Dampier Port Authority

MARINE OIL POLLUTION CONTINGENCY PLAN

PL-504

Document Users	:	**DPA Personnel**
Position Responsible For Keeping Document Current	:	**Harbour Master**
Revision Trigger	:	**- 3 years or significant change** **- 6 months contact directory**

Revision	Prepared	Reviewed	Approved	Date	Description
2	J Fewings	V. Lorantas	J Fewings	30/07/08	Update contact list
1	J Fewings	A. Willcocks	J Fewings	08/08/07	Amend after Nat Plan review
0	J. Fewings		JFewings	08/06	Rewrite

DOCUMENT CONTROL

Details of Revision Changes

The *Marine Oil Pollution Contingency Plan* is a live reference document that will be reviewed and updated to reflect the Dampier Port Management System improvements and to ensure the ongoing suitability, adequacy and effectiveness of its contents. Its periodical review will be documented.

The Dampier Port Authority encourages all personnel to identify potential improvements to this document and to forward them to either the Harbour Master.

The following document revision table shows the revision and changes status of this document:

Table 0-1 Revision History Table

OLD SECTION REF.	NEW SECTION REF.	DESCRIPTION OF CHANGE
Appendix K	Appendix K	Update contact list
TITLE	DAMPIER PORT AUTHORITY, Marine Oil Pollution Contingency Plan, PL-504	

Controlled Copies List

COPY No	HOLDER	Number of Copies
1	DPA - CEO	1
2	DPA - HM	1
3	DPA – Port Communications Tower	1
4	DPA – Environment Manager	1
5	DPA – Safety and Security	1
6	DPA - Wharf Managers	1
7-12	DPA – Oil Pollution Response Kits	

Distribution List

COPY No	HOLDER	Number of Copies
1	DPI Fremantle	1
2	AMSA – Canberra	1
3	DPI Karratha	1
4	AMSA – Karratha	1
5	AMOSC	1
6	Police – Dampier	1

7	Police – Karratha	1
8	Dept of Environment and Conservation - Karratha	1
9	Fisheries WA - Karratha	1
10	Shire of Roebourne (LEMC)	1
11	Dampier Salt Ltd	1
12	Pilbara Iron – Shipping Superintendent	2
13	Woodside Marine Ltd	2
14	Patrick Stevedores – Manager	1
15	Mermaid Marine Australia	1
16	Woodside Energy Ltd – Library	1
17	OMS Agency	1
18	BP Terminal Dampier	1
19	West Coast Shipping Agency	1
20	Oceanway Shipping Agency	1
21	Apache Energy	1
22	Sea Corporation	1
23	Wilhelmsen Agency	1
24	Department of Industries and Resources	1
25	Monson Agencies	1
26	Burrup Fertiliser Pty Ltd	1
27	Marine Services WA	1
28	Western Maritime	1
29	Shell Company of Australia	1
30	Inchcape Shipping	1
31	NT Shipping	1
33	Toll Energy	1
34	Port Hedland Port Authority	1
35	Rio Tinto Iron Ore - Port Walcott	1
36	Onslow Solar Salt - Onslow	1

DEFINITIONS AND ABBREVIATIONS

ABBREVIATIONS

ADIOS	Automated Data Inquiry for Oil Spills
AIIMS	Australian Inter-service Incident Management System
AMOSC	Australian Marine Oil Spill Centre
AMSA	Australian Maritime Safety Authority
AMSA EPR	Australian Maritime Safety Authority Environment Protection Response
AOC	Advanced Operations Centre
BLB	Bulk Liquids Berth
CEO	Chief Executive Officer
CHEM PLAN	National Marine Chemical Spill Contingency Plan
DAMPLAN CON	Port of Dampier Marine Oil Pollution Contingency Plan
DCW	Dampier Cargo Wharf
DEC	Department of Environment and Conservation
DIA	Department of Indigenous Affairs
DPA	Dampier Port Authority
DPI	Department for Planning & Infrastructure
EPA	Environmental Protection Authority
ERG	Executive Response Group
ERP	Emergency Response Plan
ESC	Environment and Scientific Coordinator
FESA	Fire and Emergency Services Authority
HAZMAT	Hazardous material
HEAT	Hazmat Emergency Advisory Team
HFO	Heavy Fuel Oil
HM	Harbour Master
HMA	Hazard Management Agency
IC	Incident Controller
ICC	Incident Control Centre

ICS	Incident Control System
IMT	Incident Management Team
ISO	Incident Safety Officer
LEMC	Local Emergency Management Committee
LNG	Liquid Natural Gas
LPG	Liquid Petroleum Gas
MEOC	Marine Emergency Operations Centre
MEPU	Marine Environment Protection Unit
MEPU DO	Marine Environment Protection Unit Duty Officer
MLO	Media Liaison Officer
MOP	Marine Oil Pollution
MOU	Memorandum of Understanding
MOSES	Marine Oil Spill Equipment Stock Pile
MSDS	Material Safety Data Sheets
NATIONAL PLAN	National Plan to Combat Pollution of the sea by Oil and other Noxious and Hazardous Substances
NRT	National Response Team
NOAA	National Oceanographic and Atmospheric Administration
OH&S	Occupational Health & Safety
OIC	Officer in Charge
OSRICS	Oil Spill Response Incident Control System
OSRA	Oil Spill Response Atlas
OSTM	Oil Spill Trajectory Model
POWBONS	Pollution of Waters by Oil & other Noxious Substances Act
POLREP	Pollution Report
PLAO	Port Liaison Administrative Officer
REGULATIONS	Port Authorities Regulations 2001
RP	Responsible Party
SEMC	State Emergency Management Committee
SITREP	Situation Report

SMPC	State Marine Pollution Controller
SRT	State Response Team
THE ACT	Port Authorities Act 1999
WASMPC	Western Australian Marine Pollution Controller
WEST PLAN HAZMAT	Western Australian Hazardous Material Response Plan
WMC	Waste Management Coordinator

CONTENTS

Front Page

Page

DOCUMENT CONTROL
Details of Revision Changes 2
Controlled Copies List 2
Distribution List 2

1. INTRODUCTION 1
1.1 Aims & Objectives 1
1.2 Responsibility 1
1.3 Scope of the Plan 2
1.4 Integration with Other Plans 3
1.5 Risks 4
1.6 Sub - Plans 4

2. RESPONSE ARRANGEMENTS 5
2.1 Response Priorities 5
2.2 Terminology 5
2.2.1 Hazard Management Agency (HMA): 5
2.2.2 Appropriate Authority 5
2.2.3 Statutory Agency 5
2.2.4 Combat Agency 5
2.2.5 Support Organisation 6
2.3 Divisions of Responsibility 6

3. REPORTING & CALLOUT ARRANGEMENTS 7
3.1 Initial Report 7
3.2 Incident Assessment Procedures 7
3.3 Determining the Response Tier 7
3.4 Responsibility 7
3.5 Reporting Procedure 9

4. THE INCIDENT MANAGEMENT TEAM 10
4.1 DPA Incident Controller 10
4.2 Incident Management Team Structure (IMT) 10
4.3 Spills of Hazardous Substances 10
4.4 Appointing the IC 10
4.5 The Role of the IC 11
4.6 Incident Control Centre (ICC) 11
4.7 Establishing the Incident Management Team (IMT) 11

5. INCIDENT CONTROL SYSTEM 13
5.1 Structure 13
5.1.1 Incident Control System 13
5.1.2 Incident Management Team (IMT) 14
5.1.3 Incident Control Support 14
5.1.4 Media Liaison Officer (MLO) 14
5.1.5 The Port of Dampier "IMT" Structure 15
5.2 Spills of other substances 16

6. ACTIVATION AND DEPLOYMENT OF RESOURCES 17

7. RESPONSE TOOLS 21
7.1 Aerial Surveillance 21
7.2 Predicting Spill Trajectory 21
7.3 Oil Fate Modelling 21
7.4 Ground Truthing 21
7.5 Tides 22
7.6 Heritage Areas / Sites 22
7.7 Spreading rates and Evaporation losses 22
7.8 Environmental Sensitivity Grading (Generic) 22
7.9 Oil Spill Response Atlas (OSRA) 22
7.10 Sampling 23

8. RESPONSE STRATEGIES 26
8.1 Containment & Recovery 26
8.1.1 Priority 26
8.1.2 Methods 26
8.1.3 Constraints 26
8.2 Use of Dispersants 28
8.2.1 Priority 28
8.2.2 Methods 30
8.2.3 Constraints 30
8.2.4 Dispersant Application by Aircraft 30
8.3 Shoreline Response Strategies 30
8.4 Wildlife Response 31

9. OCCUPATIONAL HEALTH & SAFETY (OH&S) 33
9.1 OH & S Co-Ordinator 33
9.2 Site Safety Officer 33

10. WASTE MANAGEMENT 34

11. RESPONSIBILITY FOR TERMINATING THE RESPONSE 35
11.1 Termination Procedures 35
11.2 Debrief 35
11.3 Cost Recovery 35

12. CONTINGENCY PLAN MAINTENANCE 36
12.1 Training & Exercises 36
12.2 Updating 36

APPENDIX A - CHECKLISTS 37
Checklist A.1 - Establishing the Incident Control Centre 37
Checklist A.2 – Initial Planning Meeting 40
Checklist A.3 – Planning Meeting Schedule 42
Checklist A.4 – Incident Controller 43
Checklist A.5 – Planning Officer 46
Checklist A.6 – Operations Officer 49
Checklist A.7 – Logistics Officer 54
Checklist A.8 – Finance & Administration Officer 57
Checklist A.9 – Media Liaison Officer 59

APPENDIX B – RESPONSE SUPPORT 60

APPENDIX C - POLLUTION RISKS & RESPONSE OPTIONS 63
1. Spill Risk 63
2. Potential Source of Spill 68

APPENDIX D 78
1. ABORIGINAL HERITAGE CONSIDERATIONS 78

APPENDIX E 79
E.1 – Polrep Form 80
E.2 – Sitrep Form 82

APPENDIX F 83
Table F.1 - Environmental Sensitivity Grading (Generic) 83

APPENDIX G 84
Map G.1 – Shallow Marine Habitats of Mermaid Sound 84
Map G.2 – Distributions of Significant Wildlife 85
Map G.3 – Major Marine Habitats 86

APPENDIX H 87
Table G.1 - Diesel Oil - Spreading Rates: Spill Diameter 87
Table G.2 - Diesel Oil - Evaporation Rates 87
Table G.3 - NW Condensate - Spreading Rates on Water 87
Table G.4 - Volume Loss 87

APPENDIX I WASTE MANAGEMENT 88
1. Waste Management Arrangements 88
1.1. Onsite Temporary Storage 88
1.2. Temporary Storage Site 88
1.3. Segregation of Waste 88
1.4. Temporary Storage 89
1.5. Offsite Transport 89
1.6. Separation 89
1.7. Disposal 90

APPENDIX H – BEAUFORT SCALE 91

APPENDIX K– DAMCON-MOP CONTACTS LIST 92

LIST OF FIGURES

Figure 1 - Guidelines for Determining the Tier of Response 8
Figure 2 - Reporting Procedure 9
Figure 3 - Incident Management Team Structure for a Major Response 12
Figure 4 - Inputs to the Planning Process 18
Figure 5 - Generic Decision Guidelines for Determining Response Strategies 24
Figure 6 - Marine Response Matrix 25
Figure 7 - Operational Constraints for Containment & Recovery 26
Figure 8 - Marine Containment and Recovery Strategy Guide 27
Figure 9 - Available Dispersants and Methods of Application at Sea 28
Figure 10 - Guidelines for the Use of Dispersants 29
Figure 12 - Application of Shoreline Cleanup Methods to Various Shoreline Types 32

LIST OF TABLES

TABLE 1 – DPA Incident Management Functions 19

1. INTRODUCTION

1.1 Aims & Objectives

i) To minimize the impact of oil spills from any source on the environment of the Port of Dampier and adjacent areas.

ii) To ensure that the organisation and resources of relevant agencies and companies in the Dampier area are in a state of preparedness to mount the most environmentally sound and cost effective response to an oil spill.

iii) To enlist the co-operation and support of other organisations in the region to respond to an oil pollution event.

The Dampier Marine Oil Pollution Contingency Plan (DamPlan-CON) is a source of information for those individuals and agencies that are responsible for developing and managing oil spill response capabilities within the Port of Dampier and adjacent areas. It is to be used in conjunction with **'**The Western Australian Marine Oil Pollution Emergency Management Plan' (WestPlan–MOP) and the National Plan to Combat Pollution of the sea by Oil and other Noxious and Hazardous Substances (National Plan).

1.2 Responsibility

DamPlan-CON has been established and is administered by the Dampier Port Authority (DPA) in accordance with its responsibilities as a Port Authority, under:

The Western Australian Port Authorities Act 1999 and under the authority of the Administrative arrangements of:

- The National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (National Plan) has been established in order to meet Australia's obligations as a party to the International Convention on Oil Pollution Preparedness, Response and Co-operation 1990, and to the Protocol of 2000 relating to Hazardous and Noxious Substances, and is administered by the Australian Maritime Safety Authority (AMSA)".

- The Western Australian Department for Planning and Infrastructure (DPI) is the state agency designated by the State Emergency Management Committee (SEMC) in Policy Statement 7 as the Hazard Management Agency (HMA) for marine oil pollution events.

- The Western Australian Pollution of Waters by Oil and Noxious Substances Act 1987 (POWBONS), Port Authorities are the 'Appropriate Authority' and have statutory responsibility to respond to spills of oil within port waters.

1.3 Scope of the Plan

It is recognised that an oil spill that originates within the Port of Dampier may spread beyond port limits. Should this be the case, the roles and responsibilities designated within the scope of this Marine Oil Pollution Contingency Plan shall remain in place throughout the response as will co-operation and consultation with relevant organisations in the affected area.
The Dampier Archipelago is made up of forty two islands which have been incorporated into a Marine Park because of their environmental significance. A significant oil spill within the Port of Dampier is likely to impact on the islands.
Within the areas of responsibility there exists a diversity of foreshores and marine habitats including, but not limited to:

- Mangroves
- Submerged coral reefs
- Tidal mud and sand flats
- Sea grass meadows
- Turtle and bird nesting sites
- Recreational beaches

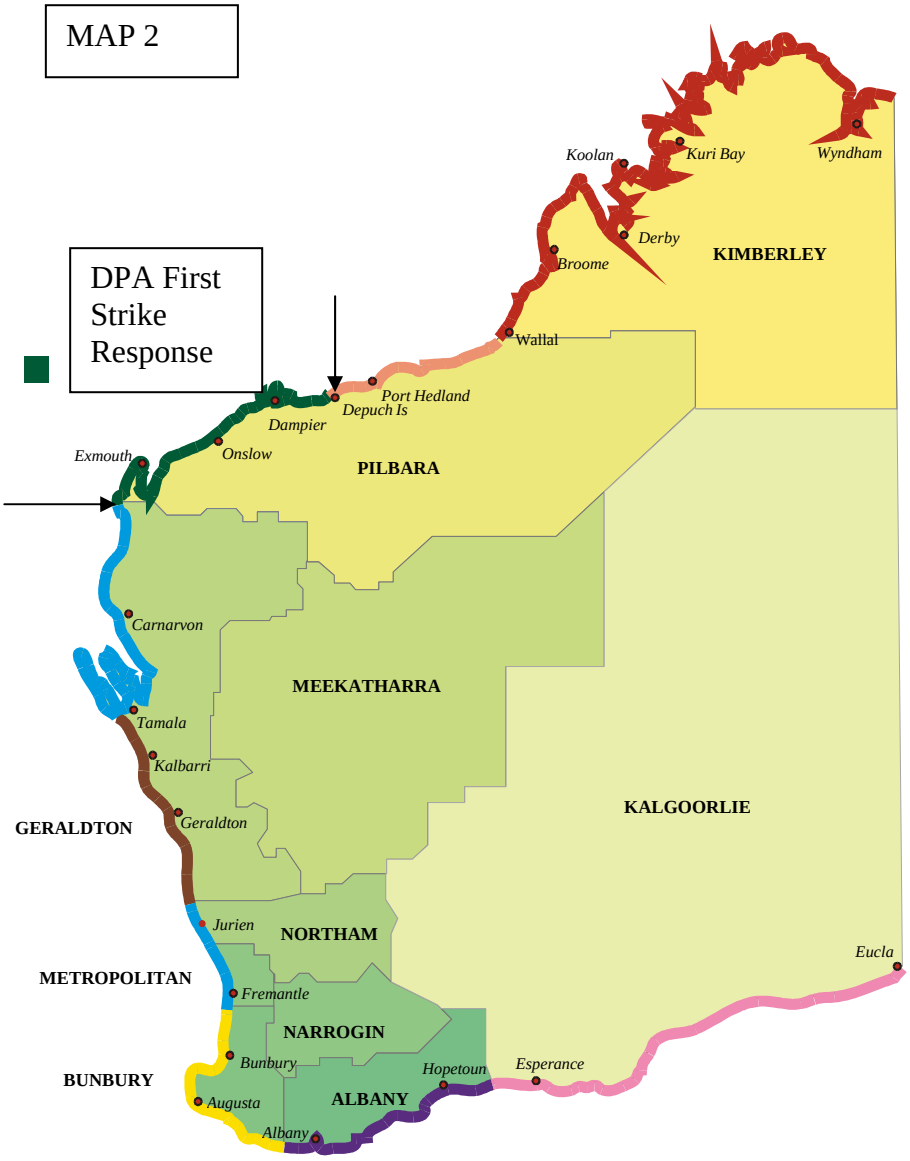
Further details of the wildlife of the region may be obtained from DPA Environmental Management System Manual MA600.

Commercial facilities within the port include the following:

- Iron ore loading berths at Parker Point and East Intercourse Island
- Salt loading berth at Mistaken Island
- Tanker offloading berth at Parker Point
- Dampier Cargo Wharf (DCW) general cargo
- Dampier Bulk Liquids Berth (BLB)
- LNG and LPG terminals at Withnell Bay
- Offshore oil and gas support facilities at King Bay
- Small boat harbour (Hampton Harbor). Includes commercial and pleasure craft moorings, tug pens, yacht pens and boat ramps
- Shipping channels with associated light buoys and beacons
- Various anchorages for vessels
- Cyclone moorings at East Lewis Island for tugs and offshore vessels

The DPA has an agreement in principle to act as the first response agency on behalf of the DPI for the coastal area between Depuch Island (Whim Creek) and North West Cape (Exmouth). See Map 2.

MAP 2



1.4 Integration with Other Plans

Dampier Port Authority Marine Oil Pollution Contingency Plan (DamPlan-CON) is integrated with and/or supported by the following plans:

- National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances (Nation plan)
- Western Australian Marine Oil Pollution Emergency Management Plan (WestPlan-MOP) including 'Place of Refuge' guidelines
- National Marine Chemical Spill Contingency Plan (ChemPlan)
- Port of Dampier Emergency Response Plan (ERP) (PL-502)

- Port of Dampier Environment Management System (PLA 600)
- AMOS Plan Administered by the Australian Marine Oil Spill Centre (AMOSC)
- Western Australian Hazardous Materials Emergency Management Plan 1999 (Westplan HAZMAT) Administered by Fire and Emergency Services Authority of WA (FESA)
- Various local industry and offshore industry oil spill contingency plans

1.5 Risks

Potential Sources, Quantities and Response Options

The Port of Dampier and the adjoining offshore area have been identified as high risk areas. (DNV Risk Assessment 2000) Details of the risk of oil pollution events together with the type and indicative quantities of oil likely to be spilled in various scenarios can be found in *Appendix C.*

1.6 Sub - Plans

The following sub-plans contained in the WestPlan-MOP are considered an integral part of the DamPlan–CON:

- Media Sub-Plan for Marine Oil Pollution (Appendix I)
- Occupational Health & Safety Sub-Plan for Marine Oil Pollution (Appendix J)

Communication Sub-Plan for Marine Oil Pollution (Appendix K)

Western Australian Oiled Wildlife Response Plan administered by the Department of Environment and Conservation (DEC)

2. RESPONSE ARRANGEMENTS

2.1 Response Priorities

Objectives of an oil spill response shall be achieved through the observance of protection priorities in the following order:

1. Human life and safety
2. Habitat and cultural resources
3. Rare and/or endangered flora and fauna
4. Commercial resources
5. Recreational and amenity areas

The effectiveness or potential effectiveness of a particular response may result in modified priorities.

2.2 Terminology

2.2.1 Hazard Management Agency (HMA):

That organisation which, because of its legislative responsibility or specialized knowledge, expertise and resources is responsible for ensuring that emergency management activities pertaining to the prevention of, preparedness for, response to, and recovery from a specific hazard are undertaken. Such organizations are either designated by legislation or detailed in State level emergency management plans. In Western Australia SEMC Policy Statement No 7 identifies the Department for Planning and Infrastructure as the HMA for Marine Oil Pollution.

2.2.2 Appropriate Authority

The term used in the Pollution of Waters by Oil and Noxious Substances Act 1987, which equates to the term “Statutory Agency”.

2.2.3 Statutory Agency

A term used in the National Plan to describe an agency, which has authority and responsibility as defined under a government act.

2.2.4 Combat Agency

An organization with expertise and resources that has responsibility for performing a task or activity such as fire fighting, dealing with chemical spills, rescue, etc.

2.2.5 Support Organisation

Any agency, which provides, or may provide, essential services, personnel or material to support a spill response. This may be through the Combat Agency or other Support Agency. Support agencies may be Government or Non Government agencies and are prescribed in the regulations to the Emergency Management Act 2005.

