Chapter 12: Coastal Emergency Plans

1. **Shipping Incident Disaster Risk Management Plan**
2. **Cape Zone Coastal Oil Spill Contingency Plan**

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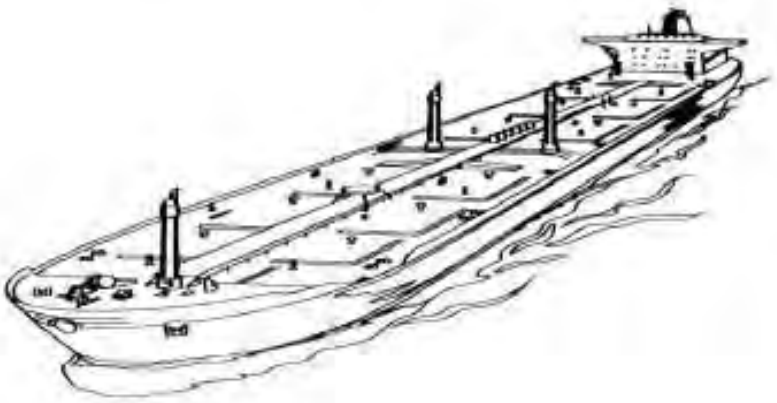
DISASTER RISK MANAGEMENT - CAPE TOWN -

D. Plan – T3

SHIPPING INCIDENT DISASTER RISK MANAGEMENT PLAN



REV 0 **FEBRUARY 2014**

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DISTRIBUTION

The Shipping Incident Disaster Risk Management Plan is produced by the City of Cape Town's Disaster Risk Management Centre (DRMC) as part of its responsibility in terms of the Disaster Management Act, 57 of 2002. This document is intended for the internal use of the Entities and Organisations concerned and should therefore be treated as restricted and confidential and must not be displayed in whole or in part in any public place or to the Media.

The Role-players will be advised by the DRMC when the DRM Plan is amended or updated. Amendments and updates must then be incorporated into each Organisation's / Discipline's own Plan copy and into any relevant SOP's, as applicable.

DRM PLAN DISTRIBUTION LIST

Copy Number	Date of Distribution	Name of Organisation
1	February 2014	City Manager - CoCT
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12	February 2014	CoCT Sport, Recreation & Amenities
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15	February 2014	WCG Forensic Pathology Services
16	February 2014	WCG Disaster Management (WC DMC)
17	February 2014	South African Police Service (SAPS)
18	February 2014	SASAR – Maritime Rescue Co-ordination Centre (MRCC)
19	February 2014	South African Maritime Safety Authority (SAMSA)
20	February 2014	National Department of Transport (DoT)
21	February 2014	South African National Defence Force (SANDF) – J Tac HQ. W. Cape
22	February 2014	South African National Defence Force (SANDF) – SA Navy, Simonstown
23	February 2014	South African National Defence Force (SANDF) – SA Air Force, OC AFB Ysterplaat
24	February 2014	Transnet National Ports Authority (TNPA) – Port of Cape Town Harbour Master
25	February 2014	National Sea Rescue Institute (NSRI)
26	February 2014	Robben Island Museum
27	February 2014	National Dept. of Environmental Affairs (DEA) – Oceans and Coasts

DOCUMENT AMENDMENTS / UPDATE LISTINGS

New amendments or updates will be added to the Amendments and Updates Listing below and it is the responsibility of the individual to regularly check the currency of their Plan copy.

Proposals for amendment or additions to the text of this DRM Plan should be forwarded to :-

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AMENDMENTS AND UPDATE LISTINGS

REV. NO.	DATE OF ISSUE	DETAILS OF PAGE(S) AMENDED OR REPLACED

CITY OF CAPE TOWN
D. Plan – T3
SHIPPING INCIDENT DISASTER RISK MANAGEMENT PLAN

1. SCOPE

1.1 PURPOSE

The purpose of the CoCT Shipping Incident Disaster Risk Management (DRM) Plan is to describe the organisation and functioning of activities in dealing with this identified hazard and its effect – direct or indirect socio-economic or environmental impacts - on the City of Cape Town. All hazards related to shipping and maritime operations at sea adjacent to the municipal area of the City of Cape Town are covered by this DRM Plan, viz. a major shipping incident, accident or any other type of emergency involving one or more vessels or marine structures and which has *some effect* on the City's community.

***** Note that a coastal oil spill hazard is dealt with under a separate Plan, viz. the Cape Zone (No.3) Coastal Oil Spill Contingency Plan led by the DEA – Oceans & Coasts, and that it may run concurrently with this DRM Plan if any oil is released through any shipping incident occurrence *****

1.2 BACKGROUND

- The marine and coastal environment is central to Cape Town's economy, sense of place, heritage, identity and recreational value and holds significant potential for contributing to further economic growth, job creation, social opportunities, development, social well-being and resilience towards climate change;
- Cape Town has a highly sensitive and rich coastal environment where a major oil or shipping accident may have catastrophic impacts;
- Shipping accidents and strandings impact across coastal jurisdictional boundaries, ecosystems and the marine and terrestrial environment and have the potential to cause significant negative impacts on the economic, environmental and social value of the coastline in Cape Town over extended periods of time;
- Shipping accidents and strandings have historically created significant financial burden on public funds administered by the different government departments and organs of state; including government agencies; and instances of default by owners and insurers have been high;
- Due to Cape Town's geographic location at the tip of Africa and the Port of Cape Town being a core economic hub, it forms a key international shipping route and as such the potential for shipping accidents and strandings remains high;
- The severe weather and sea conditions to which Cape Town is exposed further increases the risks of shipping accidents and strandings;

A shared and co-ordinated approach between the different government departments and organs of state; including government agencies, and a clear understanding of roles and responsibilities across the various agencies will significantly mitigate the risk of further shipping accidents and strandings and where these do occur, increase the effective and efficient resolution of such events and reduce the long term impacts.

The **(DRAFT) IMPLEMENTATION PROTOCOL FOR COOPERATION IN PREVENTING AND RESPONDING TO SHIPPING ACCIDENTS AND STRANDINGS OFF THE COASTLINE OF THE CITY OF CAPE TOWN** is the proposed formalisation of collaboration and co-operation Protocol Agreement between the DoT, DEA, TNPA, SAMSA and the CoCT – refer to ***ADDENDUM 1*** for a copy of this Draft Implementation Protocol.

To supplement the (strategic) Implementation Protocol the **CoCT Shipping Incident DRM Plan has been formulated at the tactical level** to co-ordinate the preparatory and response activities of all Services/Organisations, both Civil and Military, which are available to render assistance in the event of an shipping accident/incident/emergency in one of the City's harbours or at sea bordering the City, Robben Island or any other off-shore islands and which are within reach of

Cape Town's Rescue Services. **The Standard Operating Procedures (SOPs) of each of the Role-players will further supplement this DRM Plan on the operational side.**

The objectives of the Implementation Protocol referred to above are:-

- to reduce the potential for inshore shipping accidents, strandings, sinkings and other types of maritime incidents and to increase efficiency in responding to them;
- to establish long-term, on-going, clear and effective working relationships and build shared resources and capacity between the Parties relating to effective salvage operations that require reactions and assistance from the Parties;
- to ensure that the correct and appropriate delegations, authority and mandates are in place to allow for the collaboration, co-operation, joint operations and information sharing between officials from all Parties across jurisdictional boundaries in the event of shipping accidents, strandings or sinkings;
- to ensure that mechanisms are in place for legally compliant joint operations and activities by officials from all Parties using infrastructure, assets and resources which belong to one or all of the Parties.

To facilitate this arrangement the CoCT Shipping Incident Disaster Risk Management Plan sets out at the tactical level, the establishment, organisation and functioning of both the preparatory and response activities required by the various stakeholders to enable the City to deal with this hazard. There may be procedural differences depending on whether a Civil or Military ship is involved in an accident. This DRM plan will focus of civil shipping and, where possible, will indicate where there are differences in civil and military procedures / systems. The CoCT Shipping Incident DRM Plan will therefore ensure that:-

- where a shipping incident occurs ***at a major port / harbour*** **with a developed and exercised Emergency Response Plan, i.e. the Port of Cape Town and Simonstown Naval Base, the respective local Emergency Response Plan for the harbour is to be used (refer to APPENDIX 2) as this Plan is also integrated into the CoCT Shipping Incident Disaster Risk Management Plan;**
- for a shipping incident occurring at any ***off-port area***, i.e. out to sea, the standard response and recovery procedures which are covered by this Plan will apply; and
- the CoCT Shipping Incident DRM Plan will **strive to complement the existing Port / Harbour Emergency Response Plans by providing for a standardised approach to the <u>hazard assessment, risk-reduction and preparedness elements</u>** as per the Disaster Risk Management Continuum and to address these in more detail. This will allow for greater co-operation between all Stakeholders and a **co-ordinated response to shipping or maritime emergencies,** as required by the Disaster Management Act, 57 of 2002 and the National Disaster Management Framework of 2005.

2. REFERENCES

2.1 LEGISLATION

The following legislation impacts on the Disaster Risk Management planning effort for hazards affecting shipping and maritime operations:-

Constitution of the Republic of South Africa Act, 108 of 1996
Municipal Systems Act, 32 of 2000
International Convention for Safety of Life at Sea (SOLAS), as amended
Marine Pollution (Control and Civil Liability) Act, 6 of 1981
Regulations Relating to the Prevention and Combating of Pollution of the Sea by Oil, 1984
Marine Pollution (Intervention) Act, 64 of 1987
Marine Pollution (Prevention of Pollution from Ships) (MARPOL) Act, 2 of 1986 & Garbage from Ships Regulations
Marine Pollution (BCH Code) Regulations, 1998
Prevention of Pollution by Garbage from Ships Regulations, 1992
National Environmental Management: Waste Act, 59 of 2008
Dumping at Sea Control act, 73 of 1980
National Environmental Management Act (NEMA), 107 of 1998
National Environmental Management: Biodiversity Act, 10 of 2004
Marine Living Resources Act, 18 of 1998
Integrated Coastal Management Act, 24 of 2008
Sea Shore Act, 21 of 1935, as amended in 1993
Atmospheric Pollution Prevention Act, 4 of 1965
National Environmental Management: Air Quality Act, 39 of 2004
Merchant Shipping - Marine Pollution (IBC Code) Regulations, 1998

Merchant Shipping (Safe Containers Convention) Act, 2011
Merchant Shipping Act, 57 of 1951
Merchant Shipping Amendment Bill, 2009
Merchant Shipping (Carriage of Charts and Nautical Publications) Regulations, 2002
Merchant Shipping (Collision & Distress Signals) Regulations, 1996
Merchant Shipping (Dangerous Goods) Regulations, 1997
Merchant Shipping (EPIRB Registration) Regulations, 2002
Merchant Shipping (IGC Code) Regulations, 1998
Merchant Shipping (INF Code) Regulations, 2003
Merchant Shipping (Licensing of Vessels) Regulations, 2003
Merchant Shipping (Mandatory Ships' Routeing) Regulations, 1998
Merchant Shipping (National Small Vessel Safety) Regulations, 2007 (as amended)
Merchant Shipping (Notification of Building of Vessels) Regulations, 2002
Merchant Shipping (Radio Installations) Regulations, 2002
Merchant Shipping (Safe Manning) Regulations, 1999
Merchant Shipping (Safety Management) Regulations, 2003
Merchant Shipping (Seafarer Compensation) Regulations, 1998
Merchant Shipping (Seamen's Documents) Regulations, 2000
Merchant Shipping (Ship Identification Number) Regulations, 2004
Merchant Shipping (Training and Certification) Regulations, 1999
Merchant Shipping (Long Range Identification and Tracking of Ships) Regulations, 2009
Marine Traffic Act, 2 of 1981
Marine Traffic Regulations, 1985
Marine Traffic (Inshore Vessel Traffic Services) Regulations, 2000
Instrument of Designation as Marine Traffic Regulator (by SAMSA), 1 June 2000
Carriage of Goods by Sea Act, 1 of 1986
Amendment of Tonnage Regulations, 1986
Courts of Marine Enquiry Regulations, 1961
Life-saving Equipment Regulations, 1968
Sea Transport Documents Act, 65 of 2000
Admiralty Jurisdiction Regulation Act, 105 of 1983
Safety of Navigation Regulations, 1968
Maritime Security Regulations, 2004
Maritime Occupational Safety Regulations, 1994
Ship Registration Act, 58 of 1998
Ship Registration Regulations, 2002
Ship Identification Regulations, 2004
South African Maritime Safety Authority (SAMSA) Act, 5 of 1998
SAMSA Regulations, 1998
South African Maritime and Aeronautical Search and Rescue Act (SASAR), 44 of 2002
Charges Determination, 2009
South African Maritime Safety Authority Levies Act, 6 of 1998
Levy Determination, 2009
Wreck and Salvage Act, 94 of 1996
National Ports Act, 12 of 2005
Regulatory Principals of the Ports Regulator, 2009
Dept. of Transport – Port Rules & Harbour Master's Written Instruction, GN 255 of 2009
Fire Brigade Services Act, 99 of 1987
City of Cape Town Community Fire Safety By-law, 2004 & Amendment of 2008
SANS 10090: Community protection against fire
NFPA 291: Fire flow testing and marking of hydrant
NFPA 1201: Developing fire protection services for the public
NFPA 1500: Fire department occupational health and safety program
NFPA 1561: Standard on Emergency Services Incident Management System
NFPA 1670: Standard on Operations and Training for Technical Rescue Incidents (USAR)
NFPA 1710: Standard for the organization and deployment of fire suppression, emergency Medical operations and special operations to the public by career fire departments
NFPA 1901: Automotive fire apparatus
National Building Regulations and Building Standards Act, 103 of 1977, as amended
SANS 10400:1990 – Application of the National Building Regulations, incl. Part T
SANS 10252:2004 – Hose Reel and Hydrant Installations Standard
SANS 10287:2000 – Automatic Sprinkler Systems Standard
Occupational Health and Safety Act, 85 of 1993
Major Hazardous Installations Regulations of the Occupational Health and Safety Act
SANS 10234:2007 - Globally Harmonized System of classification and labelling of chemicals (GHS)

SANS 10265:1999 - Classification & labelling of dangerous substances prep. for sale and handling
Disaster Management Act, 57 of 2002, with ref. to the National Disaster Risk Management Framework 2005, Western Cape Provincial DM Policy Framework & CoCT DRM Policy Framework.
Intergovernmental Relations Framework Act, 13 of 2005
International Health Regulations Act, 28 of 1974 and Regulations
National Health Act, 61 of 2003
SA Police Service Act, 68 of 1995
SAPS Amendment Act, 83 of 1998
Arms and Ammunition Act, 75 of 1969
Explosives Act, 15 of 2003
Immigration Act, 13 of 2000
General Notice: Joint management of incidents involving chemical or biological agents or radio-active chemicals – Govt. Gazette No. 28437 of 3 Feb. 2006
Fund Raising Act, 107 of 1978
Social Assistance Act, 59 of 1992
Western Cape Provincial Department of Social Development: Outline for the proposed interim policy for the provisioning of social relief in the event of a disaster
The Animals Protection Act, 71 of 1962
City of Cape Town: Animal By-law, 2010
City of Cape Town: Air Quality Management By-Law of 2009
City of Cape Town: Air pollution Control By-Law, 2003

REMARK :- The Disaster Management Act, 2002, specifically requires the Local Authority to take the necessary remedial steps to prevent and / or mitigate the occurrence or re-occurrence of disasters in its area of jurisdiction and this forms the basis for the drafting of this DRM Plan.

