott Trappet	Queensland Police
		Mr Mark Alen	Maritime Safety Queensland
		Ms Natasha Paterson	Queensland Environment Protection Agency
		Mr Peter Keyte	Port of Brisbane Authority
		Mr Mike Short	Queensland Environment Protection Agency
		Mr Trevor Hassard	Manager, Tangalooma Resort (by telephone)
		Captain Richard Johnson	Maritime Safety Queensland
		Captain Glenn Hale	Maritime Safety Queensland
22 May 2009	MSQ, Brisbane	Ms Cynthia Gillespie	Queensland Transport
		Mr Richard Williamson	RoadTek
		Mr Khriston Murphy	RoadTek
25 May 2009	AMSA, Canberra	Mr Jamie Storrie	Australian Maritime Safety Authority
		Mr Ben Cropley	Oil Response Company of Australia
		Mr Ray Lipscombe	Oil Response Company of Australia
		Ms Nerissa Bartlett	Australian Maritime Safety Authority
		Ms Nicola Udy	Queensland Parks & Wildlife Service (by telephone)

Date	Venue	Name	Affiliation
16 June 2009	Mooloolaba & Nambour	Sergeant Bob Murphy	Queensland Police
		Mr Peter Kleinig	Maritime Safety Queensland
		Mr Rod Garner	Queensland Environment Protection Agency
		Mr Andrew Ryan	Sunshine Coast Regional Council
		Mr Tim Steele	Sunshine Coast Regional Council
		Mr Allan Rodgers	Sunshine Coast Regional Council
17 June 2009	MSQ, Brisbane	Ms Christine Williams	Queensland Environment Protection Agency
		Mr Clive Cook	Queensland Environment Protection Agency
		Ms Andrea Leverington	Queensland Environment Protection Agency
		Mr Steve Hoseck	Queensland Environment Protection Agency
		Dr John Roberston	Queensland Dept of Primary Industries
		Mr Hugh Ellis	Australian Maritime Safety Authority
		Mr Jerry Price	Australian Maritime Safety Authority
18 June 2009	MSQ Brisbane	Mr David Bamford	Aramira Civil Engineering Pty Ltd
		Mr Keith McIlwain	McIlwain Civil
		Mr Bob Lowe	Maritime Safety Queensland
		Mr John Kavanagh	Maritime Safety Queensland
		Mr Darren Burns	Queensland Parks & Wildlife Service
		Mr Jim Huggett	Maritime Safety Queensland
		Mr David Rissik	Queensland Environment Protection Agency
19 June 2009	MSQ, Brisbane	Captain John Watkinson	Maritime Safety Queensland
		Mr Peter Foster	The Consultancy Bureau
		Mr John Wright	Maritime Safety Queensland
		Mr Matt Hanrahan	Maritime Safety Queensland
		Mr Les Burton	Maritime Safety Queensland
		Mr Shane Woods	Department of Emergency Services
		Mr Ian Hawkins	Queensland Fire & Rescue Service
1 July 2009	Sydney Ports Corporation	Mr Rob Lea	NSW Maritime
		Mr Shayne Wilde	NSW Maritime
		Mr Adrian Hawes	Sydney Ports Corporation
		Mr Mathew Smith	Australian Marine Oil Spill Centre (by telephone)
3 July 2009	Various	Mr Bruce Grady	Emergency Management Queensland
		Mr Greg Scroope	Brisbane City Council (by telephone)
		Ms Jacqui Molenson	Queensland Transport
		Mr Jason Cameron	Emergency Management Queensland