2.3 Divisions of Responsibility

- The DPI is the designated HMA for Marine Oil Pollution by SEMC Policy Statement No 7 and the NatPlan.
- The **Combat Agency** for Tier 2 or Tier 3 spills within the Port of Dampier is the 'DPA'.
- The **Combat Agency** for a Tier 1 spill within the waters encompassed by the scope of this plan, would be one of the following :

- From a wharf, industrial facility	:	Terminal operator
- From a vessel alongside a berth	:	Operator of the berth
- From a vessel not berthed	:	DPA
- From an unknown source	:	DPA

Note: Within the scope of this plan, the DPA may take over the role of 'Lead Combat Agency' during a Tier 1 spill, if it deems necessary.

3. REPORTING & CALLOUT ARRANGEMENTS

3.1 Initial Report

Upon receiving an initial pollution report a staff member is to:

- Obtain as many details of the incident as possible from the caller, who, where, when, how. A Pollution Report (POLREP) can be commenced as a guideline for ensuring required information is obtained if the spiller has not submitted a written POLREP .

- Immediately forward the report details to the Harbour Master, Deputy Harbour Master, Port Safety Security Officer or the CEO. Here in after referred to as the DPA IC.

- A pollution reporting form (POLREP) can be found at *Appendix E* of this plan. This must be or emailed to the DPI Marine Environment Protection Unit (MEPU) and faxed to AMSA Duty Officer and to the Department of Conservation and Environment Karratha.

3.2 Incident Assessment Procedures

On receipt of a Pollution Report (POLREP), the DPA IC must assess the incident to determine the likely environmental impact and therefore the level of response.

3.3 Determining the Response Tier

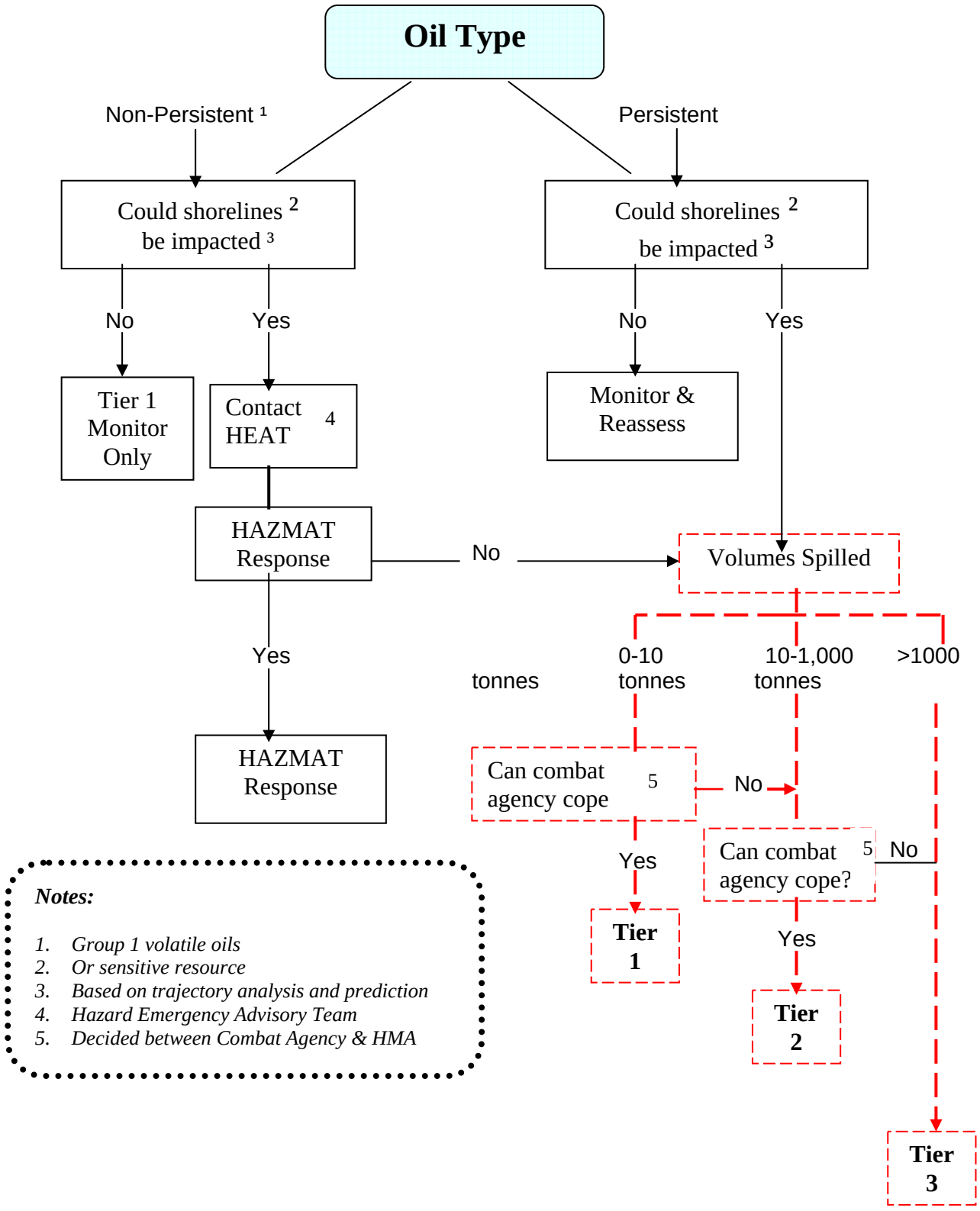
Determining Tier Level

There are no rules for the determination of the response Tier. The fundamental consideration is whether the Lead Combat Agency and available equipment can manage the response (Tier 1), or whether additional support and resources are needed (Tier 2 or Tier 3). See Figure 1.

3.4 Responsibility

DPA is responsible for determining the response Tier using the procedures shown in Figure 1.

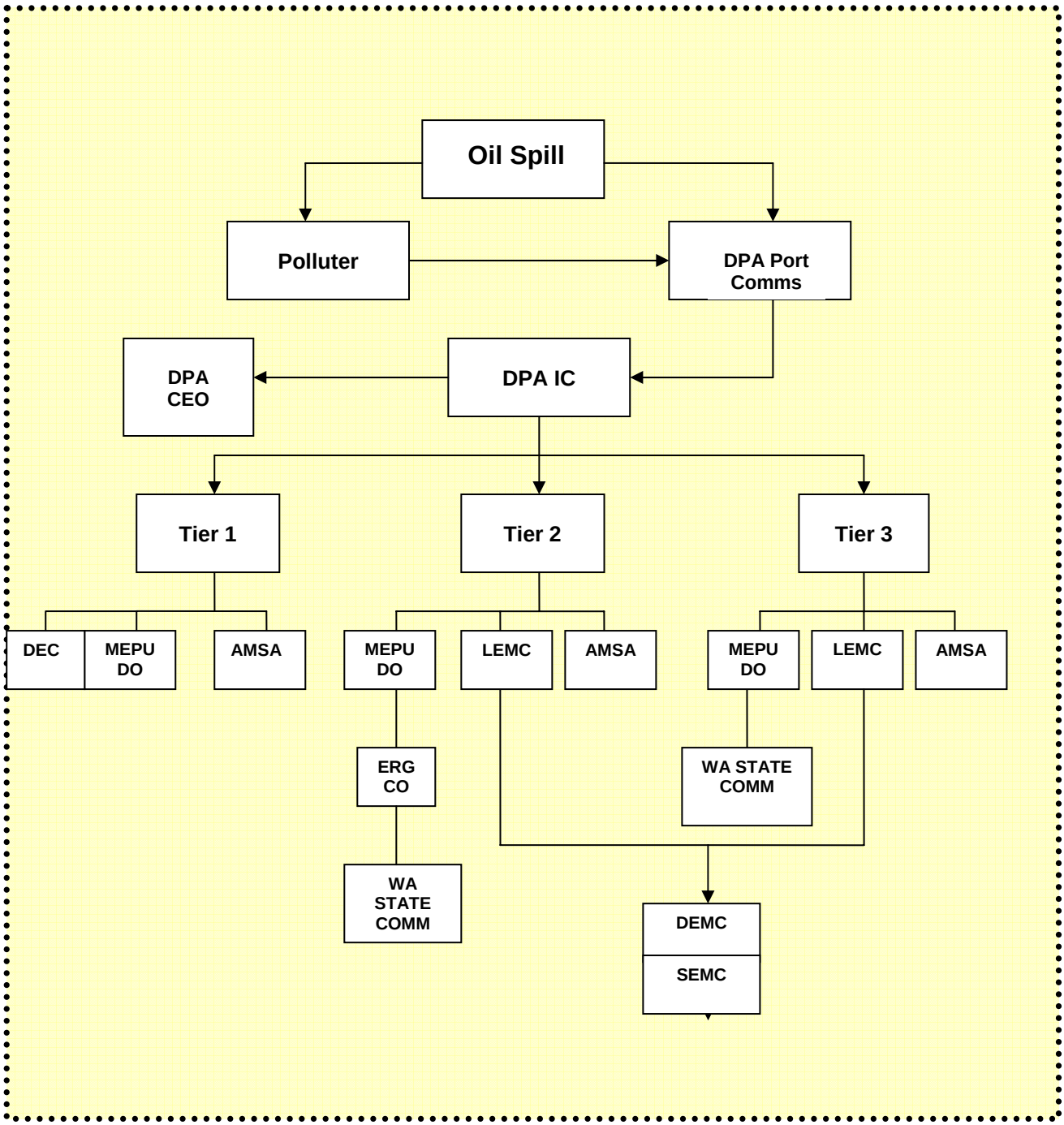
Figure 1 - Guidelines for Determining the Tier of Response



3.5 Reporting Procedure

Having made an initial assessment of the incident and determining the Tier the IC will report as per Figure 2 and the reporting requirements will escalate as necessary.

Figure 2 - Reporting Procedure



4. THE INCIDENT MANAGEMENT TEAM

4.1 DPA Incident Controller

- Obtain a full Pollution Report (Polrep)
- Activate DamPlan-CON
- Contact staff as required
- Verify any immediate response actions taken
- Determine the tier of the response required (Refer Figure 1)
- Make a decision on the scale of the response required
- Initial notification to the DPI Marine Environmental Protection Unit (MEPU) duty officer
- Initial notification to AMSA Duty Officer

4.2 Incident Management Team Structure (IMT)

- Figure 3 illustrates the IMT organisation for a major response. In smaller scaled responses some of these tasks would be combined and personnel may fulfill a number of roles.

- The roles of the components of the IMT are outlined in Table 1.

4.3 Spills of Hazardous Substances

- The IC should report all spills to FESA and request the assistance of the Hazard Emergency Advisory Team (HEAT).

- HEAT will advise on the proper response and whether a HAZMAT response is required (ref. WestPlan – HAZMAT).

4.4 Appointing the IC

- For Tier 1 responses the IC will be appointed by the Combat Agency if source is known
- For Tier 2 or Tier 3 responses or for responses from an unknown source, the IC will be appointed by the DPA.

4.5 The Role of the IC

- The IC is responsible for the overall management of the incident response and control of the IMT. This extends over all phases of the response from the initial assessment to response termination and demobilisation. The role and functions of the IC are set out in a checklist in *Appendix A.4*.

4.6 Incident Control Centre (ICC)

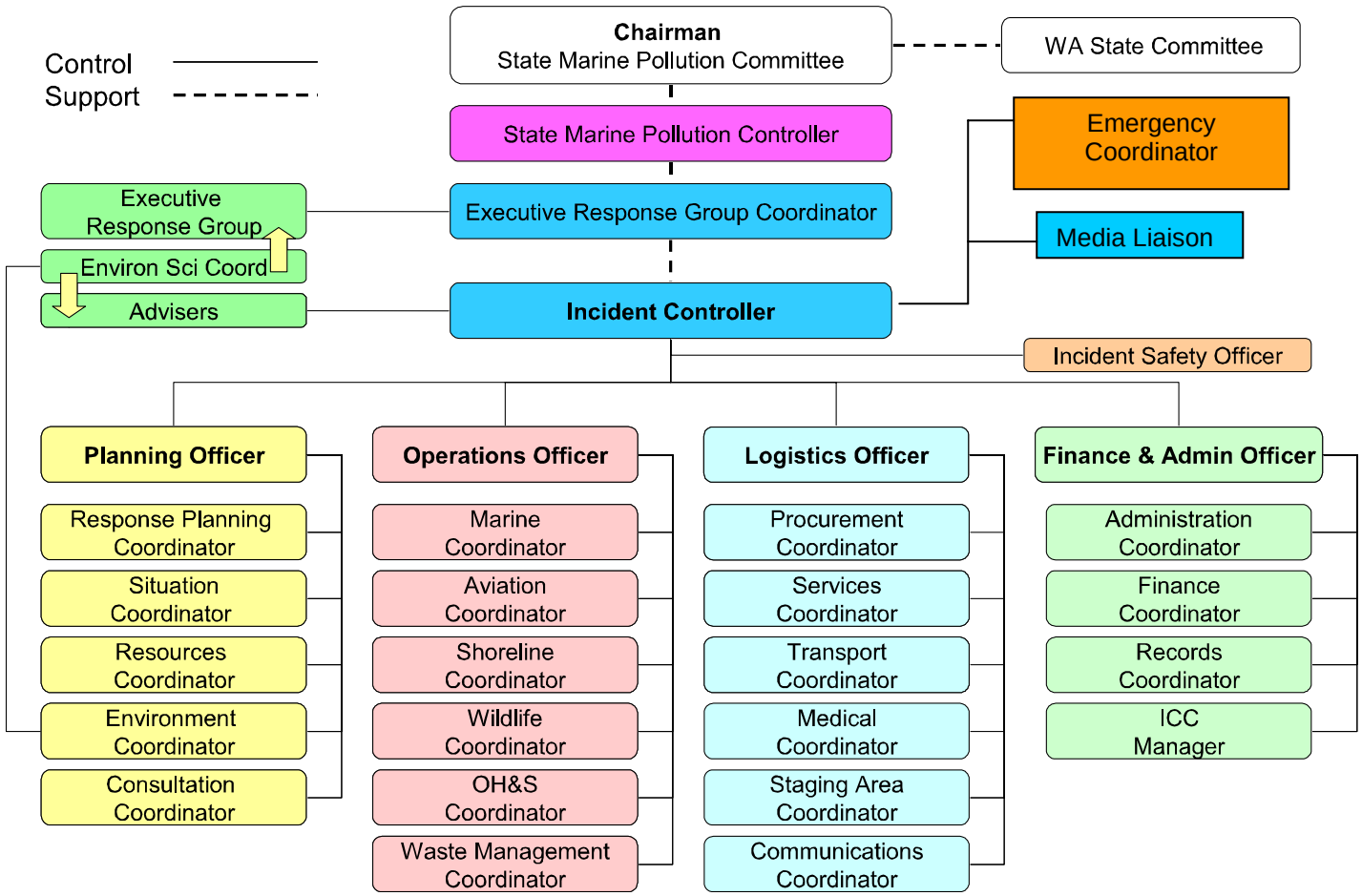
- The IC will establish the ICC within the DPA administration building. Mof Road Dampier.
- An alternative location is State Emergency Service (SES) Headquarters, Balmoral Road Karratha WA
- Procedures for establishing an ICC are listed in a checklist in *Appendix A.1* of this plan.
- The Executive Officer holds six large boxes containing essential documentation, stationery, tabards for each of the key areas of the IMT and for setting up the ICC. They are sufficient to initiate a response at either facility or at a remote location if required.

4.7 Establishing the Incident Management Team (IMT)

The size and organisation of the IMT will depend on the nature of the incident and the anticipated response (i.e. the response Tier). In most cases a full response team (see Figure 3) is not warranted and some people can undertake a number of roles.

Note: It is important that sufficient staff, including support staff are allocated to the IMT.

Figure 3 - Incident Management Team Structure for a Major Response



Note 1: The Environmental and Scientific Coordinator (ESC) may be with the ERC or proceed to the ICC to advise the Incident Controller.
Note 2: See Note 1 Appendix B Response Support

5. INCIDENT CONTROL SYSTEM

5.1 Structure

5.1.1 Incident Control System

The DPA has adopted the 'Oil Spill Response Incident Control System' (OSRICS) for the management of oil spills within the scope of this plan. This is derived from Australian Incident Management System (AIMS), which is used by emergency response agencies nationwide. OSRICS is compatible with the National Plan, Westplan-MOP and relevant SEMC policies. Full details of IC System refer to Section 7 WestPlan - MOP.

Incident Control

The organization of marine pollution response allows for two levels of control.

WA Marine Pollution Controller

In a large scale or high profile response, a Western Australian Marine Pollution Controller (WA SMPC) may be appointed to control higher state level crisis management aspects of the incident, such as Government liaison media management and major issues arising from the incident. This role is activated by the Chairman, WA State Committee

Incident Controller (IC)

Person in charge of the management of a response at all Tier levels. As the Lead Combat Agency for the Port of Dampier, the 'DPA' will appoint the 'IC'.

- OSRICS uses a hierarchy of positions to denote management levels within the 'Incident Management Team'. These are:

Officer Person in charge of a section.

Co-Ordinator Person in charge of a unit.

Manager Person in charge of a particular task-sub plan (Not necessarily part of a section)

Supervisor Person in charge of a number of response teams involved in a particular task or a particular geographical area.

Team Leader Person in charge of a team of personnel undertaking a particular task.

Advisers The IC may seek advice on aspect of the response or on any issues arising from the incident. Advisers may be appointed to provide advice on salvage, insurance ship owners Hazmat specialist scientific advice

5.1.2 Incident Management Team (IMT)

The 'IMT' is divided into four main functional groups or sections, as follows:

Planning

The 'Planning Section' is responsible for the preparation of an 'Incident Action Plan', on behalf of the 'IC'. It is also responsible for the collation and interpretation of required data.

Operations

The 'Operations Section' encompasses all field activities related to the combat of the incident.

Logistics

The 'Logistics Section' is responsible for ensuring that resources are available as required. This includes facilities, services and materials.

Finance and Administration

The 'Finance and Administration Section' is responsible for the provision of administrative services and financial control of the response, and also management of the 'Incident Control Centre'.

5.1.3 Incident Control Support

Executive Response Group (ERG)

The 'ERG' is made up of delegates from a number of government and industry organizations, including an 'Environment and Science Co-ordinator'. Its primary role in an incident is to provide advice and support to the 'IC' through the 'ERG Co-odinator'.

Executive Response Group (ERG) Co-ordinator
The 'ERG Co-ordinator', co-ordinates the provision of technical and scientific support through 'ERG' members for the 'IC' and will assist in the provision of resources at a state and national level.

5.1.4 Media Liaison Officer (MLO)

The IC will appoint a Media Liaison Officer (MLO) to be responsible for the implementation of the Dampier Port Authority Media Plan and for advising on public relations and media.

Unless the Dampier Port Authority IMT is activated all media management is the responsibility of the IC.

If the Dampier Port Authority IMT is activated then the CEO will assume this responsibility in consultation with the IC and ERG Co-Ordinator.

A summary of Western Australia support agencies can be found in Table 5.2 WestPlan - MOP.

WA State Committee

Should a major commitment of Agency resources be required, this will be co-ordinated by the WA State Committee members.

AMSA

Additional support is available from the Australian Maritime Safety Authority resourced via the ERG Co-Ordinator

Emergency Co-Ordinator

In some circumstances an oil spill may constitute, or be part of, an emergency. An emergency is defined in Western Australia Emergency Management Act 2005 as:

"means an the occurrence or imminent occurrence of a hazard which is of such a nature or magnitude that it requires a significant and coordinated response":

Policy Statement No 7 which supports the above act defines the Emergency Coordinator role as-"that person designated by the Commissioner of Police to be the District or Local Emergency Coordinator with responsibility for ensuring that the roles and functions of the respective District or Local Emergency Committee are performed, and assisting the Hazard Management Agency in the provision of a coordinated multi-agency response during Incidents and Operations. At the State level this is the Commissioner of Police. At the District level it is the District Police Office. At the Local level it is the Senior Police Officer responsible for the police sub district.

The role of the Emergency Coordinator is outlined in WestPlan-MOP Part B 5.7

5.1.5 The Port of Dampier "IMT" Structure

The size and organisation of the IMT mobilised by the IC will vary according to the scale of the response.

Regardless the size of the mobilized 'IMT', or the incident, the essential functions of the 'ICS' must still be undertaken.

- **Small Response : Tier 1**
  In a small incident the appointed 'IC', who may be a company representative may carry out most of the functions of the 'IMT'.

An example of this would be a small spill from a company facility that requires a minimal response or monitoring only.

- **Large Response : Tier 2 or Tier 3**

Figure 3 illustrates the 'IMT' structure and titles of key personnel for a major response. Table 1 details the functions of the various roles. In smaller scaled responses some of these would be combined and personnel may fulfill more than one of these roles.

For Tier 1 responses the IC will be appointed by the Responsible Party (RP) or, if RP is not known or is unable to manage the response, by the Dampier Port Authority.

For Tier 2 or Tier 3 responses, the IC will be appointed by the Dampier Port Authority.

The roles of the components of the IMT are outlined in Table 1.

For marine oil pollution incidents outside of the Dampier Port Authority limits, the Manager, MEPU (ERG Co-Ordinator) may request that a First Response Agency appoint an IC and assume the Combat Agency Role until relieved by DPI personnel.

- As an incident develops, the HMA may change according to the location of the spilt oil or chemical. The Chairman, WA State Committee or Western Australian Marine Pollution Controller will ensure a smooth transition of authority.

  Note: A change in HMA may not require a change in agency in operational control of the response i.e. the Lead Combat Agency.

5.2 Spills of other substances

- If the substance spilled is not known, or the spill involves both oil and another chemical, the IC must ensure that the HAZMAT HMA (Fire and Emergency Services Authority - FESA) is notified.

- In such cases, it is likely that the HAZMAT Emergency Advisory Team (HEAT) will be convened to assist in the management of the response *(ref. Section 8.4, and WestPlan - HAZMAT Section 5.1.4).*

6. ACTIVATION AND DEPLOYMENT OF RESOURCES

- The IC must mobilise sufficient equipment and personnel resources to manage the incident response.