2.2 LINKED DOCUMENTS / DRM PLANS / PROCEDURES / GUIDES (in separate files)

Implementation Protocol for Co-operation in preventing and responding to Shipping Accidents and Strandings off the Coastline of the City of Cape Town – between the DoT, DEA,TNPA,SAMSA and CoCT (Draft) ***NOTE*:** this Protocol document is being finalised for eventual signature by all the Parties – refer to Attachment 1 for details.
City of Cape Town Municipal Disaster Risk Management Plan
City of Cape Town's Multi-disciplinary Incident Management Plan (MIMP)
Western Cape Government Disaster Management Plan
The Standard Operating Procedures (SOPs) of ALL Role-players involved – the SOPs will include references to the applicable hazard(s) to be dealt with **by the respective Role-players i.r.o. their own mandates.**
SA Search & Rescue (SASAR) Manual
MRCC Operations Plan
South Africa's National Oil Spill Contingency Plan (NOSCP) – DEA / DoT / SAMSA
Cape Zone (No.3) Coastal Oil Spill Contingency Plan –- DEA
WCG EMS - Plan Delta
WCG Forensic Pathology Services – Major Incident Plan (Metro Region)
SAPS Emergency Response Plan and Procedures
(SANDF) J Ops HQ Operational Instruction 219/06, dd Nov 2006
(SANDF) CJ Ops/C/309/1 OPS NO99 Disaster Management Guidelines, dd 17 June 1999

In a possible CONSEQUENTIAL and/or MULTI-HAZARD SCENARIO after the occurrence of an aircraft incident, other hazards *may* also occur at or near to this incident location and one or more of the following hazard-specific DRM Plans will then be activated:-
Cape Zone (No.3) Coastal Oil Spill Plan (T10)
Environmental Pollution Hazards DRM Plan (E1)
Flooding & Storms Hazards DRM Plan (H1)
Climate Change and Coastal Zone Process Hazards DRM Plan (H2/G3) – incl. storm surges, tsunamis, etc. along the coastline
Accidental HazMat Incident DRM Plan (T9)
Koeberg Nuclear Power Station (KNPS) Radiological Release Hazard DRM Plan (T8)
Disruption of Essential Services and Critical Infrastructure DRM Plan (T11)
Structural Fire Hazards DRM Plan (T6)
Structural Failure Hazards DRM Plan (T7)
Aircraft Incident DRM Plan (T1) –incl. an aircraft crashing or ditching at sea off Cape Town
Social Disorder Hazards DRM Plan (S1)
Human Disease Hazards' Outbreak DRM Plan (B2)
Animal Disease Hazards' Outbreak DRM Plan (B3)
Pest Infestation Hazards DRM Plan (B4)

3. ABBREVIATIONS AND DEFINITIONS / GLOSSARY OF TERMS

3.1 ABBREVIATIONS USED IN DISASTER RISK MANAGEMENT AND IN SHIPPING OPERATIONS

ACSA – Airports Company of South Africa
ACFT - Aircraft
AFB – Air Force Base (SAAF)
ALERFA – Alert Phase
ALT – Altitude
AMVER – Automated Mutual Assistance Vessel Rescue
ARCC – Aeronautical Rescue Co-ordination Centre (located in Gauteng & part of the SASAR Organisation)
ATC – Air Traffic Control (either ATNS or SAAF, depending on location)
ATNS – Air Traffic Navigation Service Company Limited
ATS – Air Traffic Services
BOO – Base Operations Officer (at AFB Ysterplaat)
CAR – Civil Aviation Regulations
CoCT – City of Cape Town
CTIA – Cape Town International Airport
DAFF – National Department of Agriculture, Forestry and Fisheries
DCT – Disaster Co-ordination Team (for the City of Cape Town – convened during a disaster)
DEA – National Department of Environmental Affairs
DETRESFA – Distress Phase
DisRes - Disaster Resources Database
DMAF – Disaster Management Advisory Forum for the City of Cape Town
DOC – Disaster Operations Centre (part of CoCT DRMC)
DoT – National Department of Transport
DRA – Disaster Risk Assessment
DRMC – Disaster Risk Management Centre (CoCT)
DRMP – Disaster Risk Management Plan
DVI – Disaster Victim Identification
ELR – Extra Long Range
ELT – Emergency Locator Transmitter (aviation)
EMS – Emergency Medical Services (WCG) – also known as METRO-EMS
EP – Emergency Planning
EPIRB – Emergency Position Indication Radio Beacon (maritime)
ERMD – Environmental Resource Management Dept. (CoCT)
ERP – Emergency Response Preparedness
ETA – Estimated Time of Arrival
ETD – Estimated Time of Departure
EXCOM – Extended Communication Search
F&RS – Fire & Rescue Service (CoCT)
FCP – Forward (Field) Command Post (see also ICP)
FIC – Flight Information Centre
FIR – Flight Information Region
FL – Flight Level
FOB – Fuel on Board (an aircraft or a ship)
FPS – Forensic Pathology Services (WCG)
GIS – Geographical Information System
GPS – Global Positioning System
HF – High Frequency (radio signal)
HRAVA* - Hazard, Risk and Vulnerability Assessment (* the same process as that of a Comprehensive DRA)
HOD – Head of Department
ICAO – International Civil Aviation Organisation
ICP – Incident Command Post (see also FCP)
IDP - Integrated Development Plan
IFR – Instrument Flight Rules
IMO – International Maritime Organisation
IMT – Incident Management Team (On-site)
INCERFA – Uncertainty Phase
JDRRMC - Joint Disaster Risk Reduction Management Committee
JMC – Joint Media Centre
JOC – Joint Operations Centre
J Tac HQ WC – Joint Tactical Headquarters Western Cape (SANDF)
KT - Knot
LRG – Long Range
LUT – Local User Terminal (for Search & Rescue satellite beacon monitoring)
MCC – Mission Control Centre (done by the MRCC)
MERSAR – Merchant Search and Rescue
METRO-EMS – Emergency Medical Services (see also EMS)
MIMP – Multi-disciplinary Incident Management Plan
MPD – Metropolitan Police Department (CoCT)
MRCC – Maritime Rescue Co-ordination Centre (at Tygerberg Office Park & part of the SASAR Organisation)

MRG – Medium Range
MSL – Mean Sea Level
NDB – Non-Directional (radio) Beacon (for navigation)
NDMC - National Disaster Management Centre
NGO – Non-governmental Organisation(s)
NHS – Non-hospitalised Survivors
NKP – National Key Point
NM – Nautical Mile
NOTAM – Notice to Airmen
NSRI – National Sea Rescue Institute
OSC – On-Scene Co-ordinator
PAX - Passengers
PECC – Public Emergency Communications Centre of the CoCT (using the 107 call number)
PIC – Pilot-in-Command
PLB – Personal Locator Beacon (on land)
PTSC – Post-traumatic Stress Counselling
RADAR – Radio Direction and Ranging (used for shipping & aircraft location)
RCC – Rescue Co-ordination Centre
RSC – Rescue Sub-Centre
RV – Rescue Vessel
RVP – Rendezvous Point
SAAF – South African Air Force (part of SANDF)
SACAA – South African Civil Aviation Authority
SAMSA – South African Maritime Safety Authority
SAN – South African Navy (part of SANDF)
SANCCOB – South African National Foundation for the Conservation of Coastal Birds
SANDF – South African National Defence Force
SAPS – South African Police Service
SAR – Search and Rescue
SASAR – South African Search and Rescue (for both Maritime & Aviation operations)
SCP – Service Command Post (at the Incident Site)
SEC – Security (at the Port of Cape Town)
SITREP – Situation Report
SM or RM – Search or Rescue Master
SMS – Safety Management System
SMS – Short Message System (on the GSM Cellular System)
SOP – Standard Operating Procedure(s)
SPCA – Society for the Prevention of Cruelty to Animals
SPOC – Search & Rescue Points of Contact
SRA – Survivor Reception Area
SRG – Short Range
SRR – Search and Rescue Region
SRU – Search and Rescue Unit
SUB-SRR – Sub-Search and Rescue Region
TNPA – Transnet National Ports Authority
TSS – Traffic Separation Schemes
UHF – Ultra High Frequency (radio signal)
VFR – Visual Flight Rules
VHF – Very High Frequency (radio signal)
VIP – Very Important Person(s)
VLR – Very Long Range
VSA – Vehicle Staging Area
VTS – Vessel Traffic Separation (also called TSS)
YPLT – Ysterplaat Air Force Base
WC DMC – WCG Disaster Management Centre
WCG – Western Cape Government

3.2 DEFINITIONS / GLOSSARY OF CERTAIN TERMS USED IN DISASTER RISK MANAGEMENT AND IN SHIPPING OPERATIONS

ACCIDENT - An occurrence in which a person/s is/are fatally or seriously injured or any other serious / substantial damage is incurred to a ship or other maritime facility, property and/or equipment. A person is considered to be fatally injured if he/she dies of causes related to the accident – refer also to the ***INCIDENT*** definition.

ACTS OF UNLAWFUL INTERFERENCE - means acts or attempted acts that jeopardise the safety of maritime operations, such as –

(a) unlawful seizure of a ship or vessel;
(b) hostage-taking on board an aircraft or on aerodromes;
(c) forcible intrusion on board a ship or vessel at a harbour or on the premises of a maritime facility;
(d) introduction on board a ship or vessel or at a port/harbour of a weapon or hazardous device or material intended for criminal purposes;
(e) communication of false information as to jeopardize the safety of a ship or vessel, of passengers, crew, ground personnel or the general public, at a port/harbour or on the premises of a maritime facility;
(f) forcible intrusion of a maritime facility;
(g) threatening to do harm to any maritime facility;
(h) unlawful transmissions on a maritime frequency;
(j) unlawful interference, electronically or physically, with a maritime frequency;
(k) unlawful destruction of a maritime facility.

AERONAUTICAL RESCUE CO-ORDINATION CENTRE (ARCC) – A Centre established within each SRR for the purpose of directing search and rescue operations, which specifically caters for those situations involving aircraft requiring search, assistance and rescue and the provision of assistance to the ***MRCC*** i.r.o. aeronautical search action.

AIRCRAFT – The term generally used in this DRM Plan which represents all types of vehicle designed to operate in the air, viz. heavier-than-air aeroplane, helicopter, microlight, autogyro, glider, motor glider, hot-air (free) balloon, paraglider, parachute, model sport aeroplane, etc.

AIRPORT / AERODROME / AIRFORCE BASE - A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

AIR TRAFFIC CONTROL / SERVICE - A generic term for managing air traffic, meaning variously: air traffic advisory service, area control service, approach control service, aerodrome control service, a surveillance service, flight information service or an alerting service run by licenced and validated Air Traffic Controllers.

ALERFA (SASAR Terminology) – Refers to the Alert Phase and is a situation wherein apprehension exists as to the safety of an aircraft or vessel and its occupants. It can be assigned any time apprehension exists for the safety of an aircraft because of definite information that serious difficulties exist which do not amount to distress, or because of a continued lack of information concerning progress or position. The key word is *apprehension*.

ALERT - An “Alert” is an incident that currently does not affect the local or general population but has the potential to a more serious emergency. The situation is unresolved and should be monitored closely. Some limited protective actions may be implemented and additional assistance requested from the relevant specialist Agencies.

ALERT PHASE - a situation wherein apprehension exists as to the safety of an aircraft or vessel and its occupants.

ALERTING POST - a post which provides an alerting service.

ALERTING SERVICE - means a service provided to notify and assist the appropriate organisations regarding aircraft in need of search and rescue aid and to assist such organisations as appropriate.

ALTITUDE - the vertical distance of a level, a point or an object considered as a point measured from mean sea level.

AMPHIBIOUS AEROPLANE - means an aeroplane designed and constructed to take-off from and land on land surfaces as well as water surfaces.

AMPHIBIOUS AIRCRAFT - means amphibious aeroplanes and amphibious helicopters.

AMPHIBIOUS HELICOPTER - means a helicopter equipped with wheels, skids, floats or other devices, but excluding emergency flotation equipment, enabling it to land and take-off from land as well as water surfaces.

ASSEMBLY AREA - A designated area established in the vicinity of any Venue which has a large population occupancy, for the purpose of temporarily accommodating evacuees exiting that Venue after an emergency or as a precaution to any hazard which might develop. This area will be regarded as being “safe” from the prevailing hazard inside the Venue. The affected Venue’s Emergency and Evacuation Plans should provide details of the Assembly Area(s) location(s) and utilisation.

AUTOMATED MUTUAL ASSISTANCE VESSEL RESCUE - a computerised system which plots vessels worldwide at sea and is able to provide information on the location of shipping and its SAR potential for use in search and rescue operations.

BAGGAGE – Property of passengers and crew carried on board a ship by agreement with the operator or owner.

BIOLOGICAL HAZARD (ex UNISDR) - Process or phenomenon of organic origin or conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. *Comment: Examples of biological hazards include outbreaks of epidemic diseases, plant or animal contagion, insect or other animal plagues and infestations.*

BOMB THREAT – A communicated threat, anonymous or otherwise, which suggest, or infers, whether true or false, that the safety of an aircraft in flight or on the ground, and includes any airport or air navigation facility, or any persons, may be in danger from an explosive or other item or device.

BULK CARRIER – A specially designed vessel to carry cargo "in bulk" and the hatch cover and hold design is focused on the carriage of raw dry cargo goods such as coal, grain, iron ore and bauxite, which are simply poured into cavernous holds then grabbed and bulldozed out at the port of discharge.

CAPACITY – The ability or the resource availability of one or more Services/Organisations to respond to any given Incident, Emergency or Disaster situation.

CAPACITY (ex UNISDR) - The combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals. *Comment: Capacity may include infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills and collective attributes such as social relationships, leadership and management. Capacity also may be described as capability. Capacity assessment is a term for the process by which the capacity of a group is reviewed against desired goals, and the capacity gaps are identified for further action.*

CAPACITY DEVELOPMENT (ex UNISDR) - The process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions. *Comment: Capacity development is a concept that extends the term of capacity building to encompass all aspects of creating and sustaining capacity growth over time. It involves learning and various types of training, but also continuous efforts to develop institutions, political awareness, financial resources, technology systems, and the wider social and cultural enabling environment.*

CARGO – Any property carried on a vessel which may be contained in various forms, i.e. container, bulk, tanks, in open hold, etc.

CONTAINER SHIP – Vessels that carry their cargo is standard size containers, normally either 20ft units (TEU) or 40ft units (FEU) for speed of loading and discharge. Container ships may carry from just a few hundred to many thousands of containers.

CONTINGENCY PLANNING (ex UNISDR) - A management process that analyses specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to **enable timely, effective and appropriate responses** to such events and situations. *Comment: Contingency planning results in organized and co-ordinated courses of action with clearly identified institutional roles and resources, information processes, and operational arrangements for specific actors at times of need. Based on scenarios of possible emergency conditions or disaster events, it allows key actors to envision, anticipate and solve problems that can arise during crises. Contingency planning is an important part of overall preparedness. Contingency plans need to be regularly updated and exercised.*

CONTROL AREA - The total area where the Incident occurred within the outer perimeter, and includes the inner perimeter and danger zone, as well as all aircraft wreckage, the triage and any other designated areas.

CO-ORDINATION - The bringing together of organisations and elements to ensure effective emergency / disaster management response and is primarily concerned with the systematic acquisition and application of resources (organisation, manpower and equipment) in accordance with the requirements imposed by the threat or impact of an emergency or disaster. Co-ordination relates primarily to resources, and operates vertically, within an organisation as a function of the authority to command; and horizontally, across organisations, as a function of the authority to control – refer also to the ***UNIFIED COMMAND*** definition.

COPING CAPACITY (ex UNISDR) - The ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters – also called *MANAGEABILITY*. *Comment: The capacity to cope requires continuing awareness, resources and good management, both in normal times as well as during crises or adverse conditions. Coping capacities contribute to the reduction of disaster risks.*

CORRECTIVE DISASTER RISK MANAGEMENT (ex UNISDR) - Management activities that address and seek to correct or reduce disaster risks which are already present. *Comment: This concept aims to distinguish between the risks that are already present, and which need to be managed and reduced now, and the prospective risks that may develop in future if risk reduction policies are not put in place. (Refer also to **PROSPECTIVE RISK MANAGEMENT**).*

CREW MEMBER - means a person assigned by an operator to carry out duties on board a vessel during its voyage.

CRITICAL FACILITIES (ex UNISDR) - The primary physical structures, technical facilities and systems which are socially, economically or operationally essential to the functioning of a society or community, both in routine circumstances and in the extreme circumstances of an emergency. *Comment: Critical facilities are elements of the infrastructure that support essential services in a society. They include such things as transport systems, air and sea ports, electricity, water and communications systems, hospitals and health clinics, and centres for fire, police and public administration services.*

CROWD BARRIER (CORDON) – Temporary or permanent structure/s that prevents access to demarcated areas as identified by the risk assessment.

CRUISE LINER – A specially designed passenger vessel serving the tourism sector and carrying from a few hundred to thousands of passengers and crew members.

DANGER ZONE (HOT ZONE) – The cordoned off area immediately around the crash site where emergency operations take place.

DANGEROUS GOODS – Articles or substances, which are capable of posing significant risk to health, safety, property or the environment, and which are shown in the list of dangerous goods as per ICAO Doc 9284 (Technical Instructions for the Safe Transportation of Dangerous Goods by Air) or which are classified according to those instructions.

DANGEROUS GOODS ACCIDENT - means an accident associated with and related to the conveyance of dangerous goods by sea.

DANGEROUS GOODS INCIDENT - means an incident, other than a dangerous goods accident, associated with and related to the conveyance of dangerous goods by sea, and includes injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained or which seriously jeopardises the vessel or its occupants.

DETRESFA (SASAR Terminology) – Refers to the Distress Phase and is a situation wherein there is reasonable certainty that grave and imminent danger threatens an aircraft or vessel and its occupants and requires immediate assistance, or because of a continued lack of information concerning progress or position. *The key words are grave or imminent danger and immediate assistance required.*

DISASTER – A progressive or sudden, widespread or localised, natural phenomena or human-caused occurrence which –

(a) causes or threatens to cause -
  (i) death, injury or disease;
  (ii) damage to property, infrastructure or the environment; or
  (iii) disruption of a community; and
(b) is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources.

DISASTER (ex UNISDR) - A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources. *Comment: Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.*

DISASTER MITIGATION (EX INISDR) - Disaster mitigation refers to structural and non-structural measures that are undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards on vulnerable areas, communities and households. These efforts can target the hazard or threat itself (for example, the positioning of firebreaks on the urban/wildland interface). This is often referred to as 'structural mitigation', since it requires infrastructure or engineering measures to keep the hazard away from those at risk. Disaster mitigation efforts can also target people who are at risk, by reducing their vulnerability to a specific threat (for instance, promoting community responsibility for controlling fire risk in an informal settlement). This is often called 'non-structural mitigation', as it promotes risk-avoidance behaviours and attitudes.

DISASTER OPERATIONS CENTRE (DOC) - A fully equipped dedicated facility within the Municipal, Provincial or National Disaster (Risk) Management Centre. Such a facility must be capable of accommodating any combination of emergency and essential services representatives, including all relevant role players and stakeholders identified in response and recovery plans for the purpose of multidisciplinary strategic management of response and recovery operations, when a local, provincial or national disaster occurs or is threatening to occur.