- The Executive Response Group (ERG), through the ERG Co-Ordinator (Co-ordinator, MEPU), will assist in the initial location and mobilisation of resources including the State Response Team (SRT).

- The Australian Maritime Safety Authority, Environment Protection Response (AMSA, EPR) can also assist in the provision of National Plan equipment and National Response Team (NRT) personnel This should be co-ordinated through the ERG Co-Ordinator.

- See. *Appendix B.1*.

- Figure 4 illustrates the information inputs of the key IMT members into the planning process.

Figure 4 - Inputs to the Planning Process

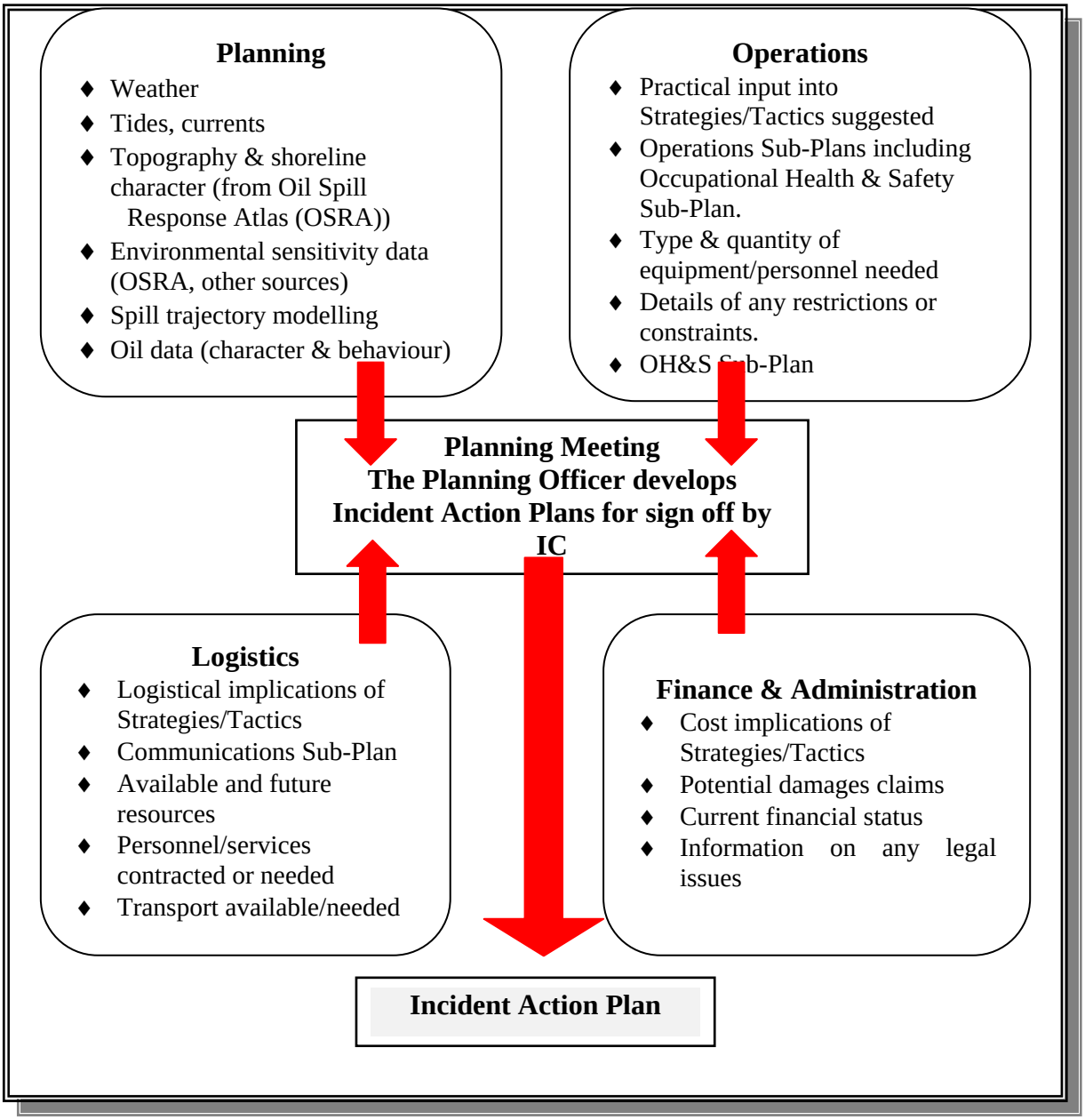


Table 1 – DPA Incident Management Functions

DPA INCIDENT MANAGEMENT FUNCTIONS			
Section	**Role**		**Comment**
Incident Control	Media Liaison Officer (MLO)	Manages media relations. Prepares press statements, organises press briefings and supports the IC or WA SMPC in dealing with the media.	A MLO should be appointed for most spills.
	Environmental and Scientific Co-Ordinator (ESC)	Overall co-ordination of environmental and scientific advice to the IC. The ESC is part of the ERG but may proceed to the ICC to support the IC and the DPA Environment Manager.	The ESC in WA is a nominated officer from DEC.
	Incident Safety Officer (ISO)	For larger responses an ISO may be appointed to oversee sites safety management.	This person must co-ordinate closely with the OH & S Unit.
Planning	The co-ordination and review of Incident Action Plans. Planning personnel will collate the information and consolidate the policy, objectives, strategies and tactics and develop, circulate and review Incident Action Plans. Specific Section functions include:		
	♦ Situation	The collection, processing and organisation of information. This may include oil spill trajectory modeling, weather, sea-state.	
	♦ Resources	Tracking of the deployment of resources.	
	♦ Environment	Responsible for the collection and collation of environment data and advice.	
	♦ Consultation	Community and commercial consultation.	
Operations	Undertakes all 'field' operations in the response.		
	7. Marine	Co-ordination and direction of all activities undertaken by waterborne craft and equipment.	
	♦ Aviation	Co-ordination and direction of all activities undertaken utilising aircraft, e.g. aerial dispersant spraying, aerial surveillance and transport.	
	♦ Shoreline	Planning and co-ordination of shoreline assessment and cleanup activities.	

DPA INCIDENT MANAGEMENT FUNCTIONS *(continued)*			
Section	**Role**		**Comment**
Operations *(Continued)*	♦ Wildlife	Implementation of the WA Oiled Wildlife Plan, e.g. the collection, treatment and rehabilitation of oiled wildlife.	DEC Officers & function
	♦ OH & S	Development and implementation of the OH&S Plan.	
	♦ Waste Management	Co-Ordination of the containment, storage, transport and disposal of recovered oil and oily waste. Also instruction in on-site handling, storage and/or separation and treatment.	
Logistics	Responsible for ensuring that the IMT is provided with adequate resources to enable an effective response. Specific functions include:		
	♦ Procurement	Acquisition of personnel and equipment.	
	♦ Services	Acquisition of services and facilities.	
	♦ Transport	Provision of aviation, land and sea transport services.	
	♦ Communications	Preparation of Communications Sub-Plan and for ensuring the provision of communications services and support.	
	♦ Medical	Provision of medical services where needed.	Co-ordinates with OH & S
Finance & Administration	Responsible for the provision of administrative services to the IC, Sections and Units of the IMT, and for the management of financial (costs) information. Functions include:		
	8. Administration	Administrative services to operate telephones, facsimiles, computers, radios (if qualified) and messenger services.	
	♦ Finance	Accounting and contracting services	
	♦ Records	Collation and filing of records and forms including, time-sheets, equipment usage records and personnel records.	
	♦ ICC Management	Ensures effective operation of the ICC, including management of information transfer of within the ICC, (Status Boards, faxes/messages delivery / dispatch), administering the meeting schedule, ICC security etc.	

7. RESPONSE TOOLS

7.1 Aerial Surveillance

Aerial surveillance should be used early in the response to accurately identify the extent and possible movement of the spill. Surveillance should be repeated at appropriate intervals throughout the response to observe, record, report on the response, oil on the water and to conduct coastal and beach surveys.

If local aircraft are unavailable, or sources cannot be located, a request can be made to the ERG Co-Ordinator for assistance from AMSA EPR. The request should specify the task to be performed by an aircraft. Where commercial aircraft are unsuitable, or not available, Defence Force aircraft may be available via AMSA EPR.

7.2 Predicting Spill Trajectory

Spill trajectories can be determined by:

- Direct observations (Surveillance)
- Manual calculation based on a vector diagram see WestPlan MOP Section 8
- Computer modeling – OSTM Oil Spill Trajectory Modelling

Oil spill computer modeling is available through AMSA at the request of the ERG coordinator. Model requires current wind conditions together with past and forecast winds.
See Appendix B

7.3 Oil Fate Modelling

Oil fate predictions can be obtained from AMSA through the DPI MEPU. It is available through the use of the Automated Data Inquiry for Oil Spills (ADIOS). In order to run the model the following inputs are required; Oil Type, Weather Conditions, Water Properties and Release Type.

The program can be accessed @ NOAA.com – search for ADIOS 2.

CAUTION. *Trajectory modeling and fate modeling are computer generated predictions and are not substitutes for field observations.*

7.4 Ground Truthing

Reports of oil, oiled wildlife or related matters should so far as possible be verified by aerial marine or terrestrial surveillance and the information reported back to the ICC.

7.5 Tides

Tidal streams within the Port of Dampier are generally weak. In Mermaid Sound the tide flows at about 0.5 knots at places in Mermaid Strait and in the Archipelago a rate of up to 1.5 knots can be found during spring tides.

Real time tide, wave and swell heights can be obtained via the Pilbara Iron web link. Details of the above and real time wind strength and direction can be obtained at any time from Port Communications.

7.6 Heritage Areas / Sites

Numerous heritage sites exist on the Burrup Peninsula and surrounding land and on the islands of the Archipelago. The Department of Indigenous Affairs (DIA) maintains a register of these sites and is the organisation that manages heritage issues. All sites are protected from impacts under the Aboriginal Heritage Act 1972 and the DIA should be contacted where there is risk of an oil spill stranding.
For further information on managing heritage issues see Appendix D.

7.7 Spreading rates and Evaporation losses

Tables for the spreading and evaporation loss of diesel oil and North West Condensate can be found at *Appendix G.1* and *G.2.*

7.8 Environmental Sensitivity Grading (Generic)

A generic table of Environmental Sensitivity Grading can be found at *Appendix F.1.*

Maps of habitat and wildlife can be found in Appendix F.2 – for further details refer to OSRA.

7.9 Oil Spill Response Atlas (OSRA)

AMSA manages a computer based Oil Spill Response Atlas (OSRA) which DPI updates and maintains for Western Australia. The OSRA contains data that identifies the sensitive and valuable marine resources and other data that will assist in:

- The deployment of resources for combating spill
- Assessing the suitability of response strategies
- Determining response protection priorities
- Calculating sensitivities of areas being considered as ‘Places of Refuge’
- Predicting the effort required for shoreline and wildlife response

The OSRA contains information on:

- Shoreline character (i.e. sandy beach, rocky cliff etc.)
- Bathymetry (5m,10m,20m,30m)
- Topography

- Biological resources
- Socio-economic resources
- Infrastructure
- Access (and suitability for heavy equipment)
- Stockpiled resources
- Tide and current information
- Access to research data that contains information on the efficacy of dispersants

The DPA Environment Manager and DPI can access and distribute this material.

7.10 Sampling

If there is a need to obtain samples to be used as evidence, the DPA Manager Environment holds a sampling kit which contains equipment and detailed procedures. This kit is located in the “Blue Shed” in the DPA Lower Lay Down area and it is to be used and the procedures are to be followed. It is preferable to seek assistance from an AMSA when taking samples from a vessel because of their expertise.

Figure 5 - Generic Decision Guidelines for Determining Response Strategies

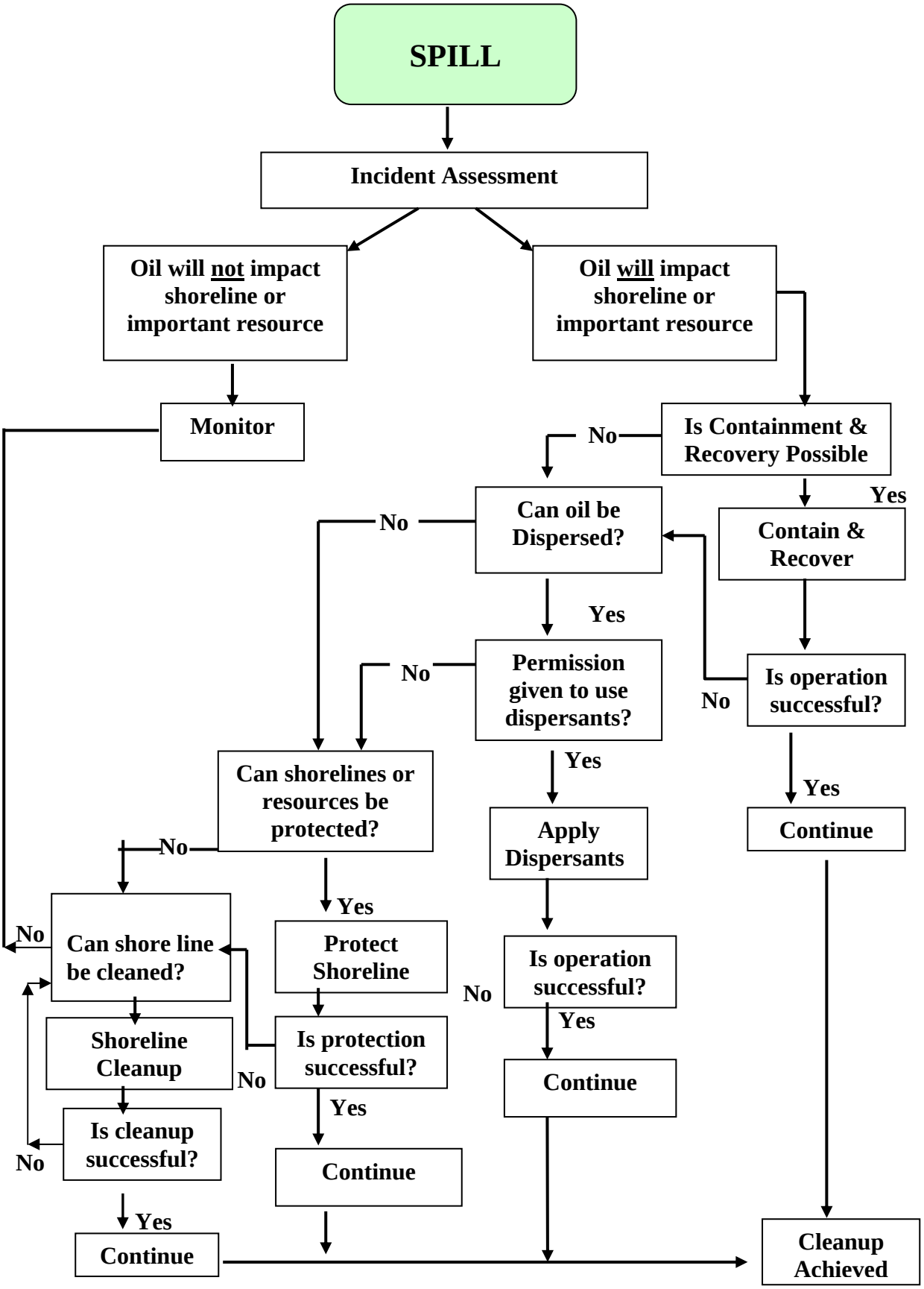


Figure 6 - Marine Response Matrix
(Adapted from NOAA)

OPTION	INSHORE				NEARSHORE				OPEN SEA			
Oil Group	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**
Day One												
Natural Processes	R	R			R	R	F		R	R	F	
Physical Break-up		R	F			R	F			R	F	
Containment & Recovery	C	R	R	R	F	R	R	R		C	C	C
(a) Weir Skimmers	F	R	R	R		R	R	R		C	C	C
(b) Oleophilic Skimmers		R	R	R		R	R	R		C	C	C
(c) Vacuum Skimmers		R	R	R		R	R	R				
(d) Sorbent Recovery	F	R	R	R		R	R	R				
Dispersant Application		C	C	C		C	C	C		C	C	C
Days Two & Three												
Natural Processes	R	R			R	R	F		R	R	F	
Physical Break-up	R	R			R	F			F	F		
Containment & Recovery	C	R	R	R	F	R	R	R		C	C	C
(a) Weir Skimmers	F	R	R	R		R	R	R		C	C	C
(b) Oleophilic Skimmers		R	R	R		R	R	R		C	C	C
(c) Vacuum Skimmers	F	R	R	R		R	R	R				
(d) Sorbent Recovery	F	R	R	R		R	R	F				
Dispersant Application						C	C	C		C	C	
Day Four												
Natural Processes	R	R			R	R	F		R	R	F	
Physical Break-up												
Containment & Recovery	C	R	R	R	F	R	R	R	F	C	C	C
(a) Weir Skimmers	F	R	R	R		R	R	R		C	C	C
(b) Oleophilic Skimmers		R	R	R		R	R	R		C	C	C
(c) Vacuum Skimmers	F	R	R	R		R	R	R				
(d) Sorbent Recovery	F	R	R	R		R	F	F				
Dispersant Application												

Key & Footnote:

R Recommended - Preferred option
F Feasible, but not preferred option
C Conditional. Possibly useful but may have adverse effects or logistical problems
☐ Not recommended - either not feasible or has significant adverse effects

Group I (Density, <0.8) Low viscosity oils. Rapidly spreading and high evaporation rate. Do not form emulsions.

Group II (Density, 0.8-0.85) Rapidly spreading and a moderate evaporation rate. Low-moderate tendency to form emulsions. Generally low, but variable, viscosity.

Group III (Density, 0.85-0.95) Moderate spreading rate and evaporation rate. Tend to form emulsions. Variable, viscosity.

Group IV (Density, 0.95-1.0) highly viscous, slow spreading oils with low evaporation. High tendency to form emulsions.

Note: ***These tables provide guidelines only. Each spill should be assessed and the effectiveness of methods and equipment should be monitored throughout the response.***

8. RESPONSE STRATEGIES

Guidelines for determining Response Strategies can be found in Figure 5, 6 and 7. Details of Beaufort Scale of wind speed can be found in *Appendix J.*

8.1 Containment & Recovery

8.1.1 Priority

- Containment and recovery is usually the preferred response method as it removes oil from the environment and has little potential to cause harm. Strategy guidelines for containment and recovery operations are shown in Figure 8.

8.1.2 Methods

In assigning equipment it is essential that a balance is achieved between:

- Targeting of the oil (aerial support)
- Containment (boom deployment)
- Recovery (skimmers)
- Temporary waste storage (dracones, barges etc)
- Waste transport and onshore waste receiving capacity

8.1.3 Constraints

- Indicative operational constraints are provided in Table 7.

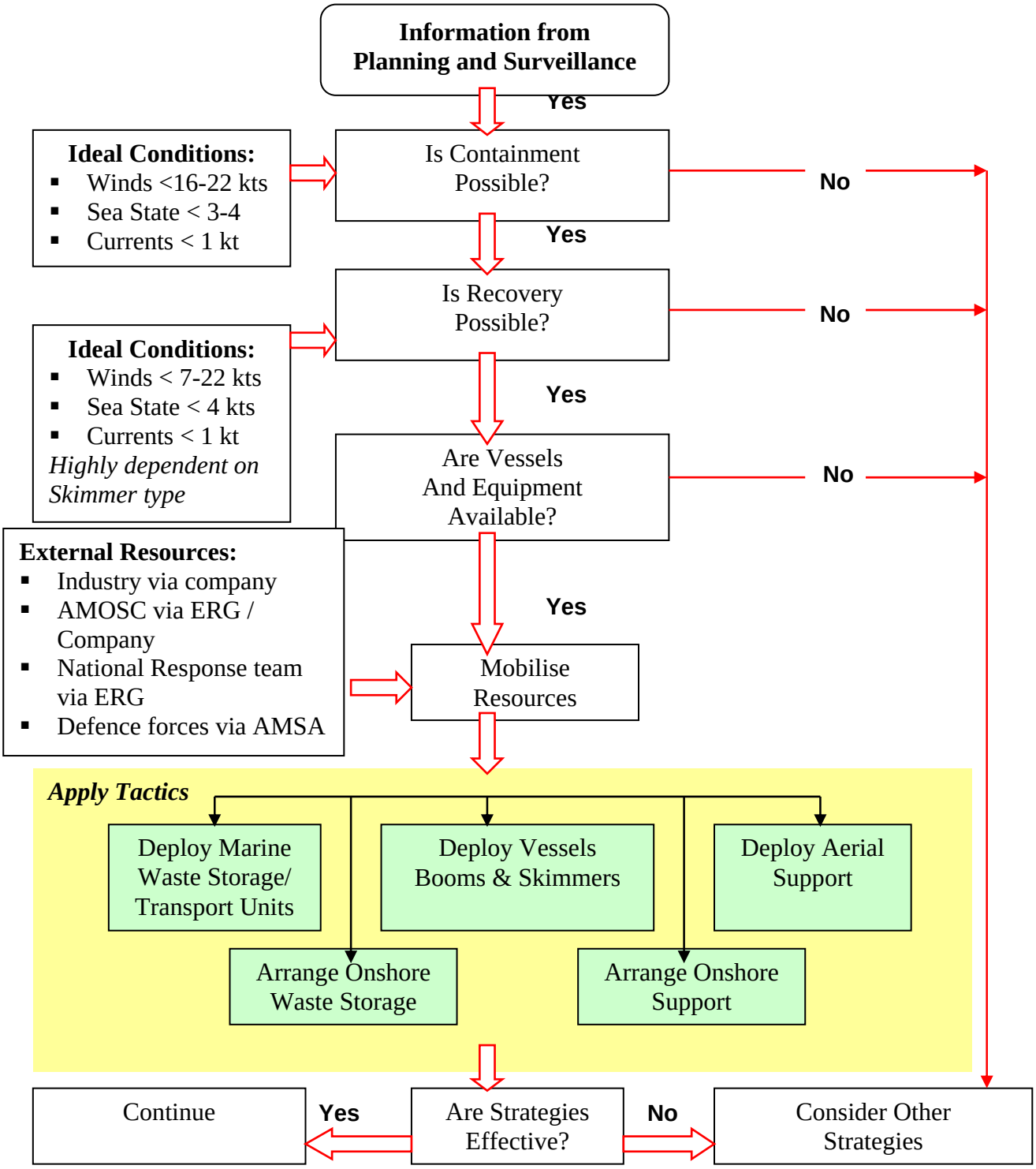
Figure 7 - Operational Constraints for Containment & Recovery

Response Option		Constraint				
		Sea State [1]	Current (Knots) [2]	Wind (Knots)	Oil Viscosity [3]	Other
Boom	Containment	3-4	<1.0	16-22	-	Vessel availability
	Deflection	3-4	2.0	16-22	-	
Recovery (Skimmers)	Weir	1	1.0	7	<1000	Availability of storage for oil
	Disc	2-3	1.0	11-16	<1000	
	Mop/Belt	3-4	1.0	16-22	>1000	
	Vacuum	1	1.0	7	-	

1. Refer to Appendix J
2. 1 Knot = 0.5m/second or 1.8 km per hour approximately
3. cSt = centistokes

Caution *Care should be taken in attempting to contain fresh, volatile oils due to their low flash point. No attempt should be made to recover these oils until the safety of the area has been established and the character of the oil determined.*

Figure 8 - Marine Containment and Recovery Strategy Guide



8.2 Use of Dispersants

8.2.1 Priority

- Dispersants may only be applied after approval has been given by the IC. Permission will be based on the Guidelines for the use of Dispersants (ref. Figure 12G and Appendix L of WestPlan-MOP) and in consultation with the ESC.