DISASTER RECOVERY - Disaster recovery (including rehabilitation and reconstruction) focuses on the decisions and actions taken after a disaster to restore lives and livelihoods, services, infrastructure and the natural environment. In addition, by developing and applying risk reduction measures at the same time, the likelihood of a repeated disaster event is reduced. Disaster recovery includes:-

* rehabilitation of the affected areas, communities and households
* reconstruction of damaged and destroyed infrastructure
* recovery of losses sustained during the disaster event, combined with the development of increased resistance to future similar occurrences.

DISASTER RISK (or RISK) - The measure of potential harm from a hazard or threat. Risk is usually associated with the human inability to cope with a particular situation. In terms of disaster management it can be defined as the probability of harmful consequences, or expected losses death, injury, damage to property and the environment, jobs, disruption of economic activity or social systems. Hazards will affect communities differently in terms of ability and resources with which to cope. Poorer communities will be more at risk than others.

DISASTER RISK (ex UNISDR) - The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period. *Comment: The definition of disaster risk reflects the concept of disasters as the outcome of continuously present conditions of risk. Disaster risk comprises different types of potential losses which are often difficult to quantify. Nevertheless, with knowledge of the prevailing hazards and the patterns of population and socio-economic development, disaster risks can be assessed and mapped, in broad terms at least.*

DISASTER RISK ASSESSMENT - Assessment of the threat posed by any identified hazard with a disaster potential.

DISASTER (RISK) MANAGEMENT - means a continuous and integrated multi-sectoral, multi-disciplinary process of planning and implementation of measures aimed at – *(a)* preventing or reducing the risk of disasters; *(b)* mitigating the severity or consequences of disasters, *(c)* emergency preparedness, *(d)* a rapid and effective response to disasters, and (e) post-disaster recovery and rehabilitation.

DISASTER RISK MANAGEMENT (ex UNISDR) - The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster. *Comment: This term is an extension of the more general term "risk management" to address the specific issue of disaster risks. Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness.*

DISASTER RISK MANAGEMENT CENTRE - A Centre specializing in Disaster (Risk) Management established in a Municipality, Province or at National level in terms of the Disaster Management Act, No. 57 of 2002.

DISASTER (RISK) MANAGEMENT PLAN - A document describing the organisational structure, its roles and responsibilities and concept of operation covering all aspects of the Disaster Risk Management Continuum and placing an emphasis on measures that reduce vulnerability, viz. hazard identification, risk and vulnerability assessment, risk reduction and mitigation, planning and preparedness, emergency response, relief and recovery efforts.

DISASTER RISK REDUCTION - Disaster risk reduction can be seen as the systematic development and application of policies, strategies and practices to minimize vulnerabilities and disaster risks throughout a society to prevent and limit negative impacts of hazards, within the broad context of sustainable development. In South Africa, disaster risk reduction is an integral and important part of disaster management.

DISASTER RISK REDUCTION (ex UNISDR) - The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events. *Comment: A comprehensive approach to reduce disaster risks is set out in the United Nations-endorsed Hyogo Framework for Action, adopted in 2005, whose expected outcome is "The substantial reduction of disaster losses, in lives and the social, economic and environmental assets of communities and countries." The International Strategy for Disaster Reduction (ISDR) system provides a vehicle for cooperation among Governments, organisations and civil society actors to assist in the implementation of the Framework. Note that while the term "disaster reduction" is sometimes used, the term "disaster risk reduction" provides a better recognition of the on-going nature of disaster risks and the on-going potential to reduce these risks.*

DISASTER RISK REDUCTION PLAN* (ex UNISDR) - A document prepared by an authority, sector, organisation or enterprise that sets out goals and specific objectives for reducing disaster risks together with related actions to accomplish these objectives. *Comment: Disaster risk reduction plans should be guided by the Hyogo Framework and considered and coordinated within relevant development plans, resource allocations and programme activities. National level plans need to be specific to each level of administrative responsibility and adapted to the different social and geographical circumstances that are present. The time frame and responsibilities for implementation and the sources of funding should be specified in the Plan. Linkages to climate change adaptation plans should be made where possible.*

DISTRESS PHASE - a situation wherein there is reasonable certainty that an aircraft or vessel and its occupants are threatened by grave and imminent danger and require immediate assistance.

EARLY WARNING SYSTEM (ex UNISDR) - The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss. *Comment: This definition encompasses the range of factors necessary to achieve effective responses to warnings. A people-centred early warning system necessarily comprises four key elements: knowledge of the risks; monitoring, analysis and forecasting of the hazards; communication or dissemination of alerts and warnings; and local capabilities to respond to the warnings received. The expression "end-to-end warning system" is also used to emphasize that warning systems need to span all steps from hazard detection through to community response.*

EMERGENCY - A hazard occurrence or an event, actual or imminent, that requires the prompt implementation of actions through the co-ordination of a number of significant emergency management activities, or the special regulation of persons or property, to limit the risk to health, safety or welfare of people, or to limit damage to property or the environment - refer also to the ***INCIDENT***, ***MAJOR INCIDENT*** and ***DISASTER*** definitions.

EMERGENCY EXIT - Structural means whereby a safe route is provided for people to travel from any point in a building or structure to a place of safety without assistance.

EMERGENCY LOCATOR TRANSMITTER - means equipment which broadcast distinctive signals on designated frequencies and, depending on application, may either sense a crash and operate automatically or may be manually activated. An ELT may be any of the following:
(a) Automatic fixed ELT (ELT(AF)). An automatically activated ELT which is permanently attached to an aircraft;
(b) Automatic portable ELT (ELT(AP)). An automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft;
(c) Automatic deployable ELT (ELT(AD)). An ELT which is rigidly attached to an aircraft and which is automatically deployed and activated by impact, and, in some cases, also by hydrostatic sensors. Manual deployment is also provided; or
(d) Survival ELT (ELT(S)). An ELT which is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors.

EMERGENCY MANAGEMENT (ex UNISDR) - The organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps. *Comment: A crisis or emergency is a threatening condition that requires urgent action. Effective emergency action can avoid the escalation of an event into a disaster. Emergency management involves plans and institutional arrangements to engage and guide the efforts of government, non-government, voluntary and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of emergency needs. The expression "disaster management" is often used in SA instead of "emergency management" but is essentially the same function.*

EMERGENCY PLAN - A document developed by an Airport Operator describing the organisational structure, its roles and responsibilities, concept of operation, means and principles for intervention during an emergency occurring at that specific Airport.

EMERGENCY POSITION INDICATING RADIO BEACON - a beacon which emits an emergency signal and enables those executing a search to locate its source.

EMERGENCY PROCEDURES - A set of documents describing the detailed actions to be taken by response personnel during an emergency.

EMERGENCY RESPONSE PLAN - The section of a Disaster Risk Management Plan developed to deal specifically with the organisational structure, its roles and responsibilities, concept of operation, means and principles for intervention during an incident or emergency occurring at a specific venue or event.

EMERGENCY SERVICES (ex UNISDR) - The set of specialized agencies that have specific responsibilities and objectives in serving and protecting people and property in emergency situations. *Comment: Emergency services include agencies such as civil protection authorities, police, fire, ambulance, paramedic and emergency medicine services, Red Cross and Red Crescent Societies, and specialized emergency units of electricity, transportation, communications and other related services organizations.*

EMERGENCY SHELTER - Refer to ***MASS CARE CENTRE***.

ESTIMATED TIME OF ARRIVAL - the time at which the aircraft or vessel estimates arriving at a specified location or facility.

ESTIMATED TIME OF DEPARTURE - the time at which the aircraft or vessel has been planned to leave the point of departure.

EVACUATION – The controlled, rapid and directed withdrawal of a population, during an emergency, from a place of danger to a place of safety in order to avoid acute exposure to any Incident.

EVACUATION CONTROL PROCEDURES - The plans made by the various Services to outline their duties and to ensure the orderly movement of people during the evacuation period.

EVACUEES, SPONTANEOUS - Persons who might leave an area in periods of intense crisis in response to a real or feared threat, whether or not they are advised to do so.

EVENT - Entertainment (including live acts), recreational, educational, cultural, religious, business (including marketing, public relations and promotional), charitable, exhibition, conference, organisational and similar activities, hosted at a stadium or a venue or along a route or its precinct.

EXERCISE - An evaluation of major portions of emergency response capabilities. An exercise tests the integrated capability of the emergency response organisation, to identify weaknesses that could affect the response to an actual emergency.

EXPOSURE (ex UNISDR) - People, property, systems, or other elements present in hazard zones that are thereby subject to potential losses. *Comment: Measures of exposure can include the number of people or types of assets in an area. These can be combined with the specific vulnerability of the exposed elements to any particular hazard to estimate the quantitative risks associated with that hazard in the area of interest.*

EXTENDED COMMUNICATION SEARCH - a search employing telephonic or other communication means over an abnormal period.

EXTENSIVE RISK (ex UNISDR) - The widespread risk associated with the exposure of dispersed populations to repeated or persistent hazard conditions of low or moderate intensity, often of a highly localized nature, which can lead to debilitating cumulative disaster impacts. *Comment: Extensive risk is mainly a characteristic of rural areas and urban margins where communities are exposed to, and vulnerable to, recurring localised floods, landslides, storms and drought. Extensive risk is often associated with poverty, urbanization and environmental degradation. See also "**INTENSIVE RISK".***

EXTRA LONG RANGE - refers to an aircraft whose radius of action is 1 200 nautical miles with two and a half hours' search remaining.

FINAL APPROACH AND TAKE-OFF AREA - means a defined area over which the final phase of the approach manoeuvre by helicopter to hover or landing is completed and from which the take-off manoeuvre is commenced, where the final approach and take-off area is to be used by performance Class 1 helicopters, the defined area includes the rejected take-off area available.

FINAL EXIT - Termination of an escape route from a venue or structure giving direct access to a place of safety such as a street, passageway, walkway or open space and positioned to ensure that people can disperse safely from the vicinity of the building or structure and from the effects of a hazard.

FLIGHT / IN FLIGHT - Means from the moment an aircraft commences take-off until the moment it completes its next landing.

FLIGHT CREW MEMBER - A person licensed in terms of the Civil Aviation Regulations, assigned by an operator to do duty on an aircraft during flight time.

FLIGHT INFORMATION REGION - an airspace of defined dimensions within which flight information service and alerting services are provided.

FLIGHT PLAN - means specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft**.**

FLIGHT RECORDER - means any type of recorder installed in an aircraft for the purpose of complementing accident/incident investigation**.**

FOOT (ft) - is the measure of length equal to 0.3048 metres exactly.

FORECAST (ex UNISDR) - A definite statement or statistical estimate of the likely occurrence of a future event or conditions for a specific area. *Comment: In meteorology a forecast refers to a future condition, whereas a warning refers to a potentially dangerous future condition.*

FOREIGN AIR OPERATOR - means any operator, other than a South African air operator, which undertakes on a scheduled or charter basis, whether directly or indirectly, by lease or any other arrangement, to engage in commercial air transport operations within the borders or airspace of South Africa;

FOREIGN STATE AIRCRAFT - means any aircraft owned or operated by any State other than the Republic of South Africa.

FORWARD COMMAND (or CONTROL) POST (FCP) - This is the single point of **joint command** for all on-site operations during the response phase of an emergency incident and it will be located at an appropriate location at or near the scene of the emergency, normally within the ***INNER PERIMETER / RESTRICTED ZONE***. Incident Commanders / Managers from key response agencies as the Incident Management Team, will jointly operate under ***UNIFIED COMMAND*** to co-ordinate incident operations and standard protocols will be used by the Responders. **The FCP may also be referred to as the *ON-SITE JOINT OPERATIONS CENTRE (ON-SITE JOC)*** or as the ***INCIDENT COMMAND POST.***

FREIGHT - means ***CARGO.***

GENERAL AVIATION OPERATION - All civil aviation operations other than scheduled air passenger services and non-scheduled air transport operations (charters) for remuneration or hire.

HAZARD - a potentially damaging physical event including human injury or death, social and economic disruption or environmental degradation or some combination of these. Alternatively, it means any act, omission, event or condition or a combination thereof that could lead to or result in an accident or incident.

HAZARD (ex UNISDR) - A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. *Comment: The hazards of concern to disaster risk reduction as stated in footnote 3 of the Hyogo Framework are " … hazards of natural origin and related environmental and technological hazards and risks." Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis.* ***Other (specific) hazard-related terms which are used in the UNISDR Terminology are: Biological hazard; Geological hazard; Hydro-meteorological hazard; Natural hazard; Socio-natural hazard; Technological hazard.***

HAZARD AREA - Area(s) designated by the Disaster Risk Management services, or locally through a hazard risk and vulnerability analysis, which are relatively more likely to experience the direct effects of natural or man-made disasters.

HAZARD MITIGATION - All methods and measures employed during the response phase to eliminate or make less severe / reduce the effects of a major disaster or emergency, or through pro-active risk reduction initiatives.

HAZARDOUS MATERIAL - Is any substance or material in a quantity or form which may be harmful or injurious to humans, animals, economical crops, or property when released into the environment. There are 4 traditional classes:- chemical, biological, radiological and explosive.

HELIPORT - means an aerodrome or any defined area on land or water, incl. vessels and other maritime structures, (including any buildings, installations and equipment) intended or designated to be used either wholly or in part for the landing, departure and surface movement of helicopters.

HELIPORT OPERATING MINIMA - means the limits of usability of a heliport for –
(a) take-off, expressed in terms of RVR and/or visibility and, if necessary, cloud conditions;
(b) landing in precision approach and landing operations, expressed in terms of visibility and/or RVR and DA/H as appropriate to the category of the operation;
(c) landing in approach and landing operations with vertical guidance, expressed in terms of visibility and/or RVR and DA/H; and
(d) landing in non-precision approach and landing operations, expressed in terms of visibility and/or RVR, MDA/H and, if necessary, cloud conditions.

HOT ZONE - refer to the ***DANGER ZONE*** definition.

INCERFA (SASAR Terminology) – Refers to the Uncertainty Phase and is a situation wherein uncertainty exists as to the safety of an aircraft or vessels and its occupants. It can be assigned any time doubt exists as to the safety of an aircraft because of lack of information concerning progress or position - *the key word is **doubt**.*

INCIDENT - A general description of a hazard occurrence or situation which impacts upon a localized community or geographical area, requiring intervention ranging from a limited co-ordination of emergency resources to a more extensive multi-disciplinary operation. This scenario may also develop into an emergency or disaster situation. (Refer also to the ***ACCIDENT, MAJOR INCIDENT***, ***EMERGENCY*** and ***DISASTER*** *definitions*).

INCIDENT ACTION PLAN (ex MIMP) - The incident should function under a single, co-ordinated Incident Action Plan in dealing with the situation. The **lead** Discipline / Service / Agency's Senior Officer i.r.o. the particular hazard being responded to will have responsibility for implementing the Incident Action Plan and will be assisted by the Incident Management Team (IMT) and off-site structures to ensure effective integration. The Incident Action Plan should strive to follow standard protocols but take into consideration the incident's particular response factors, such as intensity of hazard, capacities and resources of responders, terrain, weather conditions, etc.

INCIDENT COMMAND POST (ICP) - The single point of command for all on-site operations during the response phase of an emergency and will be located at an appropriate location at or near the scene of the emergency, normally within the INNER PERIMETER / RESTRICTED ZONE. Incident Commanders / Managers from key response agencies will operate under UNIFIED COMMAND to co-ordinate incident operations. **The ICP may also be referred to as the *ON-SITE JOINT OPERATIONS CENTRE (ON-SITE JOC)***, or as the ***FORWARD COMMAND (or CONTROL) POST (FCP).***

INCIDENT COMMANDER – the most senior staff member present of **a responding Discipline who will manage that Discipline's tactical and operational deployment according to the parameters and specialisation of that Discipline.** He / she will liaise with all other Disciplines on scene through the On-site Incident Management Team so that Unified Command can be achieved. If necessary, the Discipline with the most active role in combating the hazard will assume the role of the Leading Discipline(s).

INCIDENT MANAGEMENT - Policies and procedures developed for the municipal area of the City of Cape Town to ensure effective inter-discipline / inter-service co-operation at incidents, emergencies or disasters that require multi-disciplinary operations refer also to the ***SITE CO-ORDINATION*** definition.

INCIDENT MANAGEMENT TEAM (IMT) (also known as the Bronze Co-ordinating Group) - The multi-disciplinary team convened at the designated On-Site JOC, under direction of the nominated / selected IMTC, which co-ordinates the effective execution of all line-function responsibilities during the response, relief and rehabilitation phases of any incident, emergency or disaster, using the Unified Command approach.

INCIDENT MANAGEMENT TEAM CO-ORDINATOR (IMTC) - The responsible role-player at the designated On-Site JOC, who is selected to head the Incident Management Team (IMT) which is tasked to co-ordinate and control all the operational response, relief and rehabilitation efforts at any incident, emergency or disaster site, using the Unified Command approach.

INCIDENT SITE OPERATIONAL AREA - The area, defined by the Incident Commanders, incorporating the localized community or geographical area impacted by the incident.

INNER PERIMETER (RESTRICTED ZONE) – A cordoned off area around the ***DANGER ZONE*** where restricted access is allowed. Only authorised persons will be allowed in this area.

INFRASTRUCTURE – Planned and organised system that is incorporated within everyday management activities, to ensure an acceptable level of emergency incident preparedness.

INNER PERIMETER (RESTRICTED ZONE) – A cordoned off area around the ***DANGER ZONE*** where restricted access is allowed. Only authorised persons will be allowed in this area.

INSTRUMENT FLIGHT RULES - apply when a flight is conducted in accordance with the Instrument Flight Rules as described in the relevant ICAO documents and in the South African Air Navigation Regulations.

INTEGRATED DISASTER (RISK) MANAGEMENT – A concept that applies mitigation, preparedness, response and recovery activities to all hazards in a local / provincial / national partnership.

INTENSIVE RISK * (ex UNISDR) - The risk associated with the exposure of large concentrations of people and economic activities to intense hazard events, which can lead to potentially catastrophic disaster impacts involving high mortality and asset loss. *Comment: Intensive risk is mainly a characteristic of large cities or densely populated areas that are not only exposed to intense hazards such as strong earthquakes, active volcanoes, heavy floods, tsunamis, or major storms but also have high levels of vulnerability to these hazards. See also* ***EXTENSIVE RISK****.*

INVESTIGATION - in relation to accidents and incidents, means a process conducted for the purpose of accident prevention and includes the gathering and evaluation of information, the drawing of conclusions, including the determination of the cause, causes, probable cause or probable causes of an accident or the underlying cause or causes and/or contributing factors leading to an incident and, when appropriate, the making of recommendations in connections with maritime safety.

JOINT MEDIA CENTRE – A Centre established to receive first hand and updated information on the situation with input from all the stakeholders and to co-ordinate all liaison with the media.

KNOT (kt) - is the measurement of speed equal to 1 nautical mile per hour.

LANDING ZONE (LZ) - An area demarcated at a scene for landing helicopters for the primary objective of evacuating emergency patients.

LIAISON OFFICER - the officer responsible for liaison between the RCC, departmental authorities, operating agencies, the Press and the public.

LONG RANGE - refers to an aircraft whose radius of action is 750 nautical miles with two and a half hours' search remaining.

MAIL – Dispatched of correspondence and other objects tendered by and intended for delivery to postal authorities and which may be transported in an aircraft.

MAJOR INCIDENT - A more complex hazard occurrence situation which impacts upon a localized community or geographical area, requiring the co-operation and co-ordinated response of multiple emergency disciplines, resources and operations. This scenario may also develop into an emergency or disaster situation. (Refer also to the ***INCIDENT***, ***EMERGENCY*** and ***DISASTER*** definitions).

MARITIME RESCUE CO-ORDINATION CENTRE (MRCC) – A Centre established within each SRR for the purpose of directing search and rescue operations, which specifically caters for those situations involving vessels at sea requiring search, assistance and rescue and the provision of assistance to the ARCC as required.

MASS CARE CENTRE (or EMERGENCY SHELTER) – A Centre established to provide shelter and other basic needs of a person affected by an emergency or disaster who has no other place of refuge.

MEDEVAC - the evacuation of a seriously injured or ill person from a vessel at sea where the person's condition is such that he obtains medical treatment sooner than when his vessel would be able to get him to a suitable medical facility.

MEDIUM RANGE - refers to an aircraft whose radius of action is 400 nautical miles with two and a half hours' search remaining.

MERCHANT SEARCH AND RESCUE - the search and rescue operation in respect of merchant shipping.

METRE (m) - is the distance travelled by light in a vacuum during 1/299 792 458 of a second.

MITIGATION (refer also to DISASTER MITIGATION) - Activities designed to reduce or eliminate risks to persons or property or to lessen the actual or potential effects or consequences of an incident.

MITIGATION (ex UNISDR) - The lessening or limitation of the adverse impacts of hazards and related disasters. *Comment: The adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, "mitigation" is defined differently, being the term used for the reduction of greenhouse gas emissions that are the source of climate change.*

MAYDAY – A radio term used by the pilot of an aircraft or vessel in distress to indicate an imminent emergency situation which requires immediate and appropriate assistance from the ground services.

NATIONAL KEY POINT – Any place or area which has been so-declared under the National Key Points Act.

NATIONAL PLATFORM FOR DISASTER RISK REDUCTION (ex UNISDR) - A generic term for national mechanisms for coordination and policy guidance on disaster risk reduction that are multi-sectoral and inter-disciplinary in nature, with public, private and civil society participation involving all concerned entities within a country. *Comment: This definition is derived from footnote 10 of the Hyogo Framework. Disaster risk reduction requires the knowledge, capacities and inputs of a wide range of sectors and organisations, including United Nations agencies present at the national level, as appropriate. Most sectors are affected directly or indirectly by disasters and many have specific responsibilities that impinge upon disaster risks. National platforms provide a means to enhance national action to reduce disaster risks, and they represent the national mechanism for the International Strategy for Disaster Reduction (ISDR).*

NATIONAL SEA RESCUE INSTITUTE (NSRI) - a voluntary South African sea rescue organisation equipped to undertake sea rescue operations.

NATURAL HAZARD (ex UNISDR) - Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. *Comment: Natural hazards are a sub-set of all hazards. The term is used to describe actual hazard events as well as the latent hazard conditions that may give rise to future events. Natural hazard events can be characterized by their magnitude or intensity, speed of onset, duration, and area of extent. For example, earthquakes have short durations and usually affect a relatively small region, whereas droughts are slow to develop and fade away and often affect large regions. In some cases hazards may be coupled, as in the flood caused by a hurricane or the tsunami that is created by an earthquake.*

NATURAL PHENOMENA - Natural phenomena are extreme weather, water or geological (earth) processes that do not pose a threat to people or properties. When they occur in a deserted place, they are merely natural phenomena and nothing else. However, once they affect human beings, due to location or poor planning by the human beings, they are a potential hazard and could become a disaster.

NAUTICAL MILE - means the length equal to 1 852 metres exactly.

NON-RESTRICTED AREA - Areas of an airport to which the public have access or to which access is otherwise unrestricted.

OCCUPANT CAPACITY - The maximum number of people who can be safely accommodated at a Venue or in a Facility.

OFFSHORE OPERATIONS - with respect to helicopter operations, means operations which routinely have a substantial proportion of the flight conducted over sea areas to or from offshore locations. Such operations include, but are not limited to, support of offshore oil, gas and mineral exploitation and sea-pilot transfer.

OIL / LIQUID CARGO TANKER – Vessel which carries liquid cargo in tanks. It is specifically designed to carry a particular type of liquid cargo, i.e. crude oil, petroleum products, chemicals, Liquefied Natural Gas (LNG), Liquefied Petroleum Gas (LPG), etc.

ON-SCENE COMMANDER - the official designated by the SMC for controlling a specific SAR mission at the scene of an SAR incident.

ON-SITE JOINT OPERATIONS CENTRE (ON-SITE JOC) - this may also be referred to as the *FORWARD COMMAND POST (FCP).* *The On-site JOC* is designated on-site facility, established at either an acceptable structure in the vicinity or a mobile JOC which can be provided by the DRMC or any other designated Discipline, during a major incident, emergency or disaster situation. It will be the single point where JOINT ON-SITE OPERATIONS (INCIDENT) MANAGEMENT takes place through a multi-disciplinary Incident Management Team (BRONZE COMMAND). Incident / Bronze Commanders from the key response Disciplines will operate under **Unified Command** as specified in the MIMP to ensure collaboration, co-ordination and communication during incident operations at the incident site. The On-site JOC will be linked to the various established ***Service Command Posts (SCPs) / Bronze Command*** on-site and as well as to the DCT in the CoCT DOC. It should be located at an appropriate and safe location at or near the scene of the emergency and within the INNER PERIMETER / RESTRICTED ZONE for security reasons.

OPERATOR – A person, organization or enterprise engaged in or offering to engage in a maritime operation.

OUTER PERIMETER (SAFE ZONE) – The area outside of the Restricted Zone / Inner Perimeter, still with limited public access, to act as a safety (buffer) zone from the public.

PASSENGER - means a person, other than a crew member, who is carried on board a vessel.

PASSENGER AREA - All the ground space and facilities provided for passenger processing. It includes aprons, passenger buildings, vehicle parks and roads.

PERSONAL LOCATOR BEACON - an emergency locater beacon small enough to be carried on a person. It operates on 121.5, 243 or 406 MHZ and is intended solely for distress signalling.

PILOT-IN-COMMAND – means the pilot responsible for the operation and safety of the aircraft in flight, without regard to whether or not he/she is manipulating the controls.

PLACE OF SAFETY – Place away / outside of danger.

PORT CAPTAIN (HARBOUR MASTER) - the person designated as the official to exercise authority over operations at a port or harbour.

PREPAREDNESS - The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the operational capability to prevent, protect against, respond to, and recover from incidents. Preparedness contributes to **disaster risk reduction** through measures taken in advance to ensure effective response to the impact of hazards, including timely and effective early warnings and the temporary evacuation of people and property from threatened locations. Preparedness enables organs of state and other institutions involved in disaster risk management, the private sector, communities and individuals to mobilise, organise, and provide relief measures to deal with an impending or current disaster, or the effects of a disaster. Preparedness differs from prevention and mitigation, as it focuses on activities and measures taken in advance of a specific threat or disaster.

PREPAREDNESS (ex UNISDR) - The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions. *Comment: Preparedness action is carried out within the context of disaster risk management and aims to build the capacities needed to efficiently manage all types of emergencies and achieve orderly transitions from response through to sustained recovery. Preparedness is based on a sound analysis of disaster risks and good linkages with early warning systems, and includes such activities as contingency planning, stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supported by formal institutional, legal and budgetary capacities. The related term "readiness" describes the ability to quickly and appropriately respond when required.*

PREVENTION (ex UNISDR) - The outright avoidance of adverse impacts of hazards and related disasters. *Comment: Prevention (i.e. **disaster prevention**) expresses the concept and intention to completely avoid potential adverse impacts through action taken in advance. Examples include dams or embankments that eliminate flood risks, land-use regulations that do not permit any settlement in high risk zones, and seismic engineering designs that ensure the survival and function of a critical building in any likely earthquake. Very often the complete avoidance of losses is not feasible and the task transforms to that of mitigation. Partly for this reason, the terms prevention and mitigation are sometimes used interchangeably in casual use.*

PROSPECTIVE DISASTER RISK MANAGEMENT (ex UNISDR) - Management activities that address and seek to avoid the development of new or increased disaster risks. *Comment: This concept focuses on addressing risks that may develop in future if risk reduction policies are not put in place, rather than on the risks that are already present and which can be managed and reduced now. See also **CORRECTIVE DISASTER RISK MANAGEMENT**.*

PROTECTION - Actions to mitigate the overall risk to critical infrastructure people, assets, systems, networks and functions and their interconnecting links, from exposure, injury, destruction, incapacitation or exploitation.

PUBLIC AWARENESS (ex UNISDR) - The extent of common knowledge about disaster risks, the factors that lead to disasters and the actions that can be taken individually and collectively to reduce exposure and vulnerability to hazards. *Comment: Public awareness is a key factor in effective disaster risk reduction. Its development is pursued, for example, through the development and dissemination of information through media and educational channels, the establishment of information centres, networks, and community or participation actions, and advocacy by senior public officials and community leaders.*

RCC CHIEF – an official in the Rescue Co-ordination Centre responsible for ensuring the requirements are met to enable SAR operations within a given geographical are to be co-ordinated.

RECOVERY (ex UNISDR) - The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. *Comment: The recovery task of rehabilitation and reconstruction begins soon after the emergency phase has ended, and should be based on pre-existing strategies and policies that facilitate clear institutional responsibilities for recovery action and enable public participation. Recovery programmes, coupled with the heightened public awareness and engagement after a disaster, afford a valuable opportunity to develop and implement disaster risk reduction measures and to apply the "build back better" principle.*

REGISTERED AIRCRAFT - Aircraft on the register of the South African Civil Aviation Authority (SACAA) will display a 5-letter registration commencing with the letters ZS- or ZU-, or, if registered in another country, the appropriate registration letters allocated by that country.

RENDEZVOUS POINT(S) (or RV POINT) – location(s) where the responding Services will meet to jointly proceed to the Incident area.

RESCUE CO-ORDINATION CENTRE - a centre established within each SRR for the purpose of directing search and rescue operations

RESCUE SERVICE - means a service a defined in Section 1 of the Fire Brigade Services Act, 1987 (Act No. 99 of 1987), a medical service or any other related service.

RESCUE SUB-CENTRE - is a suitable, appointed unit tasked to carry out duties of the RCC when it is found that the RCC cannot exercise direct and effective control over search and rescue facilities in certain sectors of an SRR. This would happen in the following instances:
1) where the communication facilities in a sector of an SRR are not adequate for direct and close co-ordination between the RCC and the rescue units in that sector; and
2) where the SRR encompasses a number of States or territorial divisions of a State in which, for political, administrative and similar reasons, local facilities can only be directed and controlled through designated local authorities. (This would occur, for example, in respect of Lesotho, Namibia and Swaziland).

RESCUE VESSEL - a long-range sea-going craft with reasonable speed.

RESIDUAL RISK (ex UNISDR) - The risk that remains in unmanaged form, even when effective disaster risk reduction measures are in place, and for which emergency response and recovery capacities must be maintained. *Comment: The presence of residual risk implies a continuing need to develop and support effective capacities for emergency services, preparedness, response and recovery together with socioeconomic policies such as safety nets and risk transfer mechanisms.*

RESILIENCE (ex UNISDR) - The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions. *Comment: Resilience means the ability to "resile from" or "spring back from" a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.*

RESILIENCY - The capability of people, assets and systems to maintain functions during a disaster and to expeditiously recover and reconstitute essential services after the event.

RESPONSE (DISASTER RESPONSE) – Response is the implementation of measures that are necessary to protect against a hazard. Disaster response refers to the provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term or protracted duration.

RESPONSE (ex UNISDR) - The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected. *Comment: Disaster response is predominantly focused on immediate and short-term needs and is sometimes called "disaster relief". The division between this response stage and the subsequent recovery stage is not clear-cut. Some response actions, such as the supply of temporary housing and water supplies, may extend well into the recovery stage.*

RESTRICTED ZONE – refer to ***INNER PERIMETER*** **RETROFITTING (ex UNISDR) -** Reinforcement or upgrading of existing structures to become more resistant and resilient to the damaging effects of hazards. *Comment: Retrofitting requires consideration of the design and function of the structure, the stresses that the structure may be subject to from particular hazards or hazard scenarios, and the practicality and costs of different retrofitting options. Examples of retrofitting include adding bracing to stiffen walls, reinforcing pillars, adding steel ties between walls and roofs, installing shutters on windows, and improving the protection of important facilities and equipment.*

RISK (or DISASTER RISK) – The measure of potential harm from a hazard or threat. Risk is usually associated with the human inability to cope with a particular situation. In terms of disaster management it can be defined as the probability of harmful consequences, or expected losses death, injury, damage to property and the environment, jobs, disruption of economic activity or social systems. Hazards will affect communities differently in terms of ability and resources with which to cope. Poorer communities will be more at risk, i.e. more vulnerable, than others.

RISK (ex UNISDR) - The combination of the probability of an event and its negative consequences. *Comment: This definition closely follows the definition of the ISO/IEC Guide 73. The word "risk" has two distinctive connotations: in popular usage the emphasis is usually placed on the concept of chance or possibility, such as in "the risk of an accident"; whereas in technical settings the emphasis is usually placed on the consequences, in terms of "potential losses" for some particular cause, place and period. It can be noted that people do not necessarily share the same perceptions of the significance and underlying causes of different risks.* **** Refer to other risk-related terms in the Terminology:- Acceptable risk; Corrective disaster risk management; Disaster risk; Disaster risk management; Disaster risk reduction; Disaster risk reduction plans; Extensive risk; Intensive risk; Prospective disaster risk management; Residual risk; Risk assessment; Risk management; Risk transfer.***

RISK ANALYSIS - The systematic use of information to identify risk sources and to estimate risk.

RISK ASSESSMENT - Assessment of the threat posed by any identified hazard.

RISK ASSESSMENT (ex UNISDR) - A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend. *Comment: Risk assessments (and associated risk mapping) include: a review of the technical characteristics of hazards such as their location, intensity, frequency and probability; the analysis of exposure and vulnerability including the physical social, health, economic and environmental dimensions; and the evaluation of the effectiveness of prevailing and alternative coping capacities in respect to likely risk scenarios. This series of activities is sometimes known as a risk analysis process.*

RISK MANAGEMENT (ex UNISDR) - The systematic approach and practice of managing uncertainty to minimize potential harm and loss. *Comment: Risk management comprises risk assessment and analysis, and the implementation of strategies and specific actions to control, reduce and transfer risks. It is widely practiced by organizations to minimise risk in investment decisions and to address operational risks such as those of business disruption, production failure, environmental damage, social impacts and damage from fire and natural hazards. Risk management is a core issue for sectors such as water supply, energy and agriculture whose production is directly affected by extremes of weather and climate.*

RISK TRANSFER (ex UNISDR) - The process of formally or informally shifting the financial consequences of particular risks from one party to another whereby a household, community, enterprise or state authority will obtain resources from the other party after a disaster occurs, in exchange for on-going or compensatory social or financial benefits provided to that other party. *Comment: Insurance is a well-known form of risk transfer, where coverage of a risk is obtained from an insurer in exchange for on-going premiums paid to the insurer. Risk transfer can occur informally within family and community networks where there are reciprocal expectations of mutual aid by means of gifts or credit, as well as formally where governments, insurers, multi-lateral banks and other large risk-bearing entities establish mechanisms to help cope with losses in major events. Such mechanisms include insurance and re-insurance contracts, catastrophe bonds, contingent credit facilities and reserve funds, where the costs are covered by premiums, investor contributions, interest rates and past savings, respectively.*

RUNWAY - means a defined rectangular area on a land aerodrome prepared for the landing and take-off of aeroplanes.