- A dispersant test kit to test effectiveness of dispersant on the particular oil spilled is maintained by the DPA Manager. This kit is located in the "Blue Shed" in the DPA Lower Lay Down area and it is to be used and the procedures are to be followed.

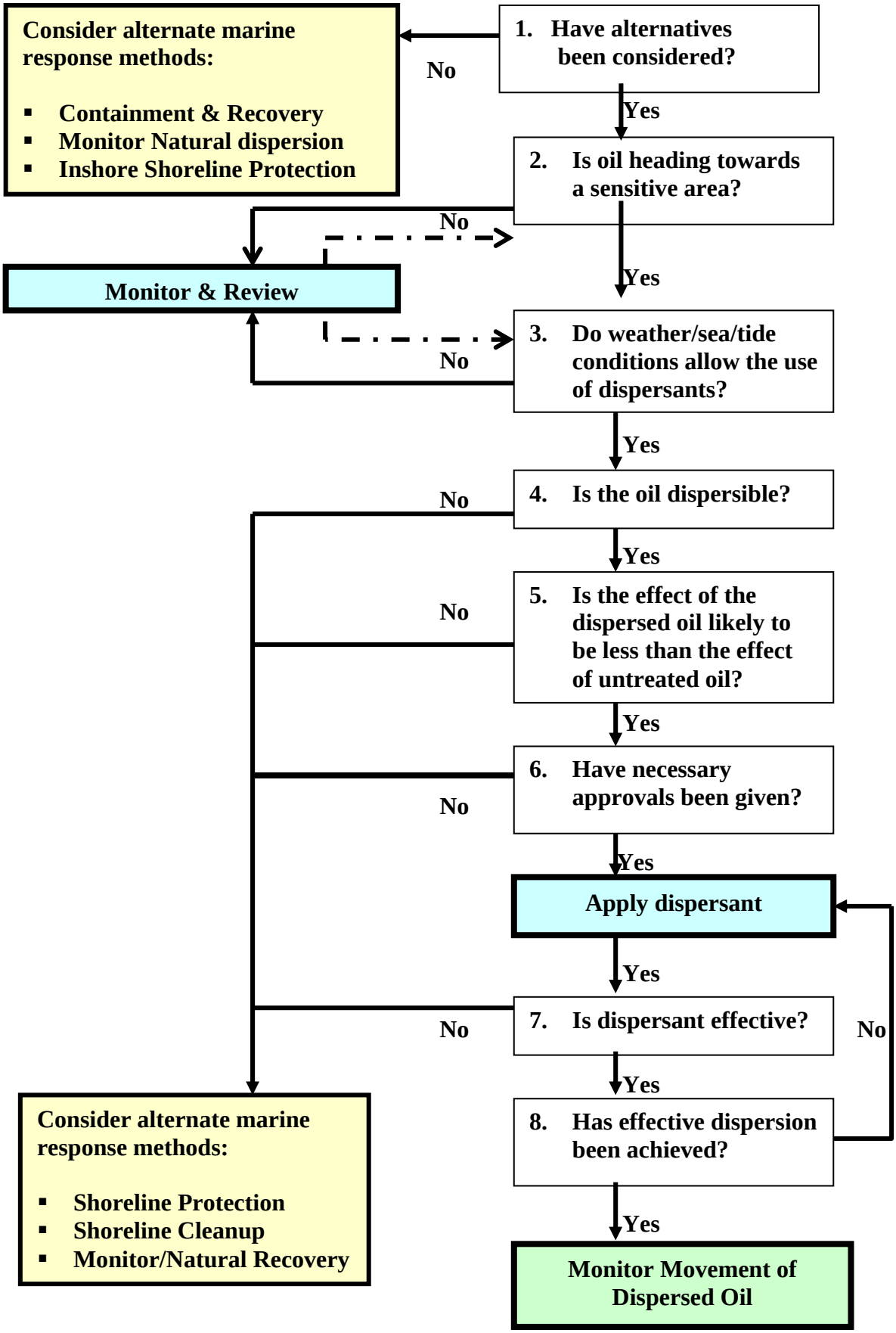
Figure 9 - Available Dispersants and Methods of Application at Sea

Dispersant Type	Product	Application	
Type I Hydrocarbon based	BP - AB	Neat from vessels only at a dose of 1 (disp.):5(oil)	Warren - Springs system
Type III Concentrates	Ardrox 6120 Corexit 9527 Corexit 9550 Corexit 9500 Dasic Slickgone NS Shell VDC Tergo R-40	Neat from aircraft or vessels at 1.30. May be diluted or educted for use from vessels/fire monitors. If used diluted dose rate is increased.	Used neat from Vikospray or similar. Can be diluted for use in Warren Springs system.

Caution

- *Due consideration should be given to safety at all times when handling dispersants. Personnel must be familiar with instructions on the use of dispersants and be given the relevant **Material Safety Data Sheets**. For dispersants stockpiled at Dampier the MSDS are with the stockpile or available from Port Safety and Security Officers.*
- *Vessel Masters must ensure that crews are **not** exposed to dispersants sprayed from the vessel or from aircraft.*
- *At no time should dispersants be used to wash skin or clothing.*

Figure 10 - Guidelines for the Use of Dispersants



8.2.2 Methods

Dispersant Application from a vessel

- Vessels equipped with appropriate spray booms
- Spotter aircraft, to direct the vessel towards the most concentrated oil and to report on effectiveness
- Effective communications between vessels and spotter aircraft

8.2.3 Constraints

Vessels spraying dispersants are generally restricted to:

- Sea states of less than 4
- Winds of less than 22 knots
- Non-viscous oils (<2,000 cSt.)

See Beaufort scale at Appendix J

8.2.4 Dispersant Application by Aircraft

Aerial Response Strategies

Aerial response methods encompass:

- Aerial spraying of dispersants, by fixed wing aircraft. Contact AMSA Duty Officer for activation of Fixed Wind Aerial Dispersant Capability (FWADC)
- Helicopter with under slung spray bucket
- Spotter aircraft, to direct the spray aircraft towards the most concentrated oil and to report on effectiveness
- Aerial surveillance of oil on water and response activities

Constraints

- The main constraints for these are the availability of suitable aircraft with in the window of opportunity to disperse the oil and wind and sea conditions permitting effective spraying. Aerial operations are undertaken as part of the Operations Section. The Operations Officer may appoint an Aviation Co-Ordinator to co-ordinate aerial activities.

8.3 Shoreline Response Strategies

- A number of shoreline response strategies are available (ref. Figure 12). However, all shorelines should be assessed in order to determine whether methods are suitable. This will depend on a number of factors including:

  - Rate and likelihood of natural cleaning
  - Access for personnel and machinery
  - Nature and distribution of the oil
  - Shoreline character
  - Availability of personnel and machinery
  - Safety issues
  - Environmental sensitivity to both oil and cleanup methods
  - Cultural and Heritage Considerations

8.4 Wildlife Response

- Wildlife response requires a high level of training and is generally undertaken by DEC Officers with the assistance of a qualified veterinary surgeon. Refer WestPlan MOP–Oiled Wildlife Response Plan.

- Wildlife response kits are held and maintained by DEC Officers in Karratha and at Exmouth.

Figure 12 - Application of Shoreline Cleanup Methods to Various Shoreline Types

Key:
A = Approval may be required
R = Recommended. Preferred Option
C = Conditional. May be applicable
= Not recommended

Shoreline Type		Cleanup Method										
Substrate	**Form/Exposure**	**Natural Recovery**	**Manual Removal of Oil & Debris**	**Use of Sorbents**	**Mechanical Removal**	**Vacuum Recovery**	**Sediment Reworking**	**Low Pressure Washing/High Volume**	**High pressure Washing**	**Use of Chemicals**	**Sand Blasting/ Steam Cleaning**	**Bioremediation**
Bedrock	Cliff (Exposed)	R		C								
	Cliff (sheltered)	R	C	C		C		R	R	C,A	C	
	Platform (exposed)	R	C	C		C		C	C	C,A	C	
	Platform (sheltered/broken)	R	R	C		R		R	R	C,A	C	
Artificial	Seawalls/Jetties	C	C	C		C		R	C	C,A	C	
	Boulder Seawall (rip-rap)	C	C	C		C		C	C	C,A		C
Boulder	Beach (exposed)	R	R	C		C		C	R	C,A		C
	Beach (sheltered)	C	R	C		C		C	R	C,A		C
Cobble	Beach	R	R	C	C	C	R	C	C	C,A		C
Pebble	Beach	R	R	R	C	C	R	C	C	C,A		C
Gravel/grit	Beach	R	R	R	C	C	C	C		C,A		C
Course Sand	Beach	C	R	R	R	R		C				C
Fine Sand	Beach	C	R	R	R	R		C				C
Mud/Silt	Intertidal Flats	C	C	C		C		C				C
	Mangroves/Saltmarsh	R	C	C		C		C				C
Coral	Reef	R	C			C						

9. OCCUPATIONAL HEALTH & SAFETY (OH&S)

9.1 OH & S Co-Ordinator

- Health and Safety is co-ordinated by an appointed OH & S Co-Ordinator. The OH & S Co-Ordinator will develop an OH & S Sub-Plan (ref. Appendix J, WestPlan - MOP).

9.2 Site Safety Officer

- In the event of a large spill the IC may appoint a Site Safety Officer to oversee the implementation of the OH & S Sub-Plan.

10. WASTE MANAGEMENT

- The temporary storage, transport, treatment and disposal of waste material must be managed if it is to not inhibit cleanup activities or pose any threat to the environment. To undertake the task of managing waste the IC may appoint a Waste Management Co-Ordinator (WMC) to develop a local Waste Management Sub-Plan. and to direct the Waste Management Unit. This section will usually be co-ordinated by a local DEC officer.

For further information on storage, management and separation of waste materials see Appendix I of this plan.

11. RESPONSIBILITY FOR TERMINATING THE RESPONSE

- The decision to terminate a response is taken by the IC in consultation with the IMT and DPI who will consult the WA ESC. Relevant officers are:

  - Tier 1: IC in consultation with the IMT and DPA.
  - Tier 2: IC and the WA SMPC in consultation with the ERG and the IMT.
  - Tier 3: IC and the WA SMPC in consultation with the ERG and the IMT.

11.1 Termination Procedures

- Guidelines concerning termination of a response are contained in WestPlan - MOP Part C, Section 14.

11.2 Debrief

- The DPA will conduct a debrief for any spill requiring response procedures outlined in this plan. A debrief should address:

  - Cause of the spill
  - Speed of response
  - Effectiveness of tactics and strategies
  - Communications
  - Equipment suitability
  - O.H & S issues
  - Integration of procedures with other agencies

11.3 Cost Recovery

- All records of costs must be collated as per the procedures set out in Appendix G of the WestPlan-MOP.

- All costs incurred in returning equipment to the owner, cleaning and servicing must be included in the overall schedule of costs submitted for reimbursement by the polluter.

12. CONTINGENCY PLAN MAINTENANCE

12.1 Training & Exercises

The Harbour Master is custodian of Oil Spill Strategy, Procedures and Training. He will ensure that staff and supervisors are familiar with their roles and responsibilities.

This will be facilitated by an on going training program of exercises, desktop exercises and equipment deployments with emphasis to be placed on the relationship between DPA, Local Industry and Agencies the HMA and AMSA. DPA so far as practical will host an exercise or training session at three monthly intervals and will wherever possible participate in exercises or training held at other facilities within the port and at neighbouring ports.

12.2 Updating

DamPlan-CON is to be regularly reviewed by the Harbour Master as outlined on the cover sheet.

APPENDIX A - CHECKLISTS

Checklist A.1 - Establishing the Incident Control Centre

CHECKLIST	ESTABLISHING THE INCIDENT CONTROL CENTRE (ICC) (Page 1 of 3)			Appendix A A.1
The first IMT member to arrive at the ICC should commence the ICC establishment procedures. **Note: Equipment lists and site layout are indicative only. A pack of essential equipment has been prepared for transportation to ICC or Advanced Operations Centres (AOCs). The layout of the ICC will vary according to the room or building used the scale of the response and the use of AOCs.**				
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
ICC Assessment	**1**	Assess the ICC and note any shortcomings that will need to be addressed (Check items as per lines 2 –12 below) :		
	2	Location.		
		a Proximity to the scene or staging areas.		
		b Close to Combat and Support Agencies.		
		c Accessible to IMT.		
		d Suitable for radio communications.		
		e Easy to find.		
		f Free of noise and other distractions.		
	3	Building Size: Large enough for:		
		a Existing response personnel.		
		b ICC equipment.		
		c Expansion of IMT.		
	4	Ante Rooms.		
		a Planning room.		
		b Press area.		
		c Debriefing area.		
	5	Facilities.		
		a Water.		
		b Power.		
		c Back-up power.		
		d Washing/toilet facilities.		
		e Eating area.		
		f Kitchen facilities.		
	6	Site Size.		
		a Car parking.		
		b Space for portable buildings.		
	7	Security.		
		a Perimeter fence.		
		b Gates.		

CONTINUED OVERPAGE

CHECKLIST	ESTABLISHING THE ICC CHECKLIST CONTINUED (Page 2 of 3)				Appendix A A.1	
Response Phase	**Action**				**Plan Reference**	**Status/ Time**
Equipment Assessment	**8**	Communications.				
		a	Telephone and lines (at least 4).			
		b	Fax lines (at least 2 plus 1 for computer modem).			
		c	Radio receiver (as required).			
		d	Computers with modems (at least 1 modem).			
	9	Information Display.				
		a	Set of laminated Status Boards			
		b	Set of forms (minimum of 5 sets)			
		c	Regional Maps :			
			i	Nautical charts.		
			ii	Topographic maps (2 sets of 1:50,000).		
		d	Clear plastic sheets, to cover maps (4m x 1m).			
		e	Overhead projector or computer projection equipment.			
		f	Whiteboards (2, depending on room layout).			
		g	Television.			
		h	Video Cassette Recorder/Player (VCR).			
	10	Stationery.				
		a	Whiteboard markers (12-24 mixed colours).			
		b	Ballpoint pens (60 black, 20 red).			
		c	Pencils (20 each of HB, B, 2B).			
		d	Rulers (10 x 30cm and 5 x 100cm)			
		e	Adhesive tape (10 rolls standard plus 5 rolls of 4cm packaging tape or similar).			
		f	Paper clips.			
		g	Staplers (5) and staples			
		h	Manila folders (100).			
		i	A4 white paper (2 packs).			
		j	A4 Plastic transparent sleeves (200)			
		k	Bulldog clips (100 mixed sizes).			
		l	A4 spring clip folders/binders (20).			
		m	Transparency sheets (50).			
	11	Computers (see Communications line 8 also).				
		a	Computers for word processing/record keeping.			
		b	Printers (at least 2).			
	12	Administration/ Document Storage.				
		a	Photocopier.			
		b	Document (“in” and “out”) trays (12-15).			
		c	Hanging file trays and file folders.			

CONTINUED OVERPAGE

CHECKLIST	ESTABLISHING THE ICC CHECKLIST CONTINUED (Page 3 of 3)		Appendix A A.1	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Equipment Assessment Ongoing	**13**	Check that copy (or copies) of the relevant DamPlan-CON are present or are being brought to the ICC.		
	14	Check adequacy of tables and chairs.		
ICC Setup	**15**	Order and obtain any items needed (lines 8 –12)		
	16	Remove any unnecessary papers/materials from the ICC.		
	17	Clean white-boards.		
	18	Check connections of telephones, faxes (arrange a test message for each- both in and out).		
	19	Place DamPlan-CON on the table for reference.		
	20	Place white-board pens and erasers at the whiteboards.		
	21	Advise switchboard to direct incoming calls to the ICC.		
	22	Display appropriate Maps, Status Boards and Charts (Cover all with plastic if not laminated).		
	23	Position Electronic Whiteboard and ensure it is operational.		
	24	Locate and label areas for each IMT Section mobilised.		
Notes:				

END ICC CHECKLIST

Checklist A.2 – Initial Planning Meeting

CHECKLIST	INITIAL PLANNING MEETING & INCIDENT ACTION PLAN SCHEDULE (Page 1 of 2)				Appendix A A.2	
The initial planning meeting has two main objectives. The first is to brief key IMT members (Section Officers and Key Managers) on the incident and the response organisation. The second is to develop the Incident Action Plan.						
Response Phase	**Action**				**Responsibility**	**Status/ Time**
Meeting	**1**	Briefing on situation.			Incident Controller	
		a	Current situation :			
			i	Spill location.		
			ii	Spill size.		
			iii	Control/ Combat Agencies.		
			iv	Response Tier/resources mobilised		
		b	Predicted situation :			
			i	Trajectory		
			ii	Resources at risk/potential effects		
	2	State Aim (or Policy) of the Incident Response				
	3	Develop and rank response objectives, based on protection priorities.			Incident Controller, Planning Officer & Operations Officer	
	4	Develop Strategies for each Objective.				
	5	Identify and obtain any permits required for strategies (e.g. dispersant use).			Planning Officer	
Working Recess	**6**	Document Aim, Objectives and Strategies (Form IAP 01) i.e. prepare Draft Incident Action Plan.			Planning Officer	
	7	Distribute Draft Incident Action Plan to Section Officers.			Planning Officer	
	8	Develop Tactics for each Strategy.			All Section Officers & Unit Coordinators	
	9	Prepare Sub-Plans :				
		a	Communications Sub-Plan.		Logistics Officer/ Communications Coordinator	
		b	OH&S Sub-Plan.		Incident Safety Officer (or OH&S Coordinator).	
		c	Wildlife Sub-Plan.		Operations Officer/ Wildlife Coordinator	
		d	Media Sub-Plan.		Media Liaison Officer	

CONTINUED OVERPAGE

CHECKLIST	INITIAL PLANNING MEETING CHECKLIST CONTINUED (Page 2 of 2)		Appendix A A.2	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Working Recess Continued	**10**	Determine need for Advanced Operations centre(s).	Operations Officer & Unit coordinators	
	11	Determine need for, and location of Staging areas.	Logistics Officer & Operations Officer	
	12	Submit Tactics to Planning Officer.	All Section Officers	
	13	Amend Incident Action Plan and submit to IC.	Planning Officer	
Reconvened Meeting	**14**	Present Incident Action Plan.	Planning Officer	
	15	Section Officers to provide revised lists of resource needs.	All Section Officers	
	16	Approve and implement Incident Action Plan.	Incident Controller	
Notes:				

END INITIAL PLANNING MEETING CHECKLIST

Checklist A.3 – Planning Meeting Schedule

CHECKLIST	PLANNING MEETING SCHEDULE		Appendix A A.3	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Meeting	**1**	Briefing on situation and resource status.	Planning Officer	
	2	Prepare and present revised Objectives.	Planning Officer	
	3	Select Response Objectives .	Incident Controller	
	4	Develop revised Strategies for each Objective.	Incident Controller	
	5	Identify permits or resources needed for each Strategy.	Operations Officer & Logistics Officer	
	6	Review location of Advanced operations centres and Staging Areas.	Operations Officer & Logistics Officer	
	7	Review provision of facilities, materials and services.	Operations Officer & Logistics Officer	
	8	Review communications requirements.	Logistics Officer	
	9	Review medical requirements.	Logistics Officer	
Working Recess	**10**	Produce Incident Action Plan and provide to IC and Section Officers.	Planning Officer	
	11	Section Officers to develop tactics for each Strategy.	All Section Officers, Managers & Unit Coordinators	
	12	Section Officers to provide revised lists of resource needs to Logistics Officer and Planning Officer.		
	13	Prepare revised Incident Action Plan and submit to Incident Controller	Planning Officer	
Reconvened Meeting	**14**	Approve Incident Action Plan	Incident Controller	
Post Meeting	**15**	Produce approved Incident Action Plan	Planning Officer	
	16	Distribute revised Incident Action Plan	Planning Officer	
	17	Implement Incident Action Plan	All	
Notes:				

END PLANNING MEETING CHECKLIST

Checklist A.4 – Incident Controller

CHECKLIST	INCIDENT CONTROLLER (Page 1 of 3)		Appendix A A.4	
The Incident Controller is responsible for the management of the incident response and control of the Incident Management Team (IMT). This extends over all phases of the response from the initial assessment to response termination and demobilisation.				
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Reporting	**1**	Upon receipt of a report of a marine oil pollution incident: Verify that relevant agencies have been advised (via POLREP Form), i.e.:		
		a WA DPI Marine Protection Unit Duty Officer.		
		b AMSA		
		c DEC Karratha		
	2	Start Personal Log		
Initial Assessment	**3**	Obtain details of spill and any actions taken by the spiller or first response agency (via POLREP). Check the following:		
		a Time of initial (this) call.		
		b Name/title of caller.		
		c Location of incident.		
		d Nature of incident.		
		e Time of incident/incident report.		
		f Source of the report.		
		g Volume of oil spilled.		
		h Type of oil spilled.		
		i Wind & current data.		
	4	Determine trajectory:		
		a Manual estimate.		
		b Commission trajectory computer modelling.		
	5	Determine resources at risk.		
	6	Determine Response Tier, in consultation with the HMA.		
	7	If SMPC activated (upper Tier 2 or Tier 3) determine the media liaison arrangements i.e. the location and reporting of the Media Liaison Unit and MLO.		
Establishing Control	**8**	Decide on location of ICC (notify DPI)		
	9	Mobilise IMT (as required) to the ICC.		
	10	Arrive at ICC (log time).		
		Instruct ICC Manager (via Finance and Admin Officer) to set up the ICC.		
	11	Establish communications with DPI		

CONTINUED OVERPAGE

CHECKLIST	INCIDENT CONTROLLER'S CHECKLIST CONTINUED. (Page 2 of 3)		Appendix A A.4	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Planning	**12**	Arrange aerial surveillance (or direct Planning Officer).		
	13	Convene planning meeting:		
		a Determine Incident Response Aim (Policy).		
		b Determine Priorities and Objectives.		
		c Determine Strategies.		
	14	Determine preliminary resources list (labour, equipment, transport and other support) and give to Logistics Officer.		
	15	Direct Section Officers to develop Tactics to implement Strategies.		
	16	Instruct MLO to develop incident Media Plan.		
	17	Direct Planning Officer to prepare Incident Action Plan.		
Ongoing Response	**18**	Implement spill response actions as per relevant OSCP.		
	19	Monitor the response by scheduling and undertaking regular briefings/debriefings of IMT.		
	20	If necessary call for additional resources:		
		a DPI (State resources).		
		b AMSA via DPI Fremantle (National Plan resources).		
		c AMOSC via AMSA.		
	21	Issue regular SITREPS:		
		a ERG Coordinator.		
		b Section Officers.		
		c AMSA.		
		d Other (log).		
	22	Monitor OH&S performance through OH&S Adviser or Operations Officer/OH&S Coordinator.		
	23	Monitor Waste volumes and management through Operations Officer/Waste Management Coordinator. If necessary arrange for the development of a Waste Management Plan. Confirm that this complies with relevant State standards.		
	24	If a Tier 1 or lower Tier 2 response:		
		a Commission and authorise media statements from MLO.		
		b Schedule and attend media conferences.		