SAFETY - means the freedom from risk of bodily injury or death and the freedom from risk of loss or damage to property.

SAFETY MANAGEMENT SYSTEM - means a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

SAFE ZONE – refer to ***OUTER PERIMETER*.**

SAR MISSION CO-ORDINATOR - the official designated by the RCC Chief for co-ordinating and controlling a specific Search and Rescue mission.

SAR PLAN - a detailed plan formulating the basis of search and rescue operations.

SEARCH AND RESCUE FACILITIES - are the manpower and equipment suitable for search and rescue operations drawn or developed from several sources.

SEARCH OR RESCUE MASTER - the official designated by the SMC to exercise control over SRUs at the distress scene.

SEARCH AND RESCUE REGION (SRR) – an area in which the co-ordination of search and rescue is effected by a single RCC. South Africa has two Search and Rescue Regions, one landward for aviation search and rescue and one seaward for maritime search and rescue.

SEARCH AND RESCUE UNIT - any unit assigned by the SMC to perform search, rescue or similar operations during a Search and Rescue mission.

SECURITY – a combination of measures and human and material resources intended to safeguard shipping against acts of unlawful interference.

SERVICE COMMAND POST (SCP) (also known as Service's Bronze Command (ex MIMP) - An on-site facility where OPERATIONAL COMMAND OF A SPECIFIC RESPONDING SERVICE / DISCIPLINE takes place. It is linked to the designated ON-SITE JOC / FCP where joint (inter-disciplinary) decision-making and co-ordination takes place, as well as to the respective Service's / Discipline's own off-site Control Centre **(**refer also to ***UNIFIED COMMAND*)**.

SHORT RANGE - refers to an aircraft which has a radius of action of 150 nautical miles with half an hour's search remaining.

SITE CO-ORDINATION (ex MIMP) - This term refers to the bringing together of organisations and elements to ensure effective major incident, emergency or disaster response on site and is primarily concerned with the systematic acquisition and application of resources (organisation, manpower and equipment) in accordance with the requirements imposed by the hazard (threat) or the resultant impact of any incident, emergency or disaster. This co-ordination / incident management relates primarily to resources, and operates vertically, within an organisation, as a function of the authority to command (SCP) and horizontally, across organisations, as a function of the authority to control (On-Site JOC).

SITUATION REPORT - an up-to-date report on a situation in respect of the progress of search and rescue.

STANDARD OPERATING PROCEDURES (SOP's) - A set of instructions having the force of a directive, covering those features of operations which lend themselves to a definite or standard procedure without loss of effectiveness.

STATE AIRCRAFT - means aircraft used in military, customs and police services.

STRUCTURAL AND NON-STRUCTURAL MEASURES (ex UNISDR) –
 # Structural measures: Any physical construction to reduce or avoid possible impacts of hazards, or application of engineering techniques to achieve hazard-resistance and resilience in structures or systems; **# Non-structural measures**: Any measure not involving physical construction that uses knowledge, practice or agreement to reduce risks and impacts, in particular through policies and laws, public awareness raising, training and education. *Comment: Common structural measures for disaster risk reduction include dams, flood levies, ocean wave barriers, earthquake-resistant construction, and evacuation shelters. Common non-structural measures include building codes, land use planning laws and their enforcement, research and assessment, information resources, and public awareness programmes. Note that in civil and structural engineering, the term "structural" is used in a more restricted sense to mean just the loadbearing structure, with other parts such as wall cladding and interior fittings being termed non-structural.*

SUB-SEARCH AND RESCUE REGION - an area in which the co-ordination of search and rescue is affected by a single Rescue Sub-centre (RSC).

SURVIVOR RECEPTION AREA – An area, managed by the Airline involved in the Incident to manage patient tracking in association with the LIC – refer to the CTIA ERP Plan.

TECHNOLOGICAL HAZARD (ex UNISDR) - A hazard originating from technological or industrial conditions, including accidents, dangerous procedures, infrastructure failures or specific human activities, that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. *Comment: Examples of technological hazards include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires, and chemical spills. Technological hazards also may arise directly as a result of the impacts of a natural hazard event.*

TELECOMMUNICATIONS - is any transmission, emission or reception of signs, signals, written images and sound or intelligence of any nature by wire, radio, visual or other electromagnetic systems.

THREAT - The intention and capability of an adversary (i.e. people and nature) to undertake actions that would be detrimental to critical infrastructures – refer also to the ***HAZARD*** definition.

THREAT - as used in the context of operating a vessel, means events or errors, as defined, that occur beyond the influence of the crew, increase operational complexity, and which must be managed to maintain the margin of safety.

THREAT MANAGEMENT - means the process of detecting and responding to the threats with countermeasures that reduce or eliminate the consequences of threats, and mitigate the probability of errors, as defined, or undesired ship conditions.

TRAFFIC CONTROL POINTS – Places along access or egress routes to / from the Incident Site and primarily used by emergency vehicles and / or places along evacuation routes that are manned by law enforcement officials to direct and control to and from the area being evacuated

TRIAGE – Means the medical sorting of casualties into treatment priority.

UNCERTAINTY PHASE - a situation wherein uncertainty exists as to the safety of an aircraft or vessel and its occupants

UNIFIED COMMAND (JOINT BRONZE CO-ORDINATING GROUP) (ex MIMP) - The system of effectively managing an incident, emergency or disaster site so that joint decision-making and co-ordination for operational functions is established between the responding Services / Disciplines, while still retaining each Service's / Discipline's internal command structures.

VEHICLE STAGING AREA(S) – An area demarcated for all primary emergency vehicles of the responding Services' to assemble and deploy their vehicles on an organised basis.

VERY LONG RANGE - refers to an aircraft which has a radius of action of 1 000 nautical miles with two and a half hours' search remaining.

VULNERABILITY – The degree to which people, property, the environment or social and economic activity - in short, all elements-at-risk - are susceptible to injury, loss of life, damage, disruption, exploitation or incapacitation by all hazards.
VULNERABILITY (ex UNISDR) - The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. *Comment: There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management. Vulnerability varies significantly within a community and over time. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure.*

4. LEAD AND SUPPORTING ROLE-PLAYERS INVOLVED IN THE CoCT SHIPPING INCIDENT DRM PLAN

South African Maritime Safety Authority (SAMSA), with the National Department of Transport (DoT)
Transnet National Ports Authority (TNPA) – Harbour Master of the Port of Cape Town,
Cape Town Radio – maritime communications
South African Search and Rescue (SASAR) = Maritime Rescue Co-ordination Centre (MRCC), in association with the Aeronautical Rescue Co-ordination Centre (ARCC), as applicable to the nature of the search, if this is required
National Sea Rescue Institute (NSRI)
National Dept. of Environmental Affairs – Oceans & Coasts South African National Defence Force (SANDF) = Joint Tactical Headquarters (J Tac HQ), Western Cape; SA Navy; SAAF Airspace Management; SA Military Health Service; SA Army, as appropriate.
CoCT Disaster Risk Management Centre, incorporating the Disaster Operations Centre (DOC)
CoCT Law Enforcement & Security Services
CoCT Fire & Rescue Service
CoCT Metropolitan Police Department
CoCT Traffic Services
CoCT 107 Public Emergency Communications Centre (PECC)
CoCT Environmental Resource Management Department - Marine Environmental Compliance and Coastal Management Unit
CoCT Communications
CoCT Solid Waste Department
CoCT – various other supporting Departments i.r.o. their mandated functions - to <u>support</u> the response, relief and rehabilitation phases of any maritime incident, as and where applicable
WCG Emergency Medical Services (EMS) & Provincial Hospitals - also linked to Private EMS's & Hospitals, as applicable
WCG Forensic Pathology Services
WCG Disaster Management Centre
South African Police Service (SAPS), incl. Sea Border Unit, Diving & Water Policing Unit, BCOCC (with Customs) & land-based policing support units (VisPol)
National Dept. of Agriculture, Forestry & Fisheries (DAFF) – incl. small harbour & fishing management
South African Civil Aviation Authority (SACAA)
Air Traffic and Navigation Service (ATNS)
Plus various other National Government Departments, viz., Dept. of Health (Port Health), Dept. of Home Affairs, Dept. of Finance – Customs, Dept. of Tourism, the SSA, and other Provincial Departments, as applicable to the prevailing situation.
V & A Waterfront, as applicable to the prevailing situation
Various NGO's i.r.o. their Disaster Relief and Recovery assistance, Trauma Counselling, etc.
The Vessel Owner(s) or Shipping Agent(s) involved
Applicable Foreign Embassy/Consular Personnel (if a foreign vessel is involved).

Other Contracted Entities and Private Enterprises *may also be able to assist, as applicable to the prevailing situation – some of the <u>current</u> Contracted Entities are:-*

- **Servest Marine -** specialise in providing dedicated and reliable transport solutions to the marine industry. Has a fleet of dedicated and reliable offshore supply vessels operate on a 24/7 basis providing the following services:-
  - Offshore - off port limits rendezvous with vessels to transfer personnel, stores, ships spares, airfreight and any other urgent requirements
  - Towing and Salvage for vessels in distress
  - Fresh water deliveries offshore
  - Receiving and disposal of sludge
  - Contract services on offshore construction and pipelines
  - Launches for logistic supplies to offshore rigs and mining vessels.
- **Smit Amandla Marine -** provides various marine solutions, i.e. tugs & refloating a grounded vessel; manage a ship's fuel transfer; risk management on a bunker barge to ensure effective bunker delivery; client support to ensure fuel supply; etc.
- **Svitzer -** provides various marine solutions, i.e. 24-hour emergency rescue, tugs & refloating of a grounded vessel; manage a ship's fuel transfer; risk management on a bunker barge to ensure effective bunker delivery; client support to ensure fuel supply; etc.
- **AAL-SA (Advanced Aviation Logistics SA)** – based at CTIA and using a Port of Cape Town heliport, (using Mi-8MTV, Eurocopter AS365 & Puma helicopter types), provides helicopter logistics support and supplies to off-shore shipping near Cape Town.

5. SHIPPING OPERATIONS' HAZARD AND RISK INFORMATION: - SPECIFIC HAZARD DESCRIPTIONS & GENERAL CHARACTERISTICS - DISASTER RISK ASSESSMENT = HAZARD PREDICTABILITY / IMPACT (CONSEQUENCES) / VULNERABILITY / ABILITY TO COPE

5.1 HAZARD DESCRIPTIONS, GENERAL CHARACTERISTICS & CAUSAL PHENOMENA OF THE HAZARDS AND RISKS ASSOCIATED WITH SHIPPING OPERATIONS IN THE VICINITY OF CAPE TOWN

Vessels, ships, boats and small craft have been plying the seas for centuries and have been developed for a particular use, i.e. carrying passengers (cruise liners, ferries, yachts, etc.), cargo (container ships, fishing boats, bulk carriers, various liquid tankers, refrigerated cargo ships, livestock carriers, dry cargo vessels, heavy lift vessels, Ro-Ro vessels, etc.), tugs, drilling platforms and various other types. Each of these shipping-types has its own characteristics and these factors will need to be considered when dealing with any incident involving a shipping vessel.

Possible Shipping Incidences and Hazards

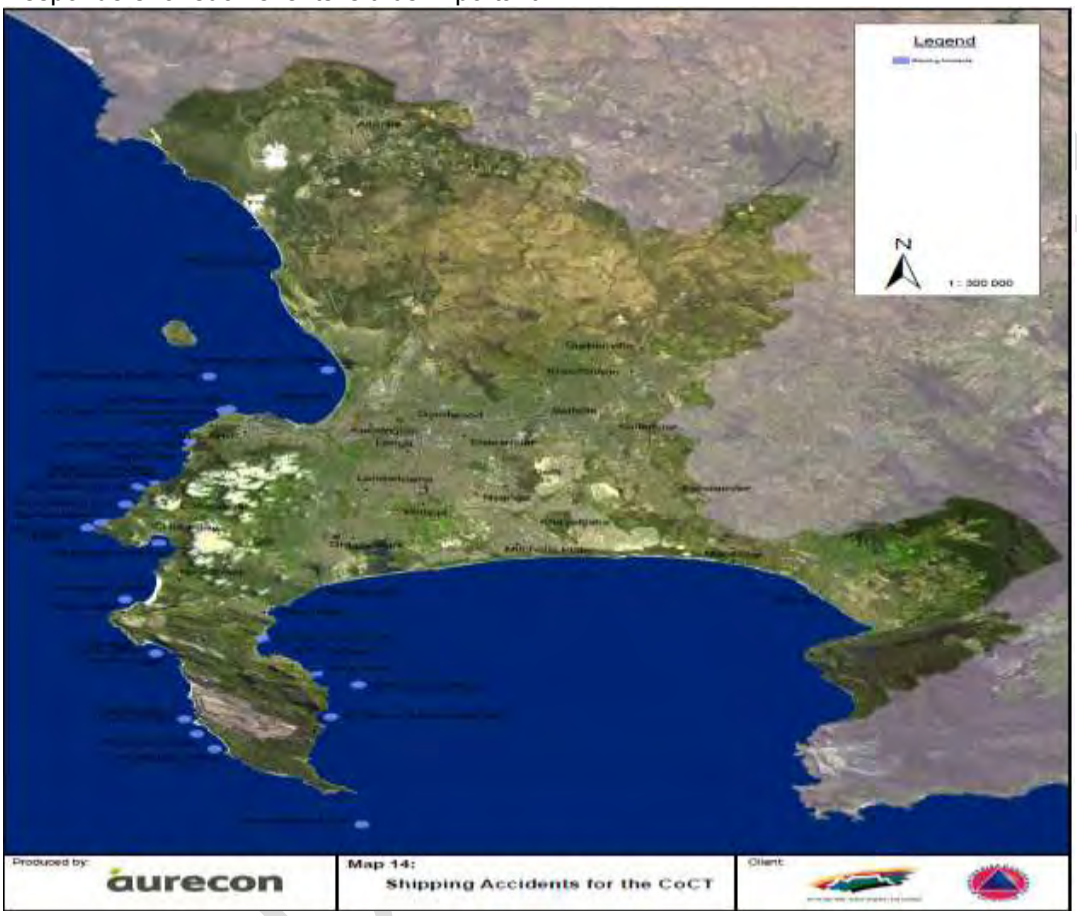
A shipping/maritime incident can be defined as any occurrence on board a vessel or involving a ship or any other maritime structure whereby any one or more of the following incidents occur:-

- there is loss of life or major injury to any person on board, or any person is lost or falls overboard from the ship or from one of the ship's boats or from any other marine structure;
- the ship/vessel or any other marine structure:-
  - causes any loss of life, major injury or material damage,
  - is lost or is presumed to be lost,
  - is abandoned,
  - is materially damaged by fire, explosion, weather or other cause,
  - grounds (especially during stormy or foggy weather conditions and/or navigational error at sea, etc.),
  - is in a collision with another vessel or an obstacle,
  - is not under control or under command,
  - is disabled,
  - is high-jacked,
  - has a significant structural failure,
  - sinks, or
  - causes significant harm to the environment through oil spills and/or other substance or agent's release – these spills not only affect the marine environment but also the nearby coasts and adjacent land areas (refer to Cape Zone (No.3) Coastal Oil Spill Plan (T10);
- or any of the following occur:-
  - a collapse or bursting of any pressure vessel, pipeline or valve,
  - a collapse or failure of any lifting equipment, access equipment, hatch-cover, staging or boatswain's chair or any associated load-bearing parts,
  - a collapse of cargo, unintended movement of cargo or ballast sufficient to cause a list, or loss of cargo overboard,
  - a snagging of fishing gear which results in the vessel heeling to a dangerous angle,
  - a contact by a person with loose asbestos fibre except when full protective clothing is worn, or
  - an escape of any harmful substance or agent,
  - if the occurrence might have caused serious injury or damage to the health of any person.

Sealand Express grounded on Sunset Beach, Table Bay,19 August 2003
Source: www.containershipping.nl/casualties.html

Affected Areas

Wrecks around the Cape Peninsula are evidence of shipping accidents that have taken place. Map 14 below gives an indication of SOME of the shipping accidents that have occurred within the past 400 years along the Cape Town coastline or adjacent marine area. Many lives have been lost and the economic and environmental losses incurred in these incident occurrences, which serves to emphasise that shipping incidents are generally unpredictable, especially due to the “Cape of Storms” weather conditions which may prevail during many days of the year, notwithstanding the higher safety standards, and that they may still occur at any time!! Constant readiness by all the Responders for such events is thus important.



Shipping Lanes

Shipping lanes came to be by analysing the prevailing winds. It is well known that the trade winds allowed ships to sail towards the west quickly, and that the westerly winds allowed ships to travel to the east quickly. As such, the sea lanes are mostly chosen to take full advantage of these winds. Currents are also similarly followed as well, which also gives an advantage to the vessel. It should be noted however, that the sea lanes were chosen based on the importance of cities as well, which could explain some anomalies towards the currents/winds, such as the fact that the shipping lanes are not optimally chosen for the route from Cape town towards Rio de Janeiro (passing Tristan da Cunha).

Main sea lanes may also attract pirates. *Pax Britannica* was the period 1815–1914 during which the British Royal Navy controlled most of the key maritime trade routes, and also suppressed piracy and the slave trade. In World Wars I and II as German U-boats began hitting American and British shipping, the Allied trade vessels began to move out of the sea lanes to be escorted by Naval ships.

Advantages

Although most ships no longer use sails (having switched them for engines), the wind still creates waves / sea swells, and this can cause heeling. Therefore, the following of the overall direction of the trade winds and the westerly’s are still very useful. However, any vessel that is not engaged in trading, or is smaller than a certain length, is best to avoid the shipping lanes. This is not only because the slight chance of a collision with a large ship can easily cause a smaller ship to sink, but also because large vessels are much less maneuverable than smaller ships, and need much more depth. Smaller ships can thus easily take courses that are nearer to the shore. As, (unlike with road traffic), there is no exact "road" a ship must follow, this can easily be done. Shipping lanes are the busiest parts of the sea, thus being a useful place for stranded boaters whose boats are sinking or people on a life raft to be rescued by a passing ship.

Threats from shipping lanes

Although the shipping lanes are useful, they do pose threats to some people:

- Divers should stay clear of shipping lanes when performing dives.
- Small boats also do best to avoid the lanes.
- As the shipping lanes are very large, sections of the lane exist which can be shallow or have some kind of obstruction (e.g. sand bank). This threat is greatest when passing some narrows, such as between certain islands in the Indian and Pacific Oceans.
- Some shipping lanes, such as the Straits of Malacca off Indonesia and the waters off Somalia are notorious pirate havens, and passing ships run a risk of being attacked and held for ransom!!

The shipping lanes of the world – Cape Town may also serve as an alternate routing when there are problems in the Red Sea and Suez Canal

Shipping Frequency and Ports

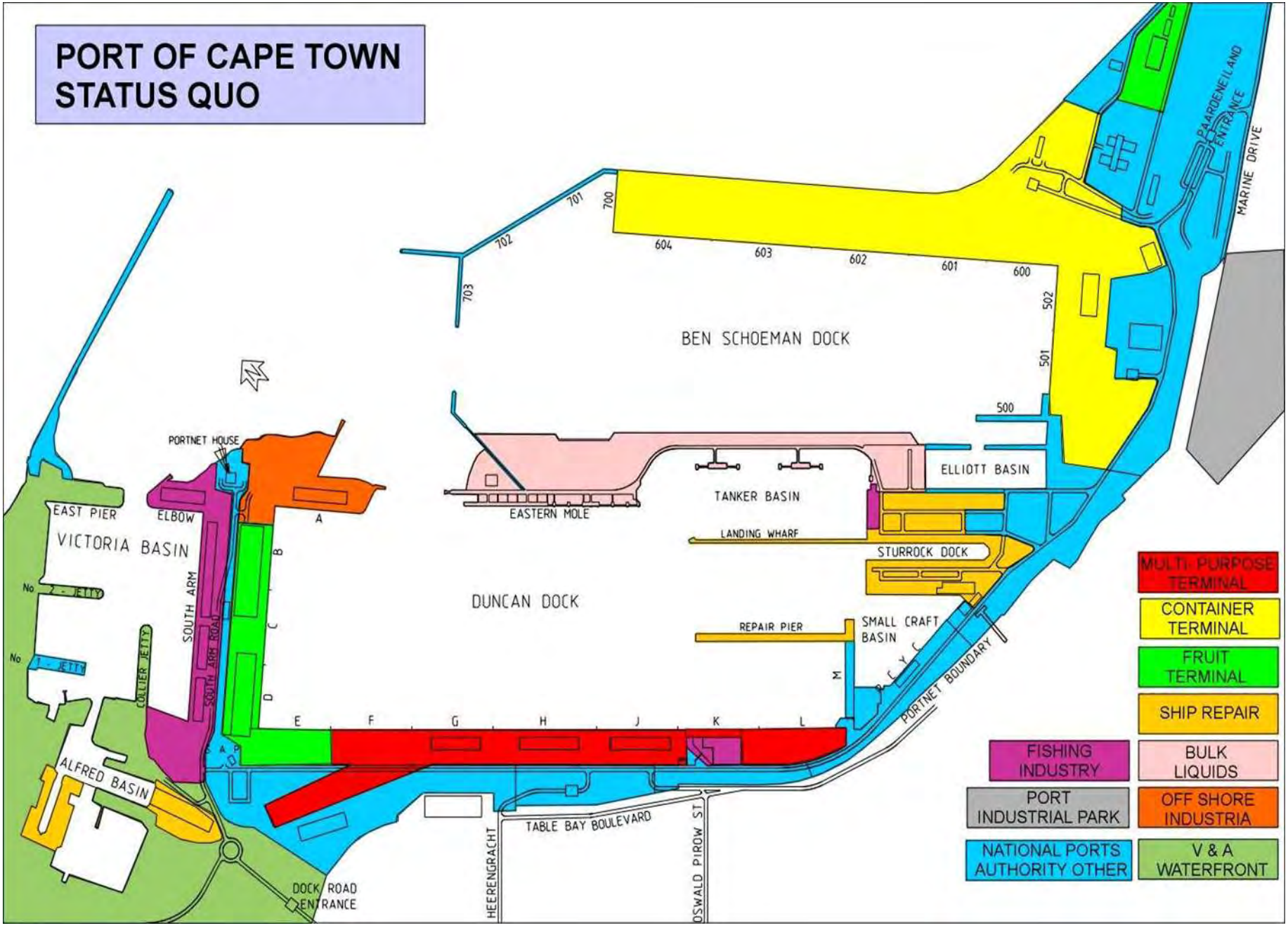
Major shipping lanes pass along the South African coastline in the south Atlantic and Indian oceans. Cape Town is situated on the sea route halfway between the USA / Europe and the Indian Ocean / Far Eastern destinations and the southern Africa – South America and Antarctic routes are also popular. Although this route carries large volumes of traffic, not all ships call at the Cape Town Port (SAMSA 2005). Approximately 96% of the country's exports are conveyed by sea, and the eight commercial ports are the conduits for trade between South Africa and its southern African partners as well as hubs for traffic to and from Europe, Asia, the Americas and the east and west coasts of Africa.

Over 120 million tons of crude oil passes around the Cape Peninsula per year – this amount may even be greater during times of political instability leading to the closure of the Suez Canal which forces shipping around the Cape. Due to the stormy weather conditions and the high level of marine traffic, the Port of Cape Town and the City of Cape Town coastline and adjacent marine environments are continuously at risk of marine pollution caused by shipping accidents. In addition, there are fuel storage tanks and pipelines to service shipping in all the harbours and these may also present a hazard to shipping whilst in port.

The commercial ports are: the Port of Cape Town, the Port of Saldanha and the Port of Mossel Bay in the Western Cape; the Port of Richards Bay and the Port of Durban in KwaZulu-Natal; the Port of East London, the Port of Port Elizabeth and the Port of Ngqura in the Eastern Cape.

The state-owned Transnet National Ports Authority (NPA) manages these ports, while Transnet Port Terminals, formerly known as SAPO, is responsible for managing port and cargo terminal operations.

The SA Navy Bases in Cape Town are: Simonstown and a section of Gordon's Bay Harbour. Other significant harbours in the Cape Town Municipal Area catering for the fishing fleet, private yachts, tourist boats and other commercial boats are:- the Royal Cape Yacht Club (located within the Port of Cape Town), V & A Waterfront Harbour, Granger Bay Yacht Club Harbour, Robben Island Harbour, Hout Bay Harbour, Kommetjie Harbour, Kalk Bay Harbour, Harbour Island Marina (Gordon's Bay) and Gordon's Bay Harbour. Various smaller boat launch sites are also located along the Cape Town coastline.


PORT OF CAPE TOWN
STATUS QUO
BEN SCHOEMAN DOCK
DUNCAN DOCK
VICTORIA BASIN
ALFRED BASIN
EAST PIER
ELBOW
SOUTH ARM
SOUTH ARM ROAD
COLLIER JETTY
No 2 - JETTY
No 1 - JETTY
PORTNET HOUSE
EASTERN MOLE
TANKER BASIN
ELLIOTT BASIN
LANDING WHARF
STURROCK DOCK
REPAIR PIER
SMALL CRAFT BASIN
PORTNET BOUNDARY
TABLE BAY BOULEVARD
HEERENGRACHT
OSWALD PIROW ST
DOCK ROAD ENTRANCE
MARINE DRIVE
BLAAUWENEILAND ENTRANCE
700
701
702
703
600
601
602
603
604
500
501
502
A
B
C
D
E
F
G
H
J
K
L
M
MULTI-PURPOSE TERMINAL
CONTAINER TERMINAL
FRUIT TERMINAL
SHIP REPAIR
FISHING INDUSTRY
BULK LIQUIDS
PORT INDUSTRIAL PARK
OFF SHORE INDUSTRIA
NATIONAL PORTS AUTHORITY OTHER
V & A WATERFRONT

5.2. EXPLANATION OF THE DISASTER RISK ASSESSMENT QUANTIFICATION AND RELATIVE PRIORITISATION OF THE HAZARDS, AS PER THE COMPREHENSIVE DISASTER RISK ASSESSMENT FOR CAPE TOWN (BY AURECON IN 2010)

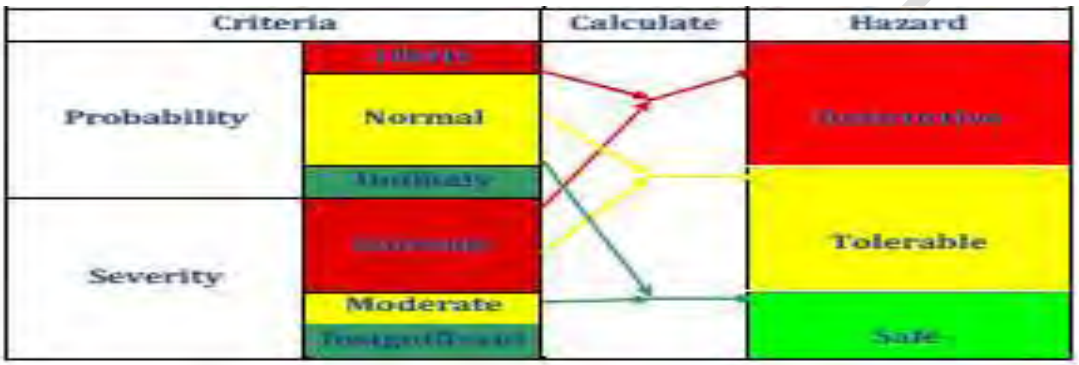
Disaster Risk Quantification

The disaster risk profiling assessment normally produces so many hazards that must be addressed that the sheer volume of work tends to be overwhelming. Consequently, a ***Relative Disaster Risk Prioritisation Assessment*** is conducted to assist the Municipality in their disaster risk management planning. The ***Relative Disaster Risk Prioritisation Assessment*** involves the following action steps:-

- **Quantify the Hazard**
- **Quantify Vulnerabilities**
- **Quantify the Disaster Risk Manageability / Coping Capacity**
- **Determine the Overall Disaster Risk Score**

Hazard Score Quantification

The hazard score is determined by quantifying the probability and severity of a hazard (refer to the **Table** below).



= <u>Probability</u>: The probability of a hazard occurring is assessed and classified in three categories, namely:-

- ***Likely*** ~ hazards in this category will have a very high probability of occurring (score = 3)
- ***Normal*** ~ hazards in this category will have a normal probability of occurring (score = 2)
- ***Unlikely*** ~ hazards in this category will have an unlikely probability of occurring (score = 1)

= <u>Severity</u> (incl. impact & consequences): The severity of the hazard, should it occur, will be accessed and the hazards will be classified into the following three categories:-

- ***Extreme -*** hazards in this category will hold extreme consequences to a community (score = 3)
- ***Moderate -*** hazards in this category will hold moderate consequences to a community (score = 2)
- ***Insignificant -*** hazards in this category will hold insignificant consequences to a community (score = 1)

Vulnerability Score Quantification

Create Hazard Vulnerability Analysis Directory Structure: A directory structure should be created to assist in determining the degree to which a community is vulnerable to each of the hazards in the region.

Quantify Vulnerabilities: To enable risk quantification the Vulnerabilities of the area should also be calculated. The model has assessed ***environmental***, ***economical***, ***societal*** and ***critical facilities***

N.B. ***Political*** and **legal vulnerabilities** may also be required to be assessed, depending on the Community's circumstances. A map of the study area should be used and GIS layers should be used to indicate areas that are vulnerable. Each area on the map must be allocated a vulnerability score for ***each of the four vulnerabilities*** and a vulnerability score of 1, 2 or 3 should be used, where:-

1 = not vulnerable
2 = moderately vulnerable
3 = extremely vulnerable

A total vulnerability score (VT), which is the sum of the Environmental (VENV), economical (VEC), societal (VS) and critical facility (VCF) vulnerabilities, can then be calculated for each geographical area or specific study area, i.e. **VT = VENV + VEC + VS + VCF (+VP + VL, as applicable).** Vulnerability scoring will be based on the following:-

Vulnerability Score ≥ 10: Should the vulnerability score of a particular hazard event impacting on a community be higher than or equal to 10, that community is extremely vulnerable to that hazard.
Vulnerability Score 7 to 9: Should the vulnerability score of a particular hazard event impacting on a community is between or equal to 7 and 9, the community is moderately vulnerable.
Vulnerability Score < 7: Should the vulnerability score of a particular hazard event impacting on a community be less than 7, the vulnerability is considered to be low.

Disaster Risk Manageability (or Coping Capacity) Score Quantification

The degree to which a society or institution can intervene and manage / cope with the negative consequences of a hazard event will depend on the following, each rated on a score in a three-point scale where: good = 3; modest =2; poor = 1; viz.:-
Awareness: The over-all awareness of people living in a potential impact area of a hazard to that hazard is one of the factors that determine the risk manageability of a community.
Legislative Framework: The legislative framework that governs a particular hazard event is one of the factors that determines the risk manageability of a community.
Early Warning Systems: The early warning systems for a hazard event.
Government Response: The response of the municipality and the provincial government to a hazard.
Government Resources: The resources available to the municipality and the provincial government for a hazard event.
Existing Risk Reduction Measures: The existing risk reduction measures of the municipality and the provincial government to a hazard event.
Public Participation Measures: The existing public participation measures of the municipality and the provincial government to a hazard event.
Municipal Management Capabilities: The over-all management capability of the municipality for a hazard event.

A simple mathematical model (formula given below) can be utilised to quantify the degree to which a community can intervene and manage the negative consequences of a hazard event :-
Risk Manageability Score ≥ 18: Should the risk manageability score of a particular hazard event impacting on a community be higher than 18 that community has a very ***high*** level of manageability and it is unlikely that the hazard event will impact negatively on the community.
Risk Manageability Score 8 to 18: If the risk manageability score of a particular hazard event impacting on a community is between 8 and 18, that community has a ***modest*** level of manageability and it is likely that the hazard event will impact negatively on the community.
Risk Manageability Score ≤ 8: Risk manageability scores of a particular hazard event impacting on a community lower than 8 account for a community with a ***poor*** level of manageability and it is highly likely that the hazard event will impact negatively on the community.

Relative Disaster Risk Score and Priorities

This analysis focuses on **calculating the relative risk priorities of a hazard event, using a simplified risk prioritisation model to calculate the relative priorities of the risk to which communities in a specific area are exposed,** viz. :-

The Relative Disaster Risk Priority Score = Hazard score X Vulnerability score / Manageability score.

Very High (intolerable) Risks (Relative Risk Priority ≥ 10): Should the relative risk priority of a particular hazard event impacting on a community is higher than or equal to 10, that community faces a potentially ***destructive*** risk with a high probability of occurrence, for which they are ***unprepared***. This combination equates to an ***intolerably high risk*** and may be a disaster in the making. For these ***very high risks*** **urgent risk reduction interventions are required!**

High Risk *(Relative Risk Priority 4.1 to 9.9)*: If the relative risk priority of a particular hazard event impacting on a community is between 4 and 10, the risks to which these communities are exposed are potentially ***destructive,*** but the community is modestly prepared for the hazard event occurrence. This combination equates to a ***high risk*** and a combination of ***risk reduction interventions*** and ***preparedness plans*** must be initiated for these risks.

Tolerable / Moderate Risk *(Relative Risk Priority 3.6 to 4):* Relative risk priorities of a particular hazard event impacting on a community lower than 4 translate in very little risk for a largely prepared community. This combination equates to a ***tolerable / moderate risk*** and ***preparedness plans*** for these risks must be prepared.

Low Risk (*Relative Risk Priority ≤ 3.5):* Relative risk priorities of a particular hazard event impacting on a community lower than or equal to 3.5 translate in a **low risk** indicating a prepared community, but on-going preparedness is still required.

5.3. SHIPPING INCIDENT HAZARDS' DISASTER-RISK ASSESSMENT RATINGS = THEIR PREDICTABILITY / IMPACT (CONSEQUENCES) / VULNERABILITY / ABILITY TO COPE (MANAGEABILITY)

A. DETERMINATION OF RISK SCORE OF SHIPPIMNG / MARITIME INCIDENT HAZARDS

(Reference: Aurecon's 2009/10 CoCT Comprehensive Disaster Risk Assessment Report)

CITY OF CAPE TOWN COMPREHENSIVE DISASTER RISK ASSESSMENT REPORT IN 2010 by AURECON

Hazard Type	Category	Area(s)	Hazard Score			Vulnerability Indices					Manageability Indices										
			3 = Likely 2 = Possible 1 = Unlikely	3 = Extreme 2 = Moderate 1 = Insignificant		3 = Extremely Vulnerable 2 = Vulneravble 1 = Not Vulnerable					1 = Poor 2 = Modest 3 = Good									
			Probability	Severity	HAZARD RATING	Societal	Economical	Environmental	Critical Facilities	VULNERABILITY RATING	Awareness	Leglislative Framework	Early Warning Systems	Government Response	Government Resources	Existing Risk Reduction Measures	Public Participation Measures	Municipal Management Capabilities	MANAGE-ABILITY RATING	OVERALL RISK RATING	RELATIVE PRIORITY RATING
SHIPPING INCIDENT HAZARDS (VARIOUS)	Technological	Possible in ALL coastal areas, including ports, harbours, shipping lanes & anchoring zones	2	2	4	1	2	3	2	8	3	3	3	3	3	3	1	3	22	1,455	Lower

** **TO REDUCE THIS RISK all Role-players should deal with this hazard through their specific mandates by continuously striving to reduce its probability, limit the impact if it does occur, reduce the vulnerability to it, increase the preparedness to respond and to further improve the ability to cope/manageability of the hazard.**

B. SOME COMMENTS BY AURECON ON THE SHIPPING INCIDENT DISASTER RISK ASSESSMENT THAT WAS UNDERTAKEN IN 2010

Hazard Rating

The probability of a shipping accident is *possible* and the severity is moderate to extreme (possible when larger ships are involved).