CONTINUED OVERPAGE

CHECKLIST	INCIDENT CONTROLLER'S CHECKLIST CONTINUED (Page 3 of 3)		Appendix A A.4	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Ongoing Response Continued	**25**	If an upper Tier 2 or Tier 3 response liaise with SMPC re media.		
	26	If necessary, authorise the use of dispersants; in consultation with the ESC and Environment Unit (via Planning Officer).		
	27	Arrange relief for IMT members.		
	28	Continue to monitor slick (position, trajectory, behavior) through the Planning Officer.		
Response Termination	**29**	Terminate response if conditions are met:		
		a Tier 1 or lower Tier 2: Advise the HMA.		
		b Upper Tier 2, or Tier 3: Advise HMA and SMPC.		
	30	Ensure that all IMT members, Combat and Support Agencies are informed of stand-down (issue SITREP).		
	31	Monitor, and ensure a safe and complete demobilisation.		
	32	Debrief IMT.		
Post Spill	**33**	Attend HMA debrief if required.		
	34	Ensure that all records are retrieved, collated and stored.		
	35	Provide schedule of costs and supporting documentation to DPI.		
Notes:				

END IC CHECKLIST

Checklist A.5 – Planning Officer

CHECKLIST	PLANNING OFFICER (Page 1 of 3)			Appendix A A.5 PO	
The Planning Officer is responsible for managing the Planning Section of the IMT. The Planning Section is responsible for the preparation of an Incident Action Plan on behalf of the Incident Controller. It is also responsible for the collation and interpretation of required data.					
Response Phase	**Action**			**Plan Reference**	**Status/ Time**
Reporting/ Activation	**1**	Upon callout, report to IC.			
	2	Start Personal Log.			
	3	Attend Initial Briefing.			
Assessment	**4**	Obtain available data re:			
		a	Weather.		
		b	Tides, currents.		
		c	Topography & shoreline character (from OSRA).		
		d	Environmental sensitivity data (OSRA).		
		e	Spill trajectory (observed or by modeling).		
		f	Oil data (character and behavior).		
		g	Community issues.		
		h	Action taken to date.		
	5	In consultation with the IC determine level of response and staffing requirements.			
Establishing Section	**6**	Call in required staff.			
	7	Allocate tasks (*ref. Tasks 18-39*)			
	8	Verify that the ICC Manager has posted appropriate Status Boards and Maps.			
Planning	**9**	Attend initial planning meeting with IC and other Section officers, and record:			
		a	Incident Response Aim (Policy).		
		b	Priorities and Objectives.		
		c	Strategies.		
	10	Distribute draft Incident Action Plan to Section Officers MLO and Advisers.			
	11	Obtain and collate Sub-Plans:			
		a	Communications Sub-Plan from Communications Coordinator, via Logistics Officer.		
		b	Health & Safety Sub-Plan from OH&S Adviser or OH&S Coordinator, via Operations Officer.		
		c	Operations Sub-Plans from the Operations Officer.		
	12	Present Incident Action Plan to IC for approval and distribute as directed.			

CONTINUED OVERPAGE

CHECKLIST	PLANNING OFFICER'S CHECKLIST CONTINUED. (Page 2 of 3)		Appendix A A.5 PO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Ongoing Response Continued	**13**	Issue regular SITREPS to the IC for authorisation and despatch.		
	14	Monitor status boards, maps and charts – liaise with ICC Manager.		
	15	Monitor response: Update Incident Action Plan if needed.		
	16	Advise IC of need for Planning Meetings.		
	17	Monitor performance of Planning Section staff. (Tasks 18 to 39).		
	Situation Unit (Situation Coordinator):			
	18	Obtain, interpret and supply data to the ICC Manager for update of Status Boards.		
	19	Commission the Oil Spill Trajectory Model (OSTM) and monitor model output.		
	20	Obtain and interpret pollution fate and behaviour predictions (ADIOS Model).		
	21	Provide mapping and photographic services.		
	22	Issue SITREP.		
	Resource Unit (Resource Coordinator):			
	23	Maintain information summaries on the types and location of resources deployed in the response.		
	24	Maintain status information of resources (e.g. deployed, available, en-route, unserviceable).		
	25	Prepare and maintain the incident organisation chart (supply to ICC Manager for display in ICC, Reception, Port Comms, DPI and AMSA).		
	26	Monitor rosters for all response personnel (obtain from relevant Section Officers).		
	Environment Unit (Environment Coordinator):			
	27	Collect and collate environment and socio-economic resource information using Coastal Resources Atlas.		
	28	Rank environmental and socio-economic resources for protection and cleanup.		
	29	Provide advice on the environmental implications of proposed response and clean-up measures.		
	30	Provide advice on temporary and permanent waste management strategies.		
	31	Establish communications with ESC and DPI Environment officer.		

CONTINUED OVERPAGE

CHECKLIST	PLANNING OFFICER'S CHECKLIST CONTINUED (Page 3 of 3)		Appendix A A.5 PO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Ongoing Response Continued	**31**	Provide advice on post spill monitoring and resource rehabilitation programs.		
	32	Coordinate advice from on site environmental specialists.		
	Consultation Unit (Consultation Coordinator) :			
	33	Identify community and commercial groups, which may be affected by the incident.		
	34	Develop and implement consultation programs specific to the affected community or commercial group.		
	35	Input information developed within the consultation process into response planning.		
	Response Planning Unit (Response Plan Coordinator) :			
	36	Coordinate the preparation of the Incident Action Plan.		
	37	Schedule and prepare briefing for IMT.		
	38	Maintain minutes and records of IMT meetings.		
	39	Ensure the documentation of all response decisions.		
Response Termination	**40**	Inform all Planning Section staff of response termination.		
	41	Debrief Planning Unit coordinators.		
	42	Attend IC debrief.		
	43	Ensure that all records are given to Finance and Admin Officer.		
Notes:				

END PO CHECKLIST

Checklist A.6 – Operations Officer

CHECKLIST	OPERATIONS OFFICER (Page 1 of 5)	Appendix A A.6 OO

The Operations Officer is responsible for ensuring that the Objectives and Strategies outlined in the Incident Action Plan are carried out effectively. The Operations Officer is responsible for determining how resources are distributed amongst the units in the Section and for coordinating joint activities.

Response Phase		Action	Plan Reference	Status/ Time
Reporting/ Activation	**1**	Upon callout, report to IC.		
	2	Start Personal Log.		
	3	Attend Initial Briefing.		
Assessment	**4**	Obtain from Planning available data re:		
		a Weather.		
		b Tides, currents.		
		c Topography & shoreline character (from OSRA).		
		d Environmental sensitivity data (OSRA).		
		e Spill trajectory (observed or by modelling).		
		f Oil data (character and behaviour).		
		g Action taken to date.		
	5	In consultation with the IC determine level of response and staffing requirements.		
Establishing Section	**6**	Determine need for Advance Operations Centre (AOC)		
	7	Establish AOC if needed (liaise with Incident Controller and Logistics Officer)		
	9	Call in required staff.		
	10	Allocate tasks (*ref. Tasks 16-54*).		
		Brief Section personnel.		
		Notify the Planning Section of the names & locations of Section personnel.		
Planning	**11**	Attend initial planning meeting with IC and other Section Officers, and record:		
		a Incident Response Aim (Policy).		
		b Priorities and Objectives.		
		c Strategies.		
	12	Develop and collate Operations Sub-Plan, encompassing:		
		a Marine Response Sub-Plan.		
		b Aviation Sub-Plan.		
		c Shoreline Response Sub-Plan.		
		d Waste management Sub-Plan.		
		e Wildlife Sub-Plan.		
		F Cultural & Heritage SubPlan.		

CONTINUED OVERPAGE

CHECKLIST	OPERATIONS OFFICER'S CHECKLIST CONTINUED (Page 2 of 5)			Appendix A A.6 OO	
Response Phase	**Action**			**Plan Reference**	**Status/ Time**
Planning Continued	**13**		Supply Operations Sub-Plans to Planning Officer, as developed and amended.		
	14		For each of the Operational Sub-Plans, advise Logistics Officer and Planning Officer of :		
		a	Equipment needs.		
		b	Labour needs (numbers, training level).		
		c	Transport requirements.		
		d	Any other needs.		
Ongoing Response	**15**		Coordinate and monitor performance of Operations Section Functional Units. As per Tasks 16 to 54.		
	Marine Unit (Marine Coordinator) :				
	16		Develop and update a Marine Sub-Plan to implement the marine response strategies in the Incident Action Plan.		
	17		Calculate marine response equipment/ labour/ transport requirements and request through Operations Officer.		
	18		Obtain regular (daily) data:		
		a	Location of slick: aerial surveillance reports.		
		b	Condition of the oil (field reports, modeling).		
		c	Sea state and weather.		
	19		Prepare work-orders for marine response teams.		
	20		Ensure that Marine Response Teams receive required:		
		a	Information: i.e. Briefings/Inductions/ Weather.		
		b	Personal protective equipment.		
		c	Supplies.		
	21		Monitor activities of non-response craft and request (via Operations Officer) an exclusion zone - if necessary.		
	22		If permission is given to use dispersants, coordinate vessel based dispersant operations.		
	23		Arrange aerial observer support for containment and recovery operations, and for vessel dispersant spraying operations, (with Aviation Coordinator via Operations controller).		

CONTINUED OVERPAGECHECKLIST	OPERATIONS OFFICER'S CHECKLIST CONTINUED (Page 3 of 5)		Appendix A A.6 OO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Ongoing Response Continued	**24**	Inform Waste Management Coordinator (via Operations Officer) of anticipated waste volumes and type.		
	Aviation Unit (Aviation Coordinator) :			
	25	Develop and update an Aviation Sub-Plan to implement aviation response strategies in the Incident Action Plan.		
	26	Calculate equipment/ labour/ transport requirements and request through Operations Officer.		
	27	Obtain data (daily) re:		
		a Weather.		
		b Slick location (modelling data).		
	28	Coordinate aerial transport operations as required.		
	29	Coordinate aerial surveillance operations on behalf of the Planning Officer.		
	30	Coordinate aerial dispersant operations.		
	Shoreline Unit (Shoreline Coordinator) :			
	31	Develop and update a Shoreline Sub-Plan to implement the Incident Action Plan shoreline response strategies.		
	32	Calculate shoreline response equipment/ labour/ transport requirements and request through Operations Officer.		
	33	Obtain regular (daily) data:		
		a Location of oil: aerial surveillance reports and Shoreline assessment Team data.		
		b Condition of the oil (field reports, modelling).		
		c Sea state and weather.		
	34	Prepare work-orders for shoreline response teams.		
	35	Ensure that Shoreline Teams receive required:		
		a Information: i.e. Briefings/ Inductions/ Weather.		
		b Personal protective equipment.		
		c Communications equipment (in accordance with the Communications Sub-Plan).		
		d Supplies.		
	36	Monitor activities of non-response personnel and request (via Operations Officer) security or an exclusion zone - if necessary.		

CONTINUED OVERPAGE

CHECKLIST	OPERATIONS OFFICER'S CHECKLIST CONTINUED (PAGE 4 of 5)		Appendix A A.6 OO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Ongoing Response Continued	**37**	If permission is given to use dispersants, ensure that all OH&S Sub-Plan procedures are followed.		
	38	Coordinate land transport for shoreline cleanup and assessment teams (obtain resources via Logistics Officer).		
	39	Coordinate Shoreline Assessment Teams.		
	40	Coordinate Shoreline Cleanup Teams.		
	Wildlife Unit (Wildlife Coordinator) :			
	41	In accordance with the WA Oiled Wildlife Response Plan, develop and maintain a Wildlife Response Sub-Plan.		
	42	Calculate wildlife response equipment/ labour/ transport requirements and request through Operations Officer.		
	43	Implement the OH&S Sub-Plan.		
	44	Coordinate oiled wildlife capture operations.		
	45	Coordinate oiled wildlife cleaning operations.		
	46	Coordinate wildlife recovery program.		
	OH&S Unit (OH&S Coordinator) :			
	47	Develop a site OH&S Plan.		
	48	Implement OH&S induction process for all personnel.		
	49	Ensure that proper OH&S procedures have been implemented for the response.		
	50	Rectify any practices which breach the OH&S procedures implemented for the response.		
	Waste Management Unit (Waste Management Coordinator) :			
	51	Develop and update a Waste Management Sub-Plan to support the Incident Action Plan.		
	52	Advise Planning Officer (via Operations Officer) of waste volumes and transport and disposal costs.		
	53	Advise marine and shoreline response field teams on the temporary storage of collected oil.		
	54	Coordinate the transport of oil and oiled debris to central storage, or permanent disposal, sites.		

CONTINUED OVERPAGE

CHECKLIST	OPERATIONS OFFICER'S CHECKLIST CONTINUED (PAGE 5 of 5)		Appendix A A.6 OO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Response Termination	**55**	Inform all Operations Section Unit Coordinators of response termination.		
	56	Debrief Operations Unit Coordinators.		
	57	Attend IC debrief.		
	58	Ensure that all Field Teams return safely.		
	59	Ensure that all equipment is returned to Logistics Section.		
	60	Ensure that all records are given to Finance and Admin Officer.		
Notes:				

END OO CHECKLIST

Checklist A.7 – Logistics Officer

CHECKLIST	LOGISTICS OFFICER (Page 1 of 3)		Appendix A A.7 LO	
The Logistics Officer is responsible for activating and managing the Logistics Section of the IMT. The Logistics Section is responsible for ensuring that the IMT is provided with adequate resources to enable an effective response. This encompasses facilities, services, equipment and materials. The Logistics Officer participates in the development and implementation of the Incident Action Plan.				
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Reporting/ Activation	**1**	Upon callout, report to IC.		
	2	Start Personal Log.		
	3	Attend Initial Briefing.		
Assessment	**4**	In consultation with the IC determine level of response and staffing requirements.		
Establishing Section	**5**	Call in required staff.		
	6	Allocate work locations and Tasks to Section personnel.		
	7	Notify the Planning Section of the names & locations of Section personnel (Units).		
	8	Brief Section personnel.		
Planning	**9**	Attend initial planning meeting with IC and other Section officers.		
	10	Identify service & support requirements for planned operations.		
	11	Develop a Communications Sub-Plan.		
	12	Develop Logistics Sub-Plan to cover any Logistics Strategies identified in the Incident action Plan, and submit to the Planning Officer.		
Ongoing Response	**13**	Co-ordinate and process requests for resources.		
	14	Prepare & record all procurement documents and service contracts.		
	15	Liaise with Finance and Administration Officer.		
	16	Establish staging areas, transport, and equipment storage facilities as required.		
	17	Keep the Planning Officer appraised of service & support capabilities.		
	18	Liaise with the Planning Officer and calculate future service & support requirements.		
	19	Ensure safety & welfare of all Section personnel.		
	20	Maintain a Log of all Section activities.		
	25	Coordinate and monitor performance of Operations Section Functional Units. As per Tasks 26 to 46.		
	Procurement Unit (Procurement Coordinator) :			
	26	Procure personnel and equipment as directed.		
	27	Provide adequate storage for equipment.		
	28	Delivery of resources.		

CONTINUED OVERPAGE

CHECKLIST	LOGISTICS OFFICER'S CHECKLIST CONTINUED. (Page 2 of 3)		Appendix A A.7 LO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Ongoing Response Continued	Services Unit (Services Coordinator) :			
	29	Provide shelters and amenities for response personnel.		
	30	Provide accommodation for all response personnel.		
	31	Provide catering services.		
	32	Provide decontamination facilities for personnel and equipment.		
	33	Provide security for all areas of the response.		
	Transport Unit (Transport Coordinator) :			
	34	Arrange for supply of transport to meet operational requirements.		
	35	Arrange for the supply of fuel.		
	36	Arrange for the maintenance of all forms of transport.		
	Communications Unit (Communications Coordinator) :			
	37	Develop and maintain a Communications Sub-Plan.		
	38	Acquire and distribute appropriate communications equipment to meet operational requirements.		
	39	Ensure appropriate communications and support facilities as required to meet operational requirements.		
	40	Provide technical support for all response communications.		
	Medical Unit (Medical Manager) :			
	41	Provide first aid services.		
	42	Provide ambulance services.		
	43	Maintain a record of First Aid/CPR trained personnel.		
	Staging Area Unit (Staging Area Managers) :			
	44	Provide check in/out procedures and records for personnel.		
	45	Provide check in/out procedures and records for equipment.		
	46	Refurbish equipment for return or redeployment.		

CONTINUED OVERPAGE

CHECKLIST	LOGISTICS OFFICER'S CHECKLIST CONTINUED. (Page 3 of 3)		Appendix A A.7 LO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Response Termination	**47**	Inform all Logistics Section Unit Coordinators of response termination.		
	48	Debrief Logistics Unit Coordinators.		
	49	Attend IC debrief.		
	50	Ensure that all equipment is returned to Logistics Section.		
	51	Ensure that all equipment is cleaned, repaired and returned to owner or supplier.		
	52	Compile final list of consumed, lost or damaged equipment.		
	53	Ensure that all records are given to Finance and Admin Officer.		
Notes:				

END LO CHECKLIST

Checklist A.8 – Finance & Administration Officer

CHECKLIST	FINANCE AND ADMINISTRATION OFFICER (Page 1 of 2)		Appendix A A.8 FAO	
The Finance and Administration Officer (FAO) is responsible for managing the Finance and Administration Section. The Finance & Administration Section is responsible for the provision of administrative services to the Incident Controller and the IMT, and for the management of financial (costs) information.				
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Reporting/ Activation	**1**	Upon callout, report to IC.		
	2	Start Personal Log.		
	3	Attend Initial Briefing.		
Assessment	**4**	In consultation with the IC determine level of response and staffing requirements.		
Establishing Section	**5**	Call in required staff.		
	6	Allocate work locations and Tasks to Section personnel.		
	7	Notify the Planning Section of the names & locations of Section personnel (Units).		
	8	Brief Section personnel.		
Planning	**9**	Attend initial planning meeting with IC and other Section officers.		
	10	Identify service & support requirements for planned operations.		
	11	Develop Finance and Administration Sub-Plan.		
	12	Ensure that the IC and Section Officers are aware of the administrative arrangements in place.		
Ongoing Response	**13**	Log all procurements and, where appropriate, commence payment/cost recovery procedures.		
	14	Overview legal requirements and take action/advise IC as appropriate.		
	15	Review Incident Action Plan on a regular basis and estimate future Section needs.		
	16	Record and process all damage claims.		
	17	Record and process all workers compensation claims.		
	18	Ensure safety & welfare of all Section personnel.		
	19	Maintain a Log of all Section activities for Administrative Support Report.		
	20	Continually monitor expenditure and estimate costs and report these to the Planning Officer.		