Vulnerability

Societal

Communities are not vulnerable to shipping accidents except if the grounding of ships and an oil or chemical spillage poses a risk to the community.

Economic

Where a major accident could take place within the port area, the access to and from the harbour could be restricted, affecting the economy not only of the Port and the City but the work force as well.

Environmental

The environment is extremely vulnerable to shipping accidents especially where the spillage of hazardous materials, such as oils and other transported substances, takes place.

Critical Facilities

Shipping accidents may pose a risk to the critical Koeberg Nuclear Power Station facility, the strategic Port of Cape Town and the Simonstown Naval Base, the Robben Island Museum and possibly other institutions, should such an accident occur in close vicinity to the facility.

Capacity to Cope / Manageability

Awareness

Shipping accidents usually have a limited impact on communities living along the coast, unless the ship goes to ground along the coast or an oil spillage reaches the coast line. The overall handling of shipping accidents is a combined rescue effort between various role players such as the Department of Transport (DOT), the Department of Environmental Affairs (DEA), the Department of Agriculture, Forestry & Fisheries (DAFF), Transnet National ports Authority (TNPA), Smit-Amandla Rescue Tugs, National Sea Rescue Institute (NSRI) and various others, incl. the SA Navy, as applicable, all operating under the co-ordination of South African Maritime Safety Authority (SAMSA). For the land-based operations and support, the relevant Municipality, other Govt. Departments, etc. will also be involved.

Legislative Framework

There exists a thorough legislative framework. Coastal Oil Spill Contingency Plans exist, incorporating the various role-players – DEA, SAMSA, DoT, SANCCOB, CoCT Disaster Risk Management Centre and other Municipal Entities, private contractors, etc. (Ref. DEA)

Early Warning Systems

Early warning systems are modest. In cases of oil spillage there is no existing early warning system. Incidents are reported by ships that detect oil slicks on the sea surface or oiled birds (Ref. SAMSA 2005).

Government Responses and Resources

Government response and resources are good. Various government departments are incorporated in to the contingency plans for oil spillage.

Existing Risk Reduction Measures

Existing risk reduction measures are good. SAMSA is responsible for ensuring that the highest standard maritime safety is adhered to on both South African and foreign vessels (Ref. News24).

Public Participation Measures

Public participation measures are good especially in the case of an oil spillage. SANCCOB makes use of public participants in the cleaning and rehabilitation of oiled seabirds (Ref. SANCCOB).

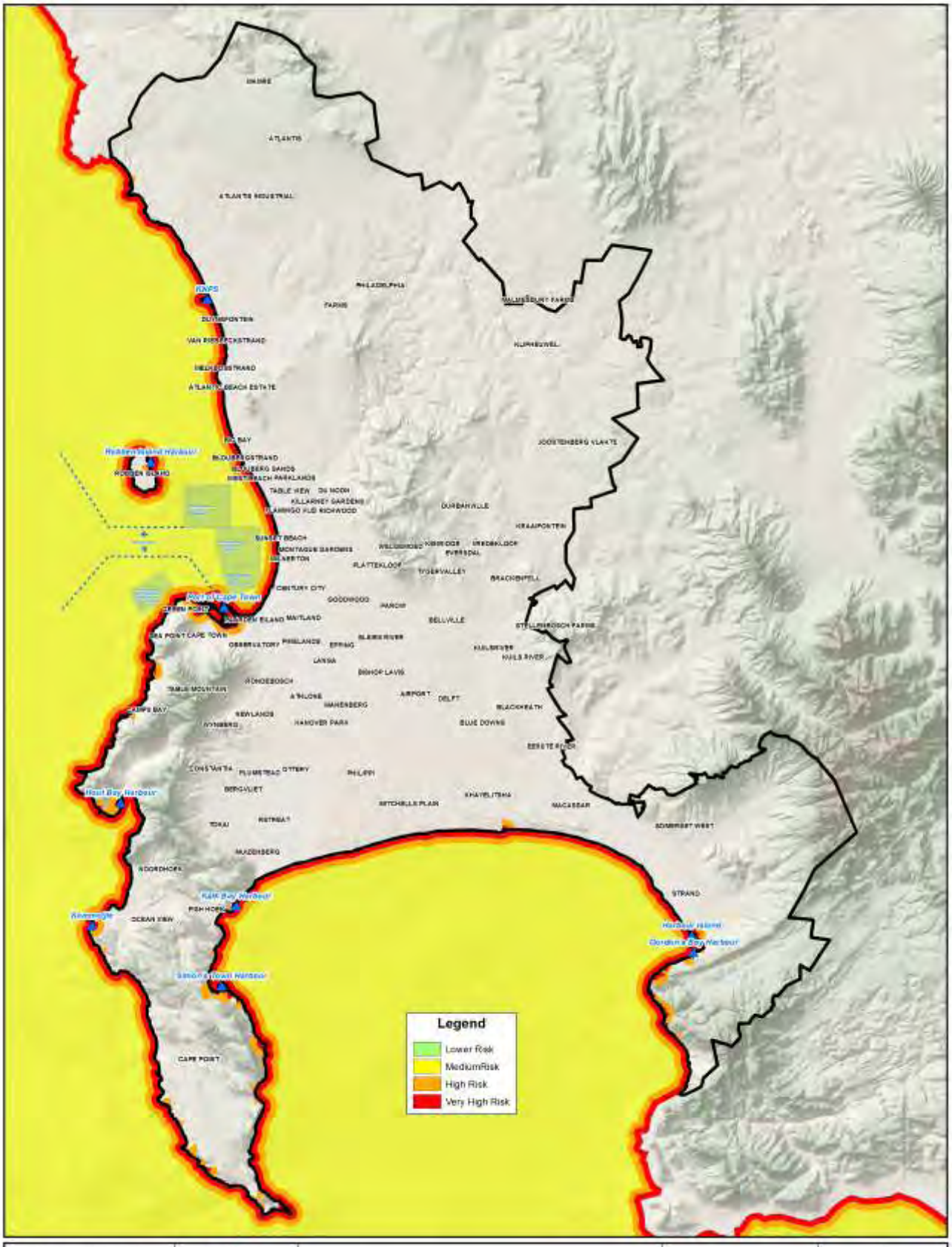
Municipal Management Capabilities

The municipal management capabilities are good. The CoCT Disaster Risk Management Centre has thorough contingency plans, including coastal oil spills, in place that involve all relevant role-players (CoCT DRM, 2009).

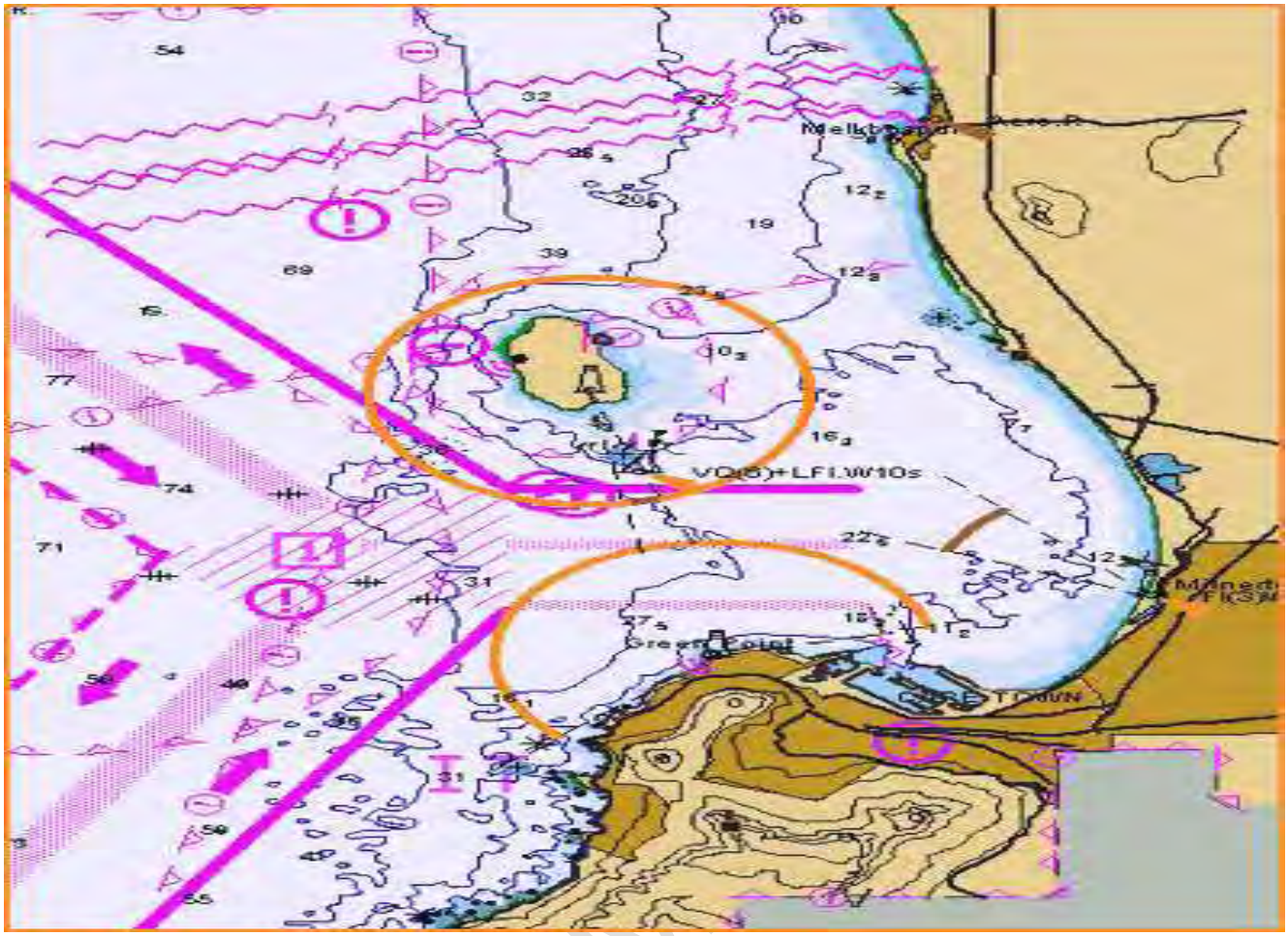
Conclusion

The major focus in shipping accidents is the resultant oil spillage that may take place which could have the most impact on the environment. Various contingency plans have been compiled by the various Role-players involved in dealing with an oil spillage – refer to Cape Zone (No.3) Coastal Oil Spill Plan (DRM Plan T10).

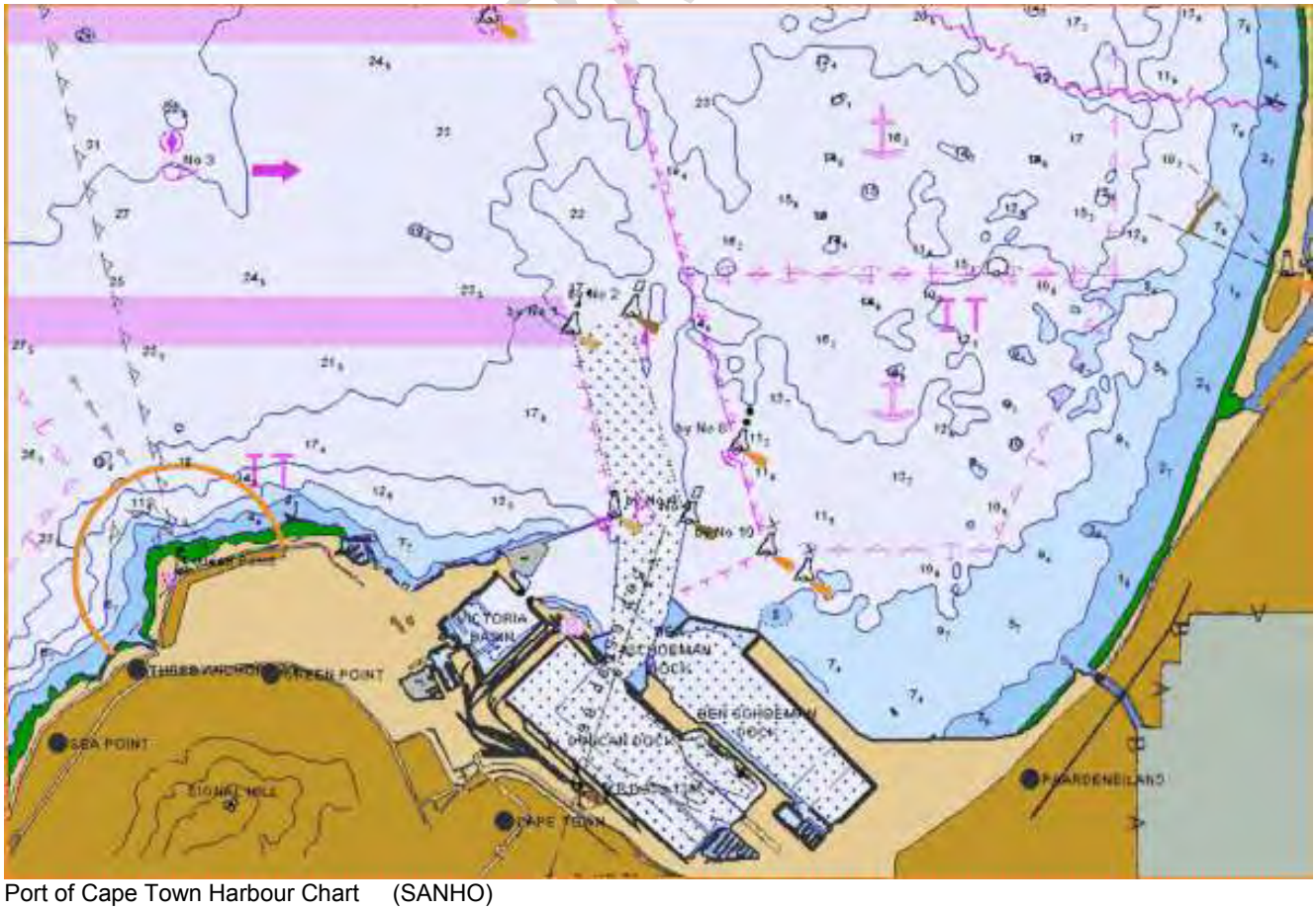
C. SHIPPING INCIDENT HAZARDS' RISK AND VULNERABILITY MAPS



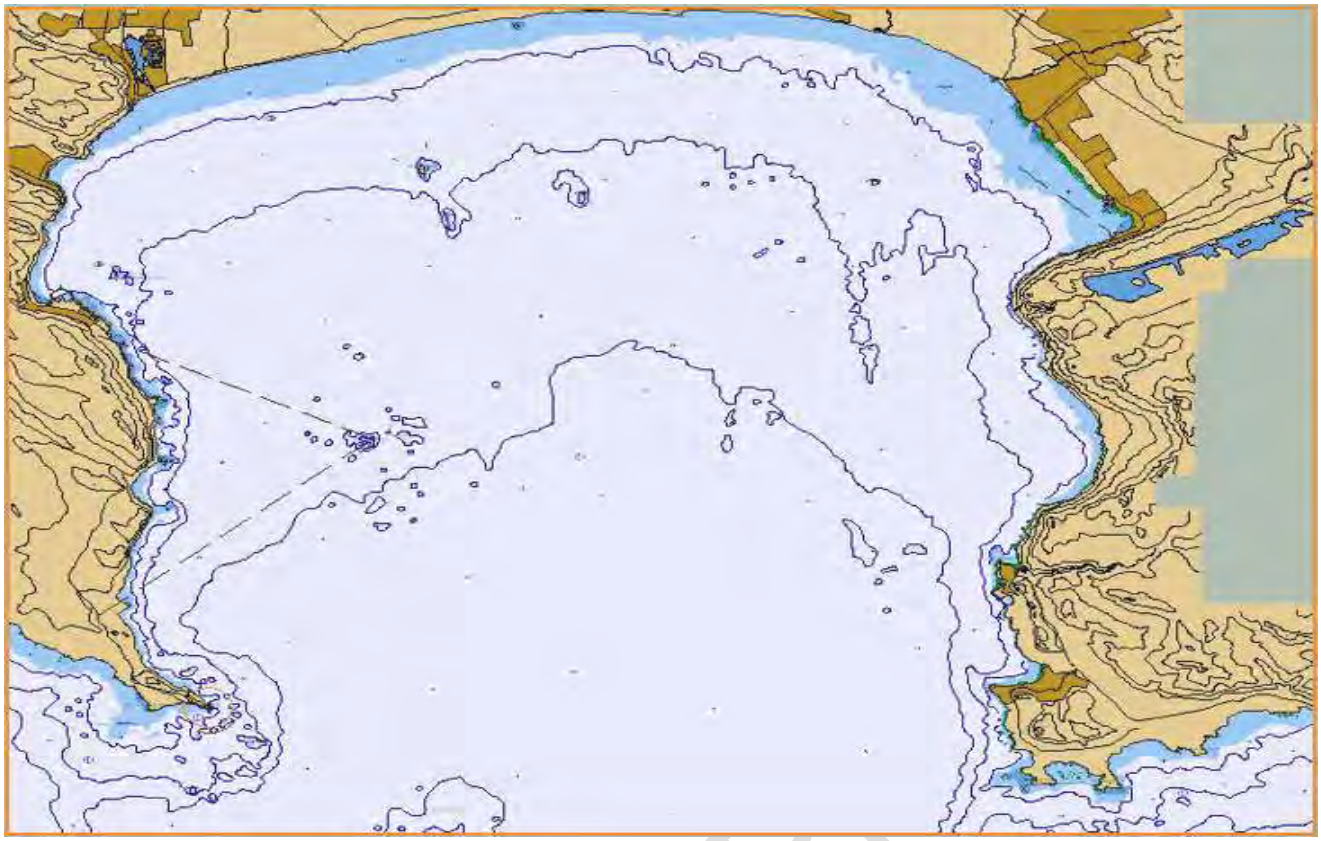
Coastal Chart – Dassen Island to Cape Hangklip (SANHO)



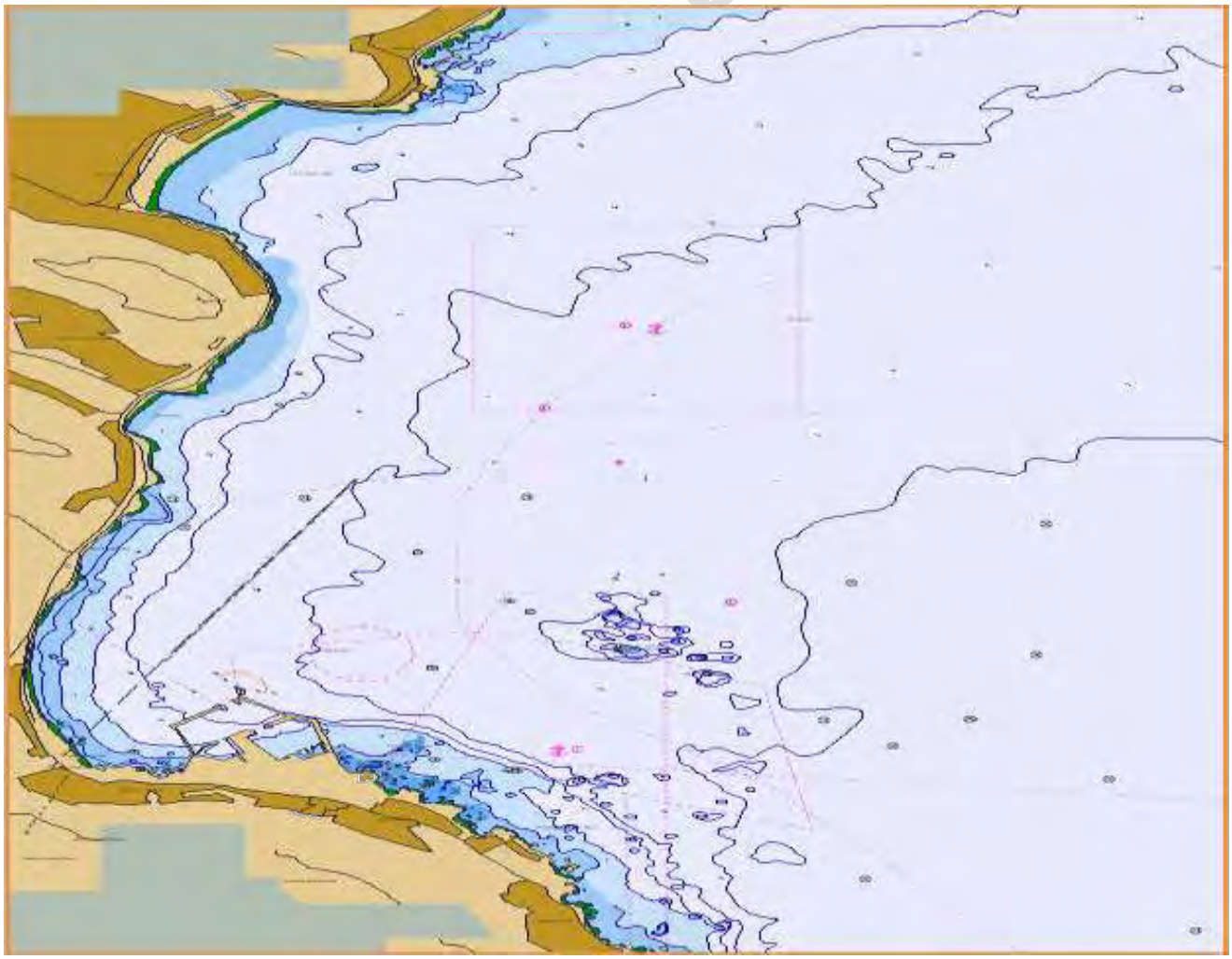
Approaches to Table Bay Chart (SANHO)



Port of Cape Town Harbour Chart (SANHO)



False Bay Chart (SANHO)



Simon's Bay Harbour Chart (SANHO)

6. PRO-ACTIVE DISASTER RISK MANAGEMENT EFFORTS: HAZARD PREVENTION / RISK REDUCTION / MITIGATION & PREPAREDNESS MEASURES

Due to the nature of the Shipping Industry and its inherent high level of safety consciousness the various local stakeholders are already operating in a relatively safe environment, hence the lower risk assessment in this sector. However, there can be no room for complacency and with the constant increase in shipping due to South Africa's increasing trade with other countries plus many foreign-registered vessels (some with dubious safety records) passing our shores, as well as our sometimes unpredictable weather conditions, shipping disasters will still occur from time to time. The local maritime role-players need to regularly assess their own operations and strive to meet international benchmarks, standards and protocols. They should initiate any new developments in their respective fields at an early stage in order to prevent and mitigate the consequences of any shipping incident in this part of the world.

An example of shipping safety management and collision risk-reduction are the Vessel Traffic Separation (VTS) or Traffic Separation Schemes (TSS) being used off Cape Town and many other parts of the world. A Traffic Separation Scheme or TSS is a traffic-management route-system ruled by the International Maritime Organization or IMO. The traffic-lanes (or clearways) indicate the general direction of the ships in that zone; ships navigating within a TSS all sail in the same direction or they cross the lane in an angle as close to 90 degrees as possible.

TSSs / VTSs are used to regulate the traffic at busy, confined waterways or around capes. Within a TSS you normally see at least one traffic-lane in each main-direction, turning-points, deep-water lanes and separation zones between the main traffic lanes. In most cases you can find an "inshore traffic zone" between the traffic-lanes and the coast. A ship navigating in a traffic-lane should sail in the general direction of that lane. The body of water between two opposite lanes are *no-go* areas: shipping is not allowed in these areas (compare this with the central reservation of a road), so the risks for head-on collisions is greatly reduced.

The TSS rules are incorporated in the International Regulations for Preventing Collisions at Sea (under Rule 10). As said, when sailing within a lane of a TSS that ship has to follow the general direction of the lane. Where needed there are special zones where a lane splits into two channels: one ongoing and the other to the nearby port(s). In most TSS schemes you will find *Inshore Traffic Zones* between the traffic-lanes and the coast. The inshore traffic zone is unregulated and shouldn't be used for ongoing traffic. It is meant for local traffic, fishing and small craft.

It is also recommended by the proposed Implementation Protocol that a SAFETY EXCLUSION ZONE be instituted a.s.a.p. to increase safety of vessels by having them operate further offshore. This Zone should ideally have the following parameters:-

- the Parties of the Implementation Protocol will define a Safety Zone (excluding the entry channels/shipping lanes to the Cape Town Port) along the length of Cape Town's coastline. This Safety Zone must be set at a minimum of at least three nautical miles off shore and the entire False Bay will be included in the Safety Zone. This new Safety Zone will be monitored as part of the TNPA radar and reporting system;
- this new Safety Zone will be formally entered onto all national and international shipping charts as a Safety Exclusion Zone;
- any vessel entering this Safety Zone shall trigger the following response:-
  - the TNPA shall notify SAMSA and the City's Disaster Risk Management Centre
  - the vessel shall be contacted and requested to alter course out of the Safety Zone
  - in the event that the vessel does not respond, the TNPA shall inform SAMSA and the City's Disaster Risk Management Centre of the exact location of the vessel
  - the City's Marine and Environment Law Enforcement Unit's vessel shall be dispatched to intercept the vessel and ensure that the vessel is operating safely, is within control of the vessel's captain and to escort the vessel out of the Safety Zone
  - the TNPA shall record all radar and communication transmissions for the purpose of investigations
  - in the event that the vessel is unable to respond due to mechanical failure, steering failure or mutiny, SAMSA shall coordinate an emergency response to prevent the ship stranding on the City's coastline. This may include assistance from the South African Navy or the South African Police Services in physically taking control of the vessel;
- all South African military, safety and emergency vessels are excluded from the conditions of the Safety Zone, as are all small-scale fishing vessels and yachts registered and operating out of the Port of Cape Town, Granger Bay, Kommetjie, Hout Bay, Simonstown, Kalk Bay and the Gordon's Bay Harbours.

<u>Some</u> of the other pro-active (risk reduction / mitigation & preparedness) measures that can be undertaken by the various role-players should include:-

- adherence to strict and internationally acceptable maritime vessel seaworthiness and crew licensing standards, high level technical specifications, maintenance standards and operations which are based on the best protocols, as well as continuous safety monitoring by SAMSA;
- cargo and passenger safety = as great volumes of cargo/freight is carried by shipping everyday this sector too requires very strict safety and security protocols, especially where hazardous cargoes/dangerous goods are concerned. Regulatory agencies such as the SAMSA in South Africa and all foreign maritime regulatory agencies need to continue to take any transgressions of the dangerous goods regulations extremely seriously. The latest technology should also be used in this sector to increase safety levels;
- an adequate resource capacity to be able to deal with any maritime incidents, including equipment, communications systems, training and insurance cover.
- Identification by the Lead and Supporting Role-players of Project Managers within their respective organisations to manage these initiatives on an on-going basis;
- Use GIS and other mapping initiatives to highlight and reference the highest risk and vulnerability areas and mapping past major incident occurrences;
- Strive for engineering improvements and environmental upgrades of all areas where possible;
- Regular Project reviews i.r.o. of the validity of risk reduction / mitigation initiatives;
- Staff training to include risk reduction and response requirements;
- Overview of preparedness initiatives to ensure OPTIMAL RESPONSE should the hazard(s) occur – these are to include adequate coping capacity comprising of sufficient and trained staff, that there is an excess of minimum of the required standard of equipment available, that the sourcing of supplementary resources has been identified, that there is contingency planning regarding these issues, etc.;
- Overview of own Entity's disaster-risk management plans and the adjustment of related Standard Operating Procedures (SOP's) **by each of the Lead and Supporting Disciplines for all identified hazards which fall within their respective mandates;**
- Support the drafting of integrated Disaster Risk Management Plans for these Hazards to ensure City-wide communication, integration and co-ordination between all the Disciplines/Entities involved.

As effective co-ordination between all of the Stakeholders is vital, both during the pro-active phase (prevention, risk reduction and preparedness) and during any response phase, this Shipping Incident Disaster Risk Management Plan has been produced to cover the whole Disaster Risk Management Continuum at the tactical level. Continuous communication at various forums between the Stakeholders will ensure that regular updates can be incorporated into this Plan and that each of the Stakeholders' own Procedures/SOP's are regularly tested and updated and that regular integrated exercises and simulations are undertaken to measure the degree of their preparedness. The proposed signing by the Lead Role-players of the ***Implementation Protocol for Co-operation in Preventing and Responding to Shipping Accidents and Strandings off the Coastline of the City of Cape Town*** will also assist in the co-ordination between role-players at the strategic level to this type of hazard.

The vulnerable communities of Cape Town, especially those living on the coastline, should also be made aware of this and any other disaster risks which they may face on a consistent basis. The direct or indirect socio-economic or environmental impacts to the City of Cape Town of any major shipping incident must also be taken into consideration.

AN EXAMPLE OF A CRUISING COMPANY'S SAFETY POLICY …

CRYSTAL CRUISES

Safety Policy

We want to assure everyone that Crystal Cruises puts the utmost priority on the safety and security of our guests, crew and vessels. Our safety policies and procedures meet or exceed the SOLAS (International Convention for the Safety of Life at Sea) requirements and the STCW (Standards of Training, Certification and Watchkeeping) regulations, as mandated by the IMO (International Maritime Organization). Among our safety standards are:-

- Guest lifeboat drills conducted prior to our ships' departures.
- Weekly crew safety drills.
- Lifeboat commanders undergo a lifeboat commander training course, in addition to their on-going practical experience.
- Deck watch officers receive Bridge Resource Management (BRM) training which is carried out in a simulator that can mimic virtually any navigational scenario including emergencies.

- Passage planning meetings are held prior to departure from port during which clear instructions are given by the Captain to all deck watch officers on the specific courses to follow and the minimum safe closest point of approach to land or navigational dangers.
- English designated as the working language aboard our ships. As such, prior to employment on board, all crew members must pass an English proficiency test.
- Safety videos are broadcast in multiple languages on all stateroom televisions on embarkation day, prior to departure from port.
- Proactive audits:- As part of our Safety Management System (written policies and procedures for the safe operation of our ships) we conduct a comprehensive program of audits, both shipboard and ashore. Safety is a continual improvement process. On an on-going basis, we highlight best practices and areas for improvement.

Crystal Cruises want to remind everyone that accidents are an extremely rare occurrence in the cruise industry, and cruising continues to be one of the safest means of travel among all types of vacationing.

MANDATES OF THE LEAD ROLE-PLAYERS

South African Maritime Safety Authority – SAMSA

MISSION

To promote South Africa's maritime interests and development and position the country as an international Maritime Centre while ensuring maritime safety, health and environmental protection.
In line with its objectives, as stated in Section 3 of the SAMSA Act, the Organisation's primary areas of responsibility include:-

- Participating in the development and implementation of national and international maritime safety and marine environment protection standards;
- Enforcing technical and operational standards for all shipping operations in South African waters and for South African ships anywhere, to promote responsible operations in terms of seaworthiness, safety and pollution prevention;
- Enforcing training standards and competency of seafarers;
- Managing the national capability to respond to marine pollution incidents and other maritime emergencies;
- Operating the Maritime Rescue Co-ordination Centre to coordinate maritime assistance services and to detect, and coordinate the location and rescue of people in maritime distress situations throughout the internationally agreed South African Search and Rescue Region;
- Overseeing the provision of maritime distress and safety communications services to discharge South Africa's responsibilities under the Global Maritime Distress and Safety System;
- Administering South Africa's voluntary ship reporting system (SAFREP) for identifying and tracking ships at sea for safety purposes and to provide a ships' database for responding to marine emergencies;
- Investigating maritime casualties; and
- Delivering related services including:
- Public awareness and education in marine safety and pollution prevention;
- Administration of South Africa's ship registration system; and
- Publication of, and access to, ship safety and environmental standards.

SAMSA delivers four main outputs consistent with its mandate and responsibilities:

- Safety and environment protection standards for responsible maritime transport operations;
- An infrastructure for monitoring and enforcing compliance with safety and environment protection standards;
- The capability to respond to marine pollution incidents and other maritime emergencies; and
- The capability to detect, locate and rescue people in maritime distress situations.

OVERVIEW OF SAMSA's SERVICES:-

Services on behalf of Government:

- Advice to the Minister of Transport on maritime issues affecting South Africa
- Maintenance and proposals on legislation and policy
- Liaison with other governments and international institutions on behalf of Government
- Liaison with other state departments and South African institutions on behalf of the Minister of Transport
- Flag State Implementation
- Providing a maritime Search and Rescue (SAR) capability in the South African area of responsibility through the management, on behalf of the DoT and the Maritime Rescue Coordination Centre (MRCC)
- Port State control

- Accident investigations and Emergency Casualty Response
- Administration of government maritime contracts
- Management of the DoT contracted pollution prevention and response capability
- Representation at international forums

Technical services to the maritime Industry, locally and abroad:-

- Statutory surveys and Safety certification of ships
- Certification of Seafarers
- Assistance and advice on maritime legislation
- Advice and approval for the construction and refitting of vessels
- Evaluation and approval of fittings and equipment used in the construction and fitting out of vessels
- Consultancy to industry on technical matters, safety and qualifications

Services to stakeholders:-

- Safety equipment approval
- Port State Control Inspections
- Inspections of ships and cargoes of timber, grain and hazardous goods
- Accreditation of maritime training institutions and maritime training programmes
- Examination of Seafarers
- Monitoring of South African seafarers' welfare and conditions of service
- Registration of Ships
- Provision of maritime safety information to shipping
- Ensuring a reliable radio service to shipping in respect of maritime safety information
- Casualty investigation and management
- Oil pollution incident response and investigations
- Ensuring that navigational aids are in place around the South African coastline
- Maintenance of a maritime Search and Rescue organisation in co-operation with the Department of Transport
- Promoting seafarer training in South Africa
- Collection and maintenance of shipping information and statistics
- Pro-active development and promotion of maritime safety in South Africa's territorial waters