CONTINUED OVERPAGE

CHECKLIST	FINANCE AND ADMINISTRATION OFFICER'S CHECKLIST CONTINUED (Page 2 of 2)		Appendix A A.8 FAO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Ongoing Response Continued	**21**	Coordinate and monitor performance of Operations Section Functional Units. As per Tasks 22 to 33.		
	Administration Unit (Administration Coordinator) :			
	22	Provide staff to undertake administrative services, including:		
		a Communications; telephones, facsimiles radios (qualified personnel only), courier services.		
		b Clerical services; typing.		
Ongoing Response Continued	Finance Unit (Finance Coordinator) :			
	23	Administer contracting services.		
	24	Pay all accounts and costs associated with the incident.		
	25	Collate expenditure records for cost recovery.		
	Records Unit (Records Coordinator) :			
	26	Collate response personnel time sheets.		
	27	Collate equipment usage records.		
	28	Collate personal records of personnel.		
	29	Implement a records management system for the response.		
	Incident Control Centre Management Unit (ICC Manager) :			
	30	Establish ICC.		
	31	Maintain Status Boards.		
	32	Manage information flow within the ICC.		
	33	Administer ICC security.		
Response Termination	**34**	Inform all Finance and Administrations Section Unit Coordinators of response termination.		
	35	Debrief F&A Unit Coordinators.		
	36	Attend IC debrief.		
	37	Ensure that all records are given to Finance and Admin Officer.		
Post Spill	**38**	Assist HMA in documentation and compilation of insurance claims and other cost recovery.		

END FAO CHECKLIST

Checklist A.9 – Media Liaison Officer

CHECKLIST	MEDIA LIAISON OFFICER		Appendix A A.9 MLO	
Response Phase	**Action**		**Plan Reference**	**Status/ Time**
Reporting and Mobilisation	**1**	Report to Incident Controller at Incident Control Centre (Tier 1 or lower Tier 2) or report to the SMPC at location advised (upper Tier 2 or Tier 3).		
	2	Start Personal Log.		
	3	Attend briefing with IC or SMPC.		
Planning	**4**	Review the WA Media Sub-Plan or local Media Sub-Plan and modify if required.		
	5	Prepare, in consultation with the IC or WA SMPC, a schedule for media releases and conferences.		
Ongoing Response	**6**	If located in the ICC, assist in the preparation of SITREPS.		
	7	Monitor media broadcasts and newspapers and advise the IC/SMPC of issues arising.		
	8	Prepare and release (as authorised by the IC/SMPC) regular media bulletins.		
	9	Arrange media conferences or discussion forums as required, and authorised by the IC/SMPC.		
	10	Liaise with Premiers Department or Ministerial Advisers as required.		
	11	Arrange facilities for media representatives :		
		a On-scene through the IC, ICC Manager or other nominated person.		
		b At the DPI MEOC or other location as required.		
	12	Arrange field visits for the media.		
	13	Brief IMT members for interviews and attend those interviews if requested.		
	14	Attend regular briefings.		
Post Response	**15**	Prepare a report on the Media aspects of the response if requested by the IC, SMPC or Chairman, WA State Committee.		
	16	Attend debrief if requested.		

END MLO CHECKLIST

APPENDIX B – RESPONSE SUPPORT

B - 1 RESPONSE SUPPORT (Page 1 of 3)	Appendix B B.1

Aircraft: Spraying Conditions	♦ Activation of the Fixed Wind Aerial Dispersant Capability (FWADC) is available through AMSA duty officer via the Executive Response Group Co-ordinator
Defence Force	♦ Requests for Defence Force assistance are to be directed to the Executive Response Group Co-Ordinator who will contact AMSA, EPR. After assessing and approving any requests, AMSA, EPR shall seek the support of the resources of the Defence Forces through *Emergency Management Australia (EMA*), Canberra. ♦ EMA will arrange for Defence Force assistance once all avenues of utilising commercial resources have been exhausted, or where time frames are such that it is impractical to use normal commercial resources.
Environmental Information	♦ Primary source of information is the ESC. ♦ Local sources, i.e. Department of Environment and Conservation (DEC), Port Environmental Manager or industry can also be accessed. ♦ See also OSRA.
Environmental and Scientific Coordinator	In recognition of the position, skills and experience of the ESC for the State of Western Australia two roles are designated in the DPA Oil spill contingency plan response structure: 1/ As a high level "Adviser" providing advice and exchanging views and information in relation to the response direct to the Incident Controller. 2/ Liaising and discussing environmental aspects of the response with the DPA Environmental Manager / the Environmental Coordinator in the OSRICS structure. 3/ The Environmental Officer at the Department of Planning and Infrastructure is to be kept informed of the environmental aspects of the response and is to assist in developing and maintaining communication between the above parties.
Equipment: State	♦ The equipment available in WA is listed in Appendix C of WestPlan-MOP. This can be accessed via the ERG Co-Ordinator or IC. ♦ Also listed on the Marine Oil Spill Equipment System (MOSES) see below
Equipment: National Plan	♦ National stockpiles are listed in the Marine Oil Spill Equipment Stockpile (MOSES) database (*ref. National Marine Oil Spill Contingency Plan Appendix 4)*. ♦ National Plan equipment stored in WA can be released by: ▪ AMSA Duty Officer. *ref. WestPlan - MOP Appendix H)*.

Equipment: AMOSC	♦ AMOSC equipment will be released on request by the IC through the ERG Co-Ordinator. Via AMSA if a non industry spill. ♦ A list of oil spill response equipment available in Dampier and thye Pilbara Region can be found in WestPlan MOP and on the DPA Server at: s/18DPMS/Registers/Marine Oil Pollution/ Equipment
Equipment: Communications	♦ Support can be requested through the State Communications Sub-Plan (*ref. WestPlan-MOP Appendix K)* via the State Emergency Co-Ordination Centre, Public Information/Media Relations.
Equipment: Oil Company	♦ Under *AMOSPlan* industry can access mutual aid from other industry company resources. To activate the plan a request for assistance is made from the *Mutual Aid Contact (MAC)* of the affected company to MAC of a company that is able to provide assistance. Mutual Aid arrangements are brokered by AMOSC.
International Assistance	♦ International assistance may be obtained through the ERG Co-Ordinator via AMSA, EPG. Aid available from international sources includes equipment and trained staff at EARL in Singapore and trained personnel from countries that have signed an MOU with.
Oil Character	♦ Appendix N of WestPlan-MOP contains an inventory of a number of oils and lists their characteristics. The character of the oil should be determined from the RP, destination facility or producer of the oil. The following details should be obtained as soon as possible: ▪ Product name ▪ Specific gravity ▪ Flash point ▪ Viscosity at current temperature, or reference temperature ▪ Pour point ▪ Wax content ▪ Asphaltene content
Oil Spill Response Atlas (OSRA)	♦ Information on environmental resources can be obtained from the OSRA held by the DPA Environment Manager or DPI MEPU.
Oil Spill Trajectory Modelling	♦ Oil spill trajectory modelling is available from AMSA, EPR Canberra and can be run at the request of the ERG Co-Ordinator or IC. ▪ The Oil Spill Trajectory Model (OSTM) can be accessed by contacting: ▪ AMSA, EPR Duty Officer ▪ AMSA's Web Site - ♦ The AMSA OSTM Request form should be used and sent by either e-mail or fax. The form is available on the AMSA web site www.amsa.gov.au and in Appendix E of WestPlan - MOP. ♦ Arrangements may be made with AMSA, EPG for model output to be sent, (via facsimile or e-mail) to the ICC, or other location, at regular intervals. ***CAUTION:*** *Like all models, the output is a prediction only and is not a substitute for field observations.*

RESPONSE SUPPORT (Page 2 of 3)	Appendix B B.1

Oil Spill Trajectory Calculation	♦ The trajectory of a spill can be roughly calculated by adding the surface current velocity to 3% of the wind velocity. This is done using a "vector diagram".
Oil Weathering Modelling	♦ Oil fate predictions can be obtained from *AMSA, EPR*. This is available through OSTM and also through the *ADIOS)* model developed by the US National Oceanographic and Atmospheric Administration (NOAA). ♦ ADIOS can also be run by AMOSC and a number of other agencies.
Personnel Trained	♦ A list of personnel from the Pilbara Region who have received training at various levels is maintained by DPA and PHPA and can be linked from. s/18DPMS/Registers/Marine Oil Pollution/ Personnel
Personnel: State	♦ Personnel can be obtained though the ERG from the State Response Team.
Personnel: National	♦ NRT members can be accessed through AMSA EPR.
Weather	♦ Weather conditions and predictions are available from the Duty Officer of the Bureau of Meteorology (24 hour contact) ♦ Local information should also be sought on ambient conditions from: ▪ Nearest Port or Port Authority ▪ Oil facility ▪ Field personnel

..

END RESPONSE SUPPORT CHECKLIST

APPENDIX C - POLLUTION RISKS & RESPONSE OPTIONS

1. Spill Risk

The report 'Risk Assessment of Pollution from Oil and Chemical Spills in Australian Ports and Waters' DNV 2000 has identified four main areas of marine pollution risk in Western Australia, one of which was;

- The inshore waters and shipping lanes in the Dampier-Port Hedland area. Risks here are associated with the Ports of Dampier, Port Hedland and Walcott, other coastal shipping, and the offshore exploration and production activities of the NW Shelf.

In addition Dampier was ranked twelfth (12^{th}) in the top 20 Australian Ports identified in terms of risk.

Types of Oil

Appendix N of the WestPlan - MOP lists the oils used or produced in Western Australia and discusses the behaviour and effects of the various types of oil.

Sensitive Areas

The Dampier Archipelago is also identified in WestPlan - MOP as being a sensitive area on several counts, see WestPlan - MOP Table 3.2.

Response Options

- Classification of spill incidents in a tiered structure from 1-3 enables determination of an appropriate level of resources for effective management of the situation. Variables such as the location of the spill, the quantity and type of oil, the prevailing conditions, the probable trajectory of the slick and the likelihood of various environmental resources being impacted, are factors to be considered in determination of the response classification. Refer to Beaufort Scale (*Appendix J*) and Response Matrix (Figure 6).

- These options are presented in the general order in which they may be addressed during an oil spill, under the circumstances at the time of the incident it may be necessary to consider and apply several options simultaneously.

- Options selected to respond to the oil spill depend on:

  i) The spill classification or tier, i.e. the magnitude of the spill
  ii) The threat of the spill to the marine environment
  iii) The type of oil or other pollutant spilled

Monitor the Slick for Natural Dispersion

- In many situations where, under prevailing conditions, oil on the sea is unlikely to impact on coastal resources, the most environmentally sound option is to leave the oil slick alone and monitor its movement and natural dispersion.

- This option could be adopted in the vicinity of the Port of Dampier for small to medium oil spills or spills. During monitoring, the response team should be prepared to move into a more active response in case the situation changes and oil threatens to impact coastal resources of a sensitive nature.

Contain and Recover Oil from Water Surface

  - This option requires the use of oil spill booms and skimmers and may be effective in quiet waters where tide, wind and water movement is minimal

  - It requires familiarity with boom deployment practices and positioning and handling of small craft.

  - Effective use of skimmers demands a ready supply of portable storage for recovered oil and debris.

  - Final clean up or removal of oil from difficult areas may be achieved through use of sorbent materials applied from small craft to recover oil floating or entrapped in mangroves. However boats should only be used as support for this operation; they should not intrude into mangroves as they may further compound the damage.

- As stated, for this technique to be successful the oil slick should be located in an area of relatively quiet and still water. It is possible that oil drifting from an exposed spill source may threaten sheltered bays and coves away from shipping traffic areas. In such cases booms may be used to contain floating oil or be placed in a defensive mode to protect those areas of sensitivity.

- Booms may also be used to effect with sorbents in the absence of mechanical oil recovery equipment. Similarly, booms may be used to deflect approaching oil towards areas of lesser sensitivity or identified as sacrificial areas.

  Note Figure 8 for Containment and Recovery Guide

Apply Oil Spill Dispersants

- This is an early response option which should be activated while the spilled oil is fresh and when use of booms and skimmers to recover oil is not effective. It is appropriate where -
  i) The spilled oil is dispersible
  ii) The oil threatens a sensitive coastal environment
  iii) Logistics support early spraying
  iv) The water mass is subject to active exchange
  v) Trained crews are available for the task

- Accepting that these factors apply to an incident scenario within the scope of this plan, the decision to apply dispersants rests with the IC in consultation with the ESC. It should be based on the net environmental benefit analysis of dispersant use in the area under threat. To restrict dispersant use to hard and fast rules such as depth of water and distance from the foreshore, severely limits the benefits of dispersants.

- The principle objective of the operation is to protect sensitive environmental habitats from damage by oiling.

- Once the decision to apply dispersants is made it should be activated as soon as possible to counter weathering, spreading and to maximise operating time before coastal impact.

- General guidelines for dispersant application: *(See Figure 10)*

  The Manager Environment holds a Dispersant Test Kit supplied by DPI. The kit contains all required equipment and instructions for its use and replenishment

  - Using the field test method, obtain an indication of the dispersibility of the oil.
  - Generally dispersants should be applied to the thickest patches of the oil. However if oil is approaching a sensitive resource, the oil at the closest edge of the slick to the resource should be treated to maximise lead time before likely coastal impact.
  - Mixing of the dispersant into the oil may be assisted by surface vessels towing breaker boards to assist with physical break-up of the oil. This is particularly effective when the sea is calm.
  - When dispersing from helicopter buckets the aircraft should fly at 50 - 70 knots at the minimum height selected by the pilot, e.g. 20ft above sea level.

- When dispersants are used, whether from surface vessels using surface spraying equipment or from aircraft, it is essential that an observation aircraft fitted with air to ground communications, guide the dispersing vessel or aircraft to the locations of the heaviest concentrations of oil and report on the effectiveness of the dispersion activity.
- Trained pilots and crews should be used for aerial spraying. Overdosing is not only unnecessarily expensive; it is unacceptable to the marine environment.

- The most likely ship-sourced oil types to be spilled within the Port of Dampier are bunker fuel oil and diesel oils. Some grades of heavy fuel oil (HFO) will respond to dispersants, others will not. Dispersability is primarily a function of the pour point of the oil and its viscosity and should be confirmed by a small test application of dispersant.

- It is essential that sound training be provided to support application of oil spill dispersants from both surface and aircraft. In many cases controversy surrounds this technique; it is therefore important that operators receive thorough and regular training to ensure familiarity with safe practices; that aerial monitoring techniques are understood, and that overdosing or application of dispersants to clean seas does not occur.

Physical Break-Up of the Oil Using Surface Craft

- If dispersants are not a viable response option, for example, if the oil type/state is not dispersible or if insufficient dispersant capability is available to allow effective dispersion or conditions at the time prohibit use of dispersants, it may be possible to mechanically accelerate natural breakdown of the oil slick using vessels towing breaker boards through the oil. The operation of vessels in areas of possible fire hazard needs to be considered with this option.

Bioremediation

- Bioremediation is the acceleration of hydrocarbon degradation of stranded or recovered oil/oily waste through the application of nutrients and/or bacteria. Although the technique has been applied for some years to industrial waste sites, it has been used in oil spills only experimentally, mainly on oiled shorelines and recovered oily waste. Little conclusive or detailed information is available on its effectiveness in tropical areas.

- Inappropriate bioremediation techniques may lead to adverse environmental effects, e.g. contamination of ground water resources. Bioremediation options and procedures are to be discussed with and approved by the ESC. Any bioremediation activities will require appropriate environmental approvals and appropriately defined supervision and monitoring techniques.

Cleaning of Oiled Foreshores

- Differing foreshores support a range of activities. When oiled they require distinctly separate clean up methods. Any man made cleaning activity should be limited to support, and if possible augment natural cleaning through prevailing weather and environmental activity in the area.

Where oil has been deposited on sandy beaches and cleaning is required, supervision is necessary to ensure that only oiled sand is removed; waste minimization is essential in oil spill clearance operations to ensure the least impact on the environment and to minimize clean up costs. Coarse sand beaches may absorb oil into sediments, while on hard packed fine sand beaches oil will generally deposit itself on the surface with minimal or no penetration. The IC should make an assessment of the load bearing capacity of the beach before allowing vehicle access.

- Removal of oiled material can be achieved by careful use of mechanical earthmoving equipment supported by teams of personnel equipped with shovels and rakes. The polluted material should be taken to the closest disposal sites as soon as possible. Heavy duty plastic bags may be used for temporary storage for a limited time only e.g. three weeks. If left for too long, oil will ultimately degrade the polythene material and re-deposit the contents to the beach surface. Care must be taken to ensure earth moving equipment does not force oil into the substrate.

- On beaches having relatively low wave energy, hoses and pumps to provide low pressure salt water flushing is a useful technique, the oil being flushed into booms deployed a metre or so offshore from the low water level and removed using suitable skimmers.

- Cleaned beaches should be subsequently monitored to ensure that oil does not re-appear after being buried with successive tidal action or changes in beach structure.

See Appendix F for Generic Sensitivity Scale for a range of environments found in Dampier.

2. Potential Source of Spill

Anchorages and Approaches

- Accidental discharge resulting from grounding, collision, hose failure during bunkering operations or from tank overflow during onboard fuel or oil contaminated slops transfers: fracture

Probability	:Very Low
Quantity	:Up to 20 tonnes HFO, Grounding or collision could result in large quantity
Environmental Impact	:Low - Moderate
Response	:Tier 1 – Lower Tier 2

Resources at risk

- Northern end of the archipelago and including 'Sailfish Reef', 'Nelson Rocks' and 'Hamersley Shoal'.
- Bird and turtle nesting sites and recreational beaches might also be affected.

- Grounding or collision while under pilotage within the Port due to human, mechanical or electrical failure and consequential rupturing of principle bunker tanks:

Probability	:	Very Low
Quantity	:	Significant > 12,000 tonnes
Environmental Impact	:	High
Response	:	Tier 2 – Tier 3

Resource at risk

- Due to the potential volume of fuel involved include the Marine environment, Dampier Salt saltwater intake, industry cooling water intakes.

- Grounding of large vessel due to weather i.e. cyclonic winds, with possible total loss of vessel.

Probability	:	Low
Quantity	:	Up to 3,000 tonnes HFO
Environmental Impact	:	High
Response	:	Tier 3

Resources at risk

- Potential impact on large areas of the Archipelago and adjacent coastline. Refer to Maps for Distribution of Significant Wildlife and Major Marine Habitats in *Appendix F*.

Strategic Response

The following actions should be considered:

- Predict the probable direction of the oil slick
- Confirm slick movement from over flight and assess potential for weathering and natural dispersal
- Deflect or disperse the oil from areas of high environmental sensitivity or from populated wildlife habitats, in particular Nelson Rocks and Cohen Island on the west and east sides of the northern entrance to Mermaid Sound
- Arrange manual clean up of impacted foreshores and disposal of oiled material

Vessels at Berths

Dampier Cargo Wharf / Bulk Liquids Jetty / King Bay Supply Base

- Berthing accidents:

Probability	:	Low - Moderate
Quantity	:	Up to 100 tonnes Diesel / fuel oil
Environmental Impact	:	High
Response	:	Tier 1 – Tier 2

- Hose rupture during bunkering operations

Probability	:	Low
Quantity	:	Up to 10 tonnes Diesel oil
Environmental Impact	:	Low
Response	:	Tier 1 – Lower Tier 2

- Accidental discharge of oil contaminated slops

Probability	:	Low
Quantity	:	Up to 1 tonne oily water
Environmental impact	:	Low
Response	:	Tier 1

Strategic Response

Dampier Cargo Wharf

- The wharf is used primarily for discharge of general cargo and for loading and bunkering of offshore supply vessels.

- A release of gas oil bunkers at this berth would be unlikely to extend beyond a tier 1 incident.

- Although knuckles on the wharf are protected with fenders, hard contact through main engine or steering failure could result in a shell plating fracture in way of a fuel tank. Such an incident could result in a release of up to 100 tonnes of bunker fuel requiring a tier 2 response. The decision would be made by the Harbour Master as to whether the vessel should be allowed to remain alongside while the crew attempt to reduce or stop the outflow of fuel oil or the vessel should proceed to sea away from the sensitive foreshores of the Archipelago.

Bulk Liquids Berth

- This jetty is used primarily for the loading of anhydrous ammonia. The vessels berths are up to 50,000 tonnes deadweight and carry up to 2,000 tonnes of fuel oil and 250 tonnes of diesel oil.
- The berth is adequately fendered but a significant spill could result from heavy berthing due to a failure or from tug impact. (See DCW comments)

Clean Up and Dispose

Summer - Westerly winds

Light Oils

i) Monitor oil movement
ii) If conditions allow, deploy boom and containment equipment
iii) Clean up and recover beached oil and arrange disposal of oiled material

HFO

i) Contain and attempt to recover, or
ii) Commence foreshore clean up and disposal

Winter - Easterly winds

Light Oils

i) Obtain prediction of oil movement and monitor
ii) Assist dispersal mechanically or with oil spill dispersants
iii) If southern and/or western shores of Mermaid Sound are threatened contain or deflect oil

HFO

i) Monitor movement of oil
ii) Contain and attempt recovery
iii) Deflect to beach on western side of harbour

King Bay Supply Base

- This facility is the storage and refueling area for all marine fuels, principally distillate, for craft associated with Woodside marine operations

Diesel Spill

Summer season - Westerly winds

i) The spill is likely to be trapped in the base and should be either picked up using skimmers, suction equipment and/or sorbents or allowed to evaporate.
ii) Dispersal with fire monitors will assist to some degree but also tends to entrain a toxic pollutant in the water column. ESC advice should be sought according to the prevailing and forecast conditions.

Winter season - Easterly winds

i) Winds are likely to carry the product into King Bay. Dispersal should be assisted by whatever means are appropriate in the circumstances.

Terminal Operated Berths

- Breaching bunker fuel oil tank as a result of a berthing accident

  Probability : Low
  Quantity : Up to 1000 tonnes HFO
  Environmental impact : High
  Response : Upper Tier 2 -Tier 3

- Accidental discharge from tank overflow, ruptured hose during cargo transfer, discharge or loading operations.

  Probability : Low
  Quantity : Unknown (possibly 30-40 tonnes) distillate/condensate
  Environmental impact: High
  Response : Tier 1 – Tier 3

Resources at Risk

- Sensitive foreshores
- Coral fringes
- Dampier Salt seawater intake
- Cooling water intakes
- Industry - Hamersley Iron / Woodside

Dampier Salt Ltd

Mistaken Island

- This berth is used primarily by bulk carriers up to 70,000 dwt, the Panamax range, for loading bulk salt. The probability of a significant spill is remote but might occur through a vessel rupturing a ship's side bunker tank during berthing or unberthing or structural failure. A spill from these sources could involve up to 400 tonnes of fuel oil. A smaller spill could occur during on-board fuel transfer operations, accidental discharge of slops or dirty ballast water.

Response Strategy

Summer season - Westerly winds

i) Predict and monitor oil movement
ii) Deflect oil to East Intercourse Island
iii) Contain or disperse the oil
iv) Deflect if possible from Hampton Harbour

Winter season - Easterly winds

i) Predict and monitor oil movement
ii) Contain and recover oil if possible
iii) Deflect onto Mistaken Island foreshore for clean up
iv) Deflect if possible from Intercourse Island

- In the event of a large volume of oil being released during a period of easterly wind, efforts should be made to ensure deflection of slicks away from the passage to the south-west of West Mid Intercourse Island. The salt water intake and pumping station to Dampier Salt's primary evaporator pond (pond zero) are located in a levee some 3.5 km's in a south-westerly direction down this passage. Oil in this area could be not only damaging to the marine environment of the area but could seriously disrupt salt production.

Pilbara Iron

East Intercourse Island

- Bulk carriers up to 325,000 tonnes, VLBC range, load iron ore at this berth. These vessels may have capacity for up to 5,000 tonnes of bunker fuel although, at a loading port, the quantity on board would be unlikely to exceed 3,000 tonnes. The possibility of a significant spill at this berth is low but may result from:

  - Structural failure
  - Hard contact with the berth resulting in structural damage to a fuel tank
  - Overflow from on board transfer of fuel oil

Response Strategy

Summer - Westerly winds

i) Predict and monitor movement of oil slick for natural dispersal
ii) Attempt to contain and recover oil
iii) Deflect oil from Hampton Harbour
iv) Consider possibility of deflection onto East Intercourse Island

Winter season - Easterly winds

i) Predict and monitor movement of oil for natural dispersal
ii) Deflect from foreshores into Mermaid Strait
iii) Protect Dampier Salt primary ponds salt water intake
iv) Attempt containment and recovery
v) Disperse if necessary

Parker Point

- Bulk carriers in the Cape range, up to 160,000 dwt, load iron ore at this berth. They may have on board 2,000 tonnes of fuel oil.

- Bunker fuel oil released from this berth with the wind in a westerly direction has the potential to impact the MSPMS supply base resulting in a possible disruption of offshore operations and severe impact on the environment of King Bay. If driven to the west, it has the potential to enter Hampton Harbour affecting Dampier town beach and posing a threat to the Power Station intakes.

Parker Point Service Wharf

- The Pilbara Iron Service Wharf is primarily used by produce tankers discharging fuel for Hamersley's fuel requirements. Vessels of up to 36,000 dwt on a maximum draft of 7 metres, discharge fuel - primarily gas oil, into BP storage at the Pilbara Iron plant. A spill from this area could have a similar impact on King Bay and the Supply Base as from Parker Point.

Response Strategy

Summer - Westerly winds

i) Predict and monitor movement of oil slick for natural dispersal
ii) To prevent oil from entering King Bay and the Supply Base, oil floating in an easterly direction should be dispersed as rapidly as possible
iii) If the possibility exists of deflecting oil to a beach this should be attempted

Winter season - Easterly winds

i) Predict and monitor movement of oil slick for natural dispersal
ii) Deflect or disperse oil to protect Tidepole Island, Hampton Harbour and the town Power Station water intakes

Woodside Energy Ltd

Withnell Bay Loading Terminal

- This berth is used for the loading of LNG and NW condensate, in excess of 2 million tonnes of the latter being shipped annually. Condensate tankers load to a maximum draft of 12.2m, their maximum size being 110,000 dwt. The principal danger from a spill of condensate is risk of fire. Risk of a bunker oil spill is low, however could occur either through an overflow on the vessel during on board transfer, or from a hard contact with tug or berth resulting in a shell plating fracture. A spill in this case may result in up to 250 tonnes being released. A similar scenario could result in a lesser volume of diesel oil being spilled.

  Refer to Appendix C for spreading and evaporation rates of diesel oil on water.

Response Strategy

NW Condensate Spill

- Although condensate is highly toxic to marine life, because of its volatility, the principal danger from a spill is fire. All except non-essential personnel should be cleared from the area. Oil spill booms should not be used to contain the spill; the most effective option is to allow the product to spread rapidly. This will assist with evaporation, natural dispersion and dissolution. A slick of condensate around the ship or wharf should be allowed to disperse as rapidly as possible to minimise the hazards associated with a concentration of hydrocarbon vapour.

- The ambient temperatures and prevailing winds in the area will assist with rapid evaporation; approximately 70% of the volume should evaporate within less than an hour. Refer to Appendix C for spreading rates and volume loss of condensate.

Diesel Spill

- Although the fire danger accompanying a diesel spill is not as great as with condensate, diesel will not evaporate as rapidly and the possibility of build up of flammable vapors is a hazard. Booms should not be deployed around the ship or berth although they may be used to deflect the spilled product or contain it to prevent impact on sensitive foreshores. Except in specific instances, where a diesel spill is considered to pose an immediate and direct threat to a coastal resource, oil spill dispersants would not be used.

Summer - Westerly winds

i) Monitor the slick
ii) Implement protection measures for Withnell Bay

Winter season - Easterly winds

i) Monitor the slick and run spill trajectory program

HFO Spill

Summer season - Westerly winds

i) Monitor direction of oil slick and boom off threatened areas of Withnell Bay
ii) Attempt to contain using booms and recover with skimmers
iii) If weather/sea conditions are unsuitable for (ii), consider using oil spill dispersants in accordance with section 12.2 of this plan and Appendix L of Westplan (MOP) The Use of Chemical Dispersants
iv) Arrange clean up of impacted foreshore

Winter season - Easterly winds

i) Monitor the slick from an aircraft and run spill trajectory program
ii) According to existing and forecast weather conditions, arrange deployment of booms and skimming equipment but not around ship sources.
iii) If weather/sea conditions are unsuitable for (ii) consider using oil spill dispersants in accordance with section 12.2 of this plan and Appendix L of Westplan (MOP) The Use of Chemical dispersants

Other Facilities

Gas Trunkline

- Leak from inshore section of Woodside trunkline

Probability	:	Low
Quantity	:	Significant
Environmental impact	:	High - Major Emergency
Response	:	Tier 3

- A leak or rupture of the trunkline may result in a major pollution incident. Although a significant proportion of the released condensate will evaporate, a substantial response should be anticipated.

- Such an event will involve the release of substantial quantities of natural gas. Stemming the leak due to the quantity of gas and condensate in the line will take some time and a substantial fire risk will exist.

- All precautions against potential ignition should be taken.

  - initiate appropriate response Tier - 3
  - immediately establish a 3 mile exclusion zone for unauthorised vessels and a similar no-fly zone for aircraft
  - mobilise all equipment
  - identify areas at risk and deploy booms to protect or deflect from sensitive areas

- Leak to Marine environment from onshore plant (Woodside / Shell)

Probability	:	Low
Quantity	:	< 1 Tonne
Environmental impact	:	Low
Response	:	Tier 1

Response Strategy

- Refer to Dampier Public Wharf strategy

Tug Pens

- Tugs and work boats berth at Hampton Harbour in the tug pens located on the east side of the East Intercourse Island causeway. Usage of fuel for bunkers for these craft approximates 135,000 litres per month. Gas oil storage for the tug pens amounts to one 52,000 litre tank which is supplied by road tanker. Vessels receive fuel through a pipeline of approximately 100 metres length from the storage tank located on the causeway. Personnel are present at both ends of the pipeline during bunkering operations. Spill safety procedures are such that it is considered unlikely that an equipment failure or overflow would result in more than 10 tonnes of gas oil being spilled.

Response Strategy

Summer - Westerly winds

i) Monitor movement of the oil for natural dispersal
ii) Deflect or disperse the slick to prevent it entering the recreational areas of Hampton Harbour including the town beach
iii) If the slick moves close inshore, disperse using oil spill dispersants or mechanically using breaker boards, according to ESC advice at the time
iv) If a gas oil slick reaches the beaches, hose off from the shore and use sorbents as required.

Winter season - Easterly winds

i) The slick may be trapped by the rock causeway and may be boomed off for recovery or to allow natural degradation
ii) Disperse with oil spill dispersants or mechanically, according to ESC advice at the time
iii) If a gas oil slick reaches the foreshore, hose off from the shore and use booms and skimmers and or consider use of dispersants.

APPENDIX D

1. Aboriginal Heritage Considerations

1. Dampier Port Authority (DPA) is to inform relevant Indigenous Heritage Stakeholders (Registrar of Aboriginal Sites, Department of Indigenous Affairs - DIA, Department of Environment and Conservation - DEC, Native Title Claimants, Native Title Representative Bodies, Approved Aboriginal Body Corporate etc…) of oil spill and provide relevant information (size, location, predicted land fall etc…). DPA should provide maps and/or co-ordinates to DIA detailing oil spill and potential impact areas.

2. Registrar of Sites (DIA) to inform relevant Senior Heritage Officer(s), Assistant Director of Heritage and Culture, Director of Land and Heritage, Pilbara Regional Manager and Director General of oil spill. Co-ordinate with relevant stakeholders. Indigenous Heritage Stakeholders to inform DPA of issues/concerns.

3. Search of Register of Aboriginal Sites to be undertaken by DPA using publicly available register online (www.dia.wa.gov.au/Heritage/Inquiry) for immediate identification of possible heritage issues. Note – Register of Aboriginal Sites is only an indication of sites that have been registered in the area and does not contain accurate details of all sites within the area.

4. Upon notification of oil spill DIA to conduct search of Register of Aboriginal Sites (internal non-dithered version), compile relevant information and determine if DIA staff are to attend on ground.

5. Containment/Clean-up operations should be conducted in such a way as to minimize the impact upon any Aboriginal heritage sites in the area. This could be achieved by undertaking the following measures:
    - Involve relevant Indigenous Heritage Stakeholders where possible at all steps of the operation including initial planning.
    - Relevant Indigenous Heritage Stakeholders attend (where possible) ground disturbing operations.
    - Minimize ground disturbance by keeping to existing roads/tracks, previously disturbed areas and tidal zones where possible. Ground disturbance includes establishment of temporary camps and operation facilities.
    - Ensure relevant DPA staff undertake heritage training offered by DIA.

6. Outcomes report to be prepared by DPA outlining the achievements of the response and identifying any shortcomings/issues. DIA to provide assistance/input regarding Indigenous heritage values.

7. Workshop/discussion to be held with relevant stakeholders to refine procedures and address issues identified.

APPENDIX E

POLREPS

The DPA Port Communications Tower is manned continuously except during the Red alert phase of a major cyclone.

It is usual for port users and others to make the initial report of an oil spill incident to Port Communications either by telephone or radio

The duty Port Liaison and Administration Officer (PLAO) will open a POLREP and seek to obtain as much of the required information as possible.

The PLAO will refer to the Dampier Port Authority Emergency Response Plan ERP and follow the check list which includes call out arrangements and the requirement to log actions.

Once complete the PLAO will email the POLREP to DPI, AMSA and DEC Karratha.

SITREPS

The transmission of Sitreps will be at intervals determined by the IC throughout the response and again on conclusion of the response.

E.1 – Polrep Form

Department for Planning and Infrastructure

POLREP

Marine Pollution Report (POLREP)

NOTE: Incidents to be reported are outlined on the back of this form.

Send completed form to:
Marine Environment Protection Unit
Department for Planning and Infrastructure
PO Box 402 Fremantle , 6959
Email: marine.pollution@dpi.wa.gov.au
Fax: (08) 9216 8982
Phone (08) 94809924

INCIDENT DETAILS

Date of Incident:_____ **Time of Incident:**_____ AM/PM

Location name/description: _____

_____

Incident Coordinates	Format of coordinates used *(select one)*	Latitude of spill	Longitude of spill
	Degrees & decimal degrees	____ . ____ °	____ . ____ °
	Degrees, minutes & decimal minutes	____ ° ____ . ____ ′	____ ° ____ . ____ ′
	Degrees, minutes & seconds	____ ° ____ ′ ____ ″	____ ° ____ ′ ____ ″

Description of Incident: _____

_____

_____

POLLUTION SOURCE

☐ Vessel ☐ Land *(Specify)*_____ ☐ Other *(Specify)* _____ ☐ Unknown

Vessel type *(if known)* ☐ Tanker ☐ Container ☐ Bulk ☐ Cargo

☐ Fishing ☐ Defence ☐ Recreational ☐ Other *(Specify)*_____

Vessel name: _____ Flag State / Callsign: _____ Australian vessel? ☐ Yes ☐ No

POLLUTANT

☐ **Oil** *(type)* ☐ Bilge ☐ Diesel ☐ HFO bunker ☐ Crude ☐ Unknown ☐ Other *(Specify)*_____

☐ **Chemical** Name: _____ MARPOL cat / UN Nos: _____

☐ **Garbage** Details/description: _____

☐ **Packaged** Details/description: _____

☐ **Sewage** Details/description: _____

☐ **Other** Details/description: _____

EXTENT

Size of spill *(length & width in metres):* _____

Amount of pollutant, if known *(litres):* _____

Has the discharge stopped? ☐ Yes ☐ No ☐ Unknown

Weather conditions at site: _____

_____

_____

☐ **Photos taken** Details: _____ held by:_____

☐ **Video taken** Details: _____ held by:_____

☐ **Samples taken** Description: _____ held by:_____

☐ **Items retrieved** Description: _____ held by:_____

ADDITIONAL INFORMATION

Response action undertaken? ☐ Yes ☐ No If yes, provide details below, please include any environmental impact.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Equipment used? ☐ AMSA ☐ State / NT

Possible further action ☐ Legal ☐ AMSA assistance ☐ Other *(Specify)* _____

ORIGINAL REPORT SOURCE

Name: _____ Position: _____ Phone: _____

Combat agency: _____ Statutory agency: _____

SENDER DETAILS

Name: _____ Agency: _____ Date: _____

Phone: _____ Fax: _____ Email: _____

PRIVACY STATEMENT

The Department for Planning and Infrastructure is collecting the information on this form to enable it to carry out its role as managing agency of the National Plan to Combat Pollution of the Sea by Oi and other Noxious and Hazardous Substances.
The Department for Planning and Infrastructure and/or AMSA may give some or all of this information to other government bodies, non-government organisations who have responsibilities under the National Plan, and law enforcement agencies.

AMSA USE ONLY	Folio No.	MIRS No.

SUMMARY OF INCIDENTS TO BE REPORTED

All slicks, including deck washings, that can be seen trailing a vessel should be reported. The type of substance contained in the slick may not be able to be determined until further investigation has been undertaken by enforcement agencies.

Reportable	Non-reportable
Oil - All slicks trailing from a vessel. All spills in the marine environment (notwithstanding the size or amount of oil or sheen). All spills where National Plan equipment is used in a response. Note: If oil or sheen is "visible" then it is an illegal discharge MARPOL permitted oily discharges are at 15 parts of oil to one million parts of water (15ppm). Oil discharges at sea cannot be visually observed until at least 50ppm and even that may not be readily discernable depending upon the observation platform, sea state, weather conditions etc.	• Coral spawning. • Algal bloom. • Oil spills specifically known to be from land sources (eg drains, road tanker accidents) and where there is no response using National Plan equipment or resources used. • Exploration/production associated discharges where there is no response and National Plan equipment or resources used. (these are reportable to the relevant authority eg: Mines Department or Department of Science Industry and Resources).
Chemicals - All sightings of slicks/discolourations trailing vessels. All odorous discharges from a vessel.	
Harmful Packaged Substances - All packages associated with a vessel.	
Sewage - All slicks seen trailing from a vessel.	
Garbage - All sightings of garbage being disposed from a vessel. Any type of garbage found that can be specifically tied to a specific vessel such as garbage with printing showing a vessel name (eg Quarantine bonded plastic bags with identifier tag).	• Dumping at sea that requires a permit (EPA or EA) • Dumped dredge spoil. • Floating logs.

E.2 – Sitrep Form

Department for Planning and Infrastructure

SITREP

Marine Pollution Situation Report (SITREP)

MARINE POLLUTION SITUATION REPORT (SITREP)

This is advice from the Combat Agency of the current status of the incident and the response.

This form is transmitted to all relevant agencies including:

- Statutory Agency
- Chair, State Committee
- General Manager Maritime Operations, AMSA

Send completed form to:
Marine Environment Protection Unit
Department for Planning and Infrastructure
PO Box 402 Fremantle, 6159
Email: marine.pollution@dpi.wa.gov.au
Fax: (08) 9216 8982
Phone (08) 94809924

Incident Name: _____ Ref. No. _____

Priority ☐ Urgent ☐ Immediate ☐ Standard

Final SITREP? ☐ Yes ☐ No Next SITREP on: _____

Date: _____ Time: _____

POLREP Reference: _____

Incident location Latitude _____ Longitude _____

Brief description of incident and impact: _____

Overall weather conditions: _____

Summary of response actions to date: _____

Current Strategies: _____

Summary of resources available/deployed: _____

Expected developments: _____

Other Information: _____

SITREP Prepared By		
	Name:	
	Agency:	
	Role:	
	Contact	Telephone
		Fax
		Mobile
	No of Pages Attached:	

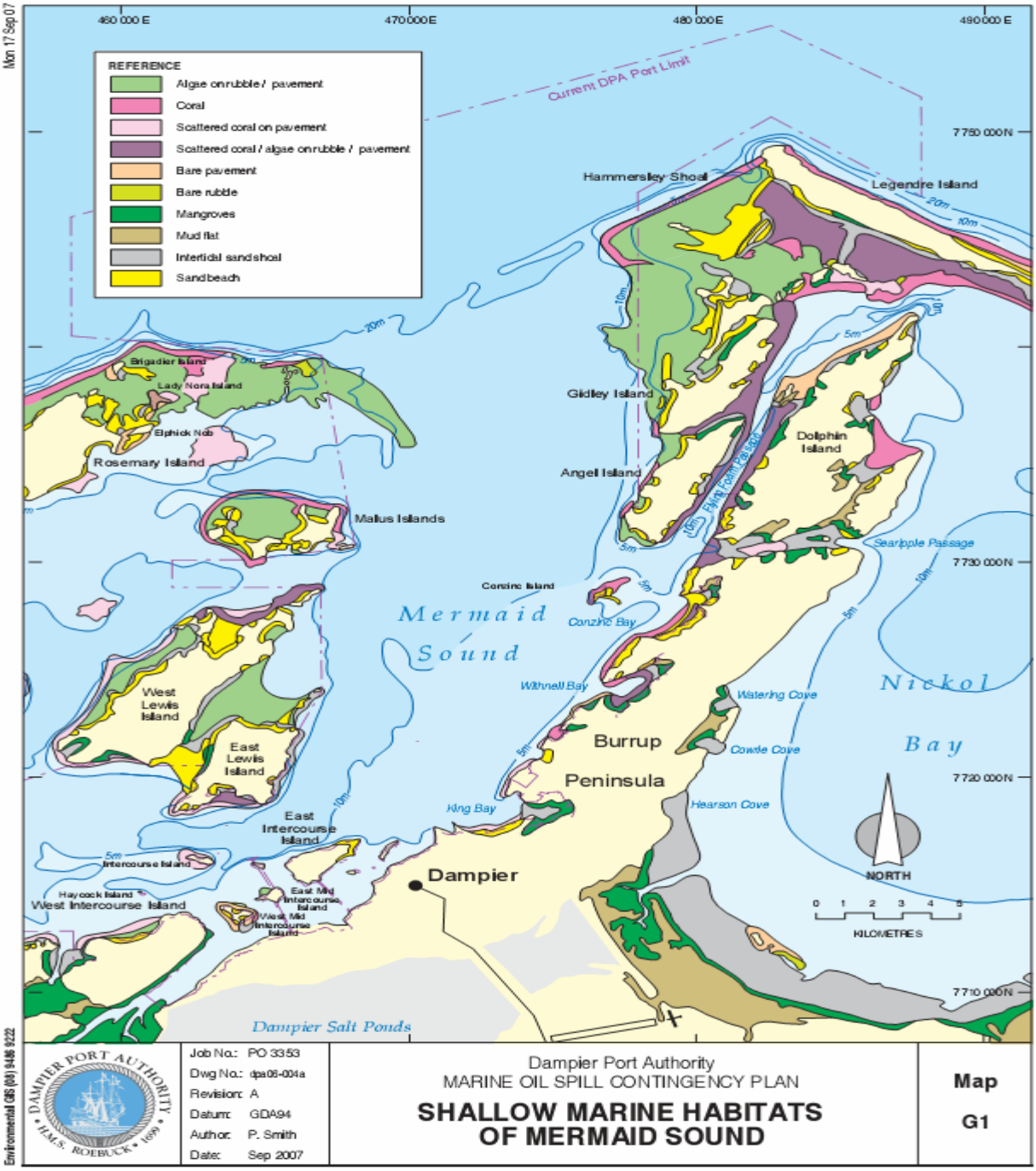
APPENDIX F

Table F.1 - Environmental Sensitivity Grading (Generic)

Environmental Sensitivity Grading	Criteria for Grading	Resource Types
1 Extreme	♦ areas of very high biological value and/or ♦ areas of national significance and/or ♦ areas likely to suffer severe impacts if oiled and/or ♦ areas unable to be effectively cleaned or restored and/or ♦ areas where oil may persist for some considerable time	♦ mangroves ♦ intertidal coral reefs ♦ turtle/sea bird breeding grounds ♦ intertidal seagrasses ♦ intertidal mud flats
2 High	♦ areas of high biological value and/or ♦ areas of regional significance and/or ♦ areas likely to suffer impact if oiled and/or ♦ areas where clean up is likely to be difficult, protracted and partially successful	♦ aquaculture facilities ♦ sub-tidal seagrass beds and coral reefs
3 Moderate	♦ areas of moderate biological value and/or ♦ areas unlikely to suffer severe impacts if oiled and/or ♦ areas that should recover if oiled and can be effectively cleaned, restored or replaced	♦ sheltered beaches ♦ sheltered rocky shores and reefs ♦ recreational/amenity areas and facilities
4 Low	♦ areas of low biological value and/or ♦ areas exposed to high energy conditions and/or ♦ areas easily cleaned or likely to recover naturally	♦ other beaches ♦ exposed rocky shores and reefs ♦ marinas, moorings and similar infrastructure

APPENDIX G

Map G.1 – Shallow Marine Habitats of Mermaid Sound



Map G.2 – Distributions of Significant Wildlife

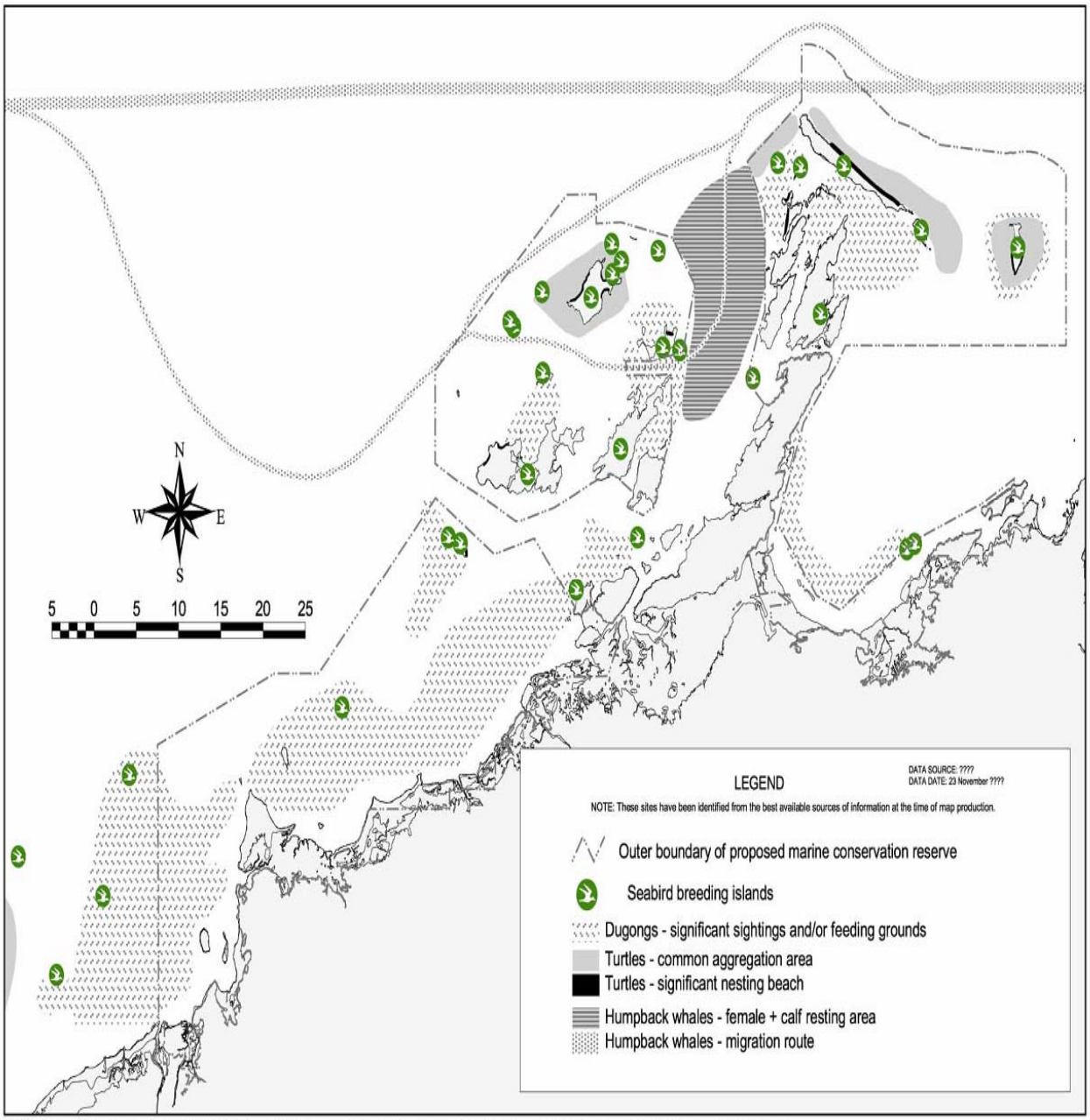


FIGURE 4: Distributions of significant wildlife within the proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area.

Map G.3 – Major Marine Habitats

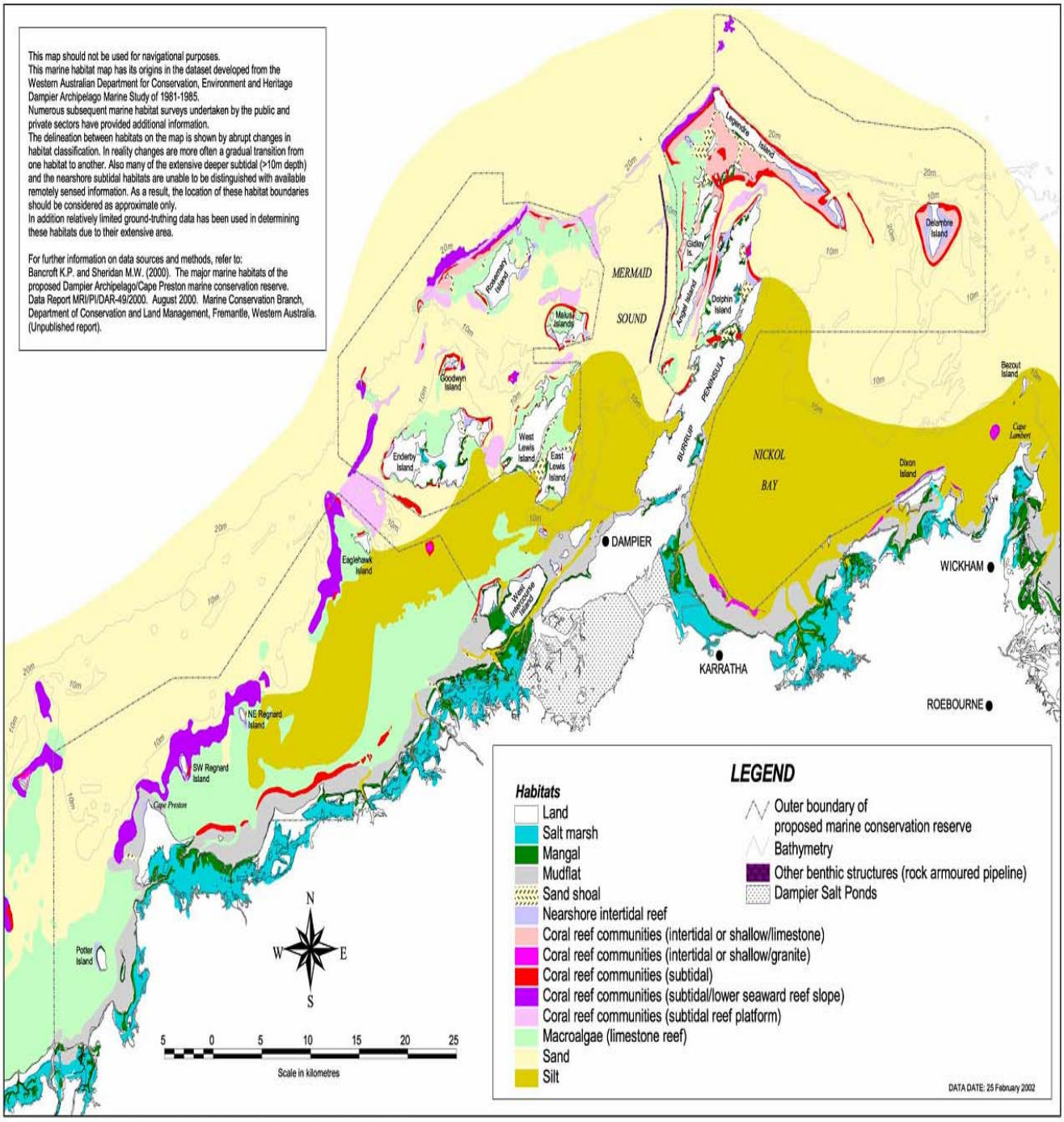


FIGURE 3: Major marine habitats of the proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area.

APPENDIX H

Table G.1 - Diesel Oil - Spreading Rates: Spill Diameter

Time Minutes/Hours		2 Tonnes	10 Tonnes	50 Tonnes	100 Tonnes	200 Tonnes
10	.017	74	128	220	282	346
20	0.33	94	161	274	345	435
40	0.67	118	202	345	435	549
60	1.00	137	232	396	498	631
100	1.70	161	275	470	588	741
200	3.30	204	346	596	764	933
500	8.30	274	470	804	1007	1270
1000	16.70	345	592	1020	1274	1607
2000	33.30	431	745	1272	1603	2023

Table G.2 - Diesel Oil - Evaporation Rates

Minutes	20	60	120	360	600	1200	2400
Hours	**0.3**	**1.0**	**2.0**	**6.0**	**10**	**20**	**40**
Approx % of original oil remaining	97	88	79	60	48	35	27

The above tables are reproduced courtesy of Woodside Offshore Petroleum, ERP09, Source: Kagi, R.I. (1983)

Table G.3 - NW Condensate - Spreading Rates on Water

Time mins/hrs	4 tonnes (5.2m²)	20 tonnes (26m²)	100 tonnes (130m²)	200 tonnes (260m²)	500 tonnes (650m²)
20/0.33	170	285	500	610	830
40/0.67	178	300	520	620	870
80/1.3	190	325	560	700	940
220/3.7	230	385	670	830	940
520/8.7	280	480	825	1030	1400
1020/17	340	580	1000	1250	1700
3020/50	480	820	1400	1760	2390

Table G.4 - Volume Loss

Approximate Time Ambient Temperature			Approximate $ age Volume Loss
20°	**26°**	**32°**	
<5	<5	<5	20%
<5	<5	<5	40%
<5	<5	<5	40%
5	5 - 10	5 - 10	55%
5	5 - 10	5 - 10	72%

APPENDIX I
WASTE MANAGEMENT

1. Waste Management Arrangements

1.1. *Onsite Temporary Storage*

- Marine response units will require assistance in the establishment of storage facilities on jetties or other locations.
- Shoreline Units will require assistance in the establishment of temporary waste storage areas behind beaches being cleaned.

1.2. *Temporary Storage Site*

- Temporary waste handling bases should be established. These should undertake the final segregation and separation of waste, and the selection of suitable disposal routes.

1.3. *Segregation of Waste*

- Wherever possible waste should be segregated in accordance with the preferred segregation shown in Table I.1.
- For large spills, or those where it is not possible to effectively segregate wastes in the field, the 'field' segregations can be used.

Table I.1 - Segregation of Waste

Field Segregation		Preferred Segregation
Liquid	Oils	Non emulsified oils
		Emulsified oils
	Wastewater	Water from temporary storage
		Water from heat or gravity separation of emulsions
		Water from chemically demulsified oil
Solid	Oils	High pour point oils
		High viscosity emulsions
		Tar balls
	Oily debris	Oil mixed with cobble or sand
		Oil mixed with wood, vegetation, plastics or sorbents

1.4. *Temporary Storage*

- Table I.2 lists some of the equipment available for transporting of waste along shorelines and provides some handling guidelines.

Table I.2 - Segregation of Waste

Waste Type	Container	Handling	
Liquid Oils & Wastewater	200 litre drums	Onshore	Half fill only. Care in handling.
	Fast tank	Onshore	Can be used for transport on truck with care.
	Vacuum trucks	Onshore	Should not be used on volatile oils
	Skips		Bottom drainage hole to be plugged
	Large flexible bags/containers	Offshore & Onshore	Onshore should be loaded onto flat-bed trucks prior to filling
	Barges & Dracones	Offshore	
Solid Oils & Oily Debris	200 litre drums	Onshore	Half fill only. Care in handling
	Skips	Onshore	Bottom drainage hole to be plugged
	Plastic bags	Onshore	Half fill only. Should be moved using Bobcat or Front-end loader.

- Attention should be given to the prevention of leaching or spillage from the vehicle by the use of plastic sheeting.

Note *Any container used for storage must be covered if rain is possible, to avoid overflow.*

1.5. *Offsite Transport*

- Only State licensed waste contractors should be used. These can be identified through the local shire, DEC or State Committee.

Note *Care should be taken that all vessels, vehicles, or containers used for the transport of oily waste are sterilised before leaving site are sealed and leak proof.*

1.6. *Separation*

- It may be required to separate oil from associated water, sediment and debris, to minimise volumes. It is preferable that this is not attempted on the spill site. Waste separation is usually undertaken offsite at a designated waste processing area. If this is necessary a number of methods may be used (Table I.3).

Caution These should only be attempted under the supervision of a DEC Officer or other qualified person.

Table I.3 - Separation and Disposal of Waste Materials

Waste Type	Separation Method
Non emulsified oils	N/A
Emulsified oils	Heat treatment
	Gravity separation [1]
	Demulsifiers [2]
Water from	
▪ Storage areas	N/A[3]
▪ Heat or gravity separation	N/A[3]
▪ Chemically demulsified emulsion	N/A
Tar balls	Sieve to remove sand [1]
Oil and sediment	Collect oil leaching from storage areas [1]
	Wash with water or solvent
Oil mixed with wood or other debris	Collect oil leaching from storage areas [1]
	Wash with water
1. May be undertaken at the point of collection (shoreline) *2. May be undertaken at the point of collection but is not preferred* *3. Should not be undertaken on site*	

1.7. *Disposal*

- Waste must be disposed of in accordance with State regulations. Local DEC officers must be consulted.

- Table I.4 indicates the possible methods of disposal available.

Table I.4 - Disposal Methods

Type of Material	Disposal Method
Liquid oil waste (predominately oil with some water)	Water: Oily water separation unit. Oil: Recycle
Oily Water (mainly water some oil)	As for liquid oily waste above
Solid Oily Waste (oil and solid material such as sand, flotsam or sorbents)	Solids: Landfill Isolated Areas: Landfill after oil content Reduced to no greater than 30 ppm
Inert Waste Materials	Wood: Incineration Paper: Recycle or Incineration Drums, batteries: Recycle Glass, aluminum: Recycle Others: Trash compaction or Landfill
Hazardous Waste (other than oil)	Incineration Controlled landfill

APPENDIX J – BEAUFORT SCALE

BEAUFORT SCALE						
Beaufort Scale	Wind Speed [1]		Description		Wave Height [2]	
	Mean	Range	Wind	Sea	Mean	Max
0	0	<1	Calm	Flat	-	-
1	2	1-3	Light air	Ripples	0.1	0.1
2	5	4-6	Light Breeze	Small wavelets. No breakers	0.2	0.3
3	9	7-10	Gentle Breeze	Large wavelets. Some breaking crests. Some scattered white horses.	0.6	1.0
4	13	11-16	Moderate Breeze	Small waves. Fairly frequent white horses.	1.0	1.5
5	19	17-21	Fresh Breeze	Moderate waves. Many white horses. Occasional spray.	2.0	2.5
6	24	22-27	Strong Breeze	Large waves. Extensive white foam crests. Some spray.	3.0	4.0
7	30	28-33	Near Gale	Sea rises. White foam from breaking waves blown in streaks.	4.0	5.5
8	37	34-40	Gale	Moderate and long waves. White foam blown in long streaks.	5.5	7.5
9	44	41-47	Strong Gale	High waves. Dense streaks of foam. Wave crests begin to topple.	7.0	10.0
10	52	48-55	Storm	Very high waves. Long hanging crests. Foam in large patches. Sea surface largely white.	9.0	12.5
11	60	56-63	Violent Storm	Extreme waves (small-medium ships lost to view). Foam covered sea surface. Reduced visibility.	-	-
12	-	>64	Hurricane	Air filled with foam and spray. Driving spray. Very reduced visibility.	>14	-

(1) In knots (~ 0.5m / second)
(2) In metres

APPENDIX K– DAMCON-MOP CONTACTS LIST

Position/Name	Phone Numbers		Fax Number
A. Spill Response Agencies			
Depart of Planning & Infrastructure Fremantle (DPI)			
Duty Officer (Report a spill)	9480 9924		
Manager Safety & Environment	9216 8867	0434073728	
Coordinator Environment Protection	9216 8803	0418924143	9216 8982
Training Officer	92168943	0417093651	"
Environmental Officer	9216 8233	0418915 116	"
Equipment Officer	9216 8886	0429683 660	"
Australian Maritime Safety Authority (AMSA) Canberra.			
Duty Officer	02 6230 6811	1800 641 792	
Australian Marine Oil Spill Company (AMOSC)			
Duty Officer	0438 379 328		
AMOSC Geelong	03 5272 1555		03 5272 1839
ORCA			
Director	03 9397 3511	0414 839 849	03 9397 3544
Director	03 9397 3511	0414 539 849	
B. Dampier Port Authority (DPA) Staff			
Port Communications – 24 hr operation	08 9159 6556	0428 888 800	08 9159 6558
Steve Lewis CEO	08 9159 6560	0429 937 623	08 9159 6557
John Fewings Harbour Master	08 9159 6565	0409 205 775	08 9159 6511
Bayden Johnson Deputy Harbour Master	08 9159 6569	0427 424 917	08 9159 6557
Daniel Frost Vessel Traffic Manager	08 9159 6575	0408 919 116	08 9159 6511
Chris Burgess Safety and Security	08 9159 6519	0407 902 221	08 9159 6518
Peter Berry Safety and Security	08 9159 6520	0447 924 896	08 9159 6521
Wayne Young Environment Manager	08 9159 6540		08 9159 6511
C. State Government Agencies			
Department of Environment & Conservation (Wildlife)	08 9182 2000	0420 103 445	08 9144 1118
Department of Planning & Infrastructure Karratha (DPI)	08 9185 6100	0419 950 920	08 9143 1288
WA Police Dampier	08 9183 1144	0419 839 894	08 9183 1018
WA Police Karratha	08 9144 2233		08 9144 2197
Department of Consumer & Employment Protection (DOCEP)	08 9185 0900		
Department of Indigenous Affairs	08 9235 8103	0409 448 860	08 9235 8088
Fisheries WA - Mike Dunne	08 9144 4337	0418 937 214	08 9144 4348
FESA - Jon Newman	08 9143 1227	0427 388 917	08 9143 1236

SES Karratha	08 9144 1848	0419 968 203	

D. Regional /Local Government agencies			
Shire of Roebourne	08 9186 8555		08 9185 1626
E. Regional Response Team Contacts			
Port Hedland			
Port Authority Office	08 9173 0030 24hours		08 9173 0060
Lindsay Copeman		0417 967 808	08 9173 0060
Joseph Perera	08 9173 0018	0419 926 426	08 9173 0060
Port Walcott			
Office	08 9159 2333		08 9159 2157
Ron Brand	08 9159 2386	0409 883 417	08 9159 2157
Ian Anderton	08 9159 2364	0417 926 177	08 9159 2157
Onslow Salt			
Office	08 9184 9000		
Jacques Le Roux	08 9184 9008	0418 279 942	08 9184 2001
Rod Baker	08 9184 9006	0418 216 973	08 9184 9001

F. Commonwealth Agencies			
AMSA Fremantle	08 9430 2110	0419 906 925	08 9430 4757
AMSA Karratha	08 9143 1446	0419 767 973	
Australian Quarantine Inspection Service (AQIS)	08 9185 2865	0411 866 670	08 9185 1207
Bureau of Meteorology	08 9263 2222	1800 802 267	08 9263 2211

G. Local Support			
Ambulance H.I.	08 9143 5333		
Ambulance Karratha	“000”		
Ambulance Woodside	08 9158 8171		
Australian Marine Services	08 9144 2110	0418 951 720	08 9144 2514
BP Dampier	08 9183 1688	0407 692 439	08 9183 1739
Bristow Helicopters	08 9185 2022	0419 769208	08 9185 5111
Dalmarine		0417 957873	
Dampier Salt Shipping	08 9143 6878	0419 981229	08 9143 6844
Fire Rescue Dampier	“000”		
Fire Rescue Karratha	“000”		
H.I. Scheduling	08 9143 5924	0417 914588	08 9143 5804
Helicopters Australia	08 9143 1836	0417 959073	08 9143 1801
Hospital Karratha	08 9144 0330		
Karratha Flying Services	08 9144 2444	Pager 91442432	
Karratha Medical Centre	08 9185 3555		
Mermaid Marine Australia	08 9183 6600	0417 938351	08 9183 6660
Woodside Marine Pilots	08 9158 7153	0418 943987	08 9158 7012

Oceanic Offshore (Divers)	08 9144 4193	0417 934232	
Riverwijs Marine	08 9158 7114	0410 904 611	08 9158 7012
Patrick Stevedores	08 9144 2868	0419 935948	
West Pilbara Sea Rescue	08 9183 1144	0419 868614	
Western Maritime	08 9183 1007	0409 885277	
Woodside Main Gate	08 9158 8171/2		
Woodside Communication Centre	1300 833 333		08 9348 7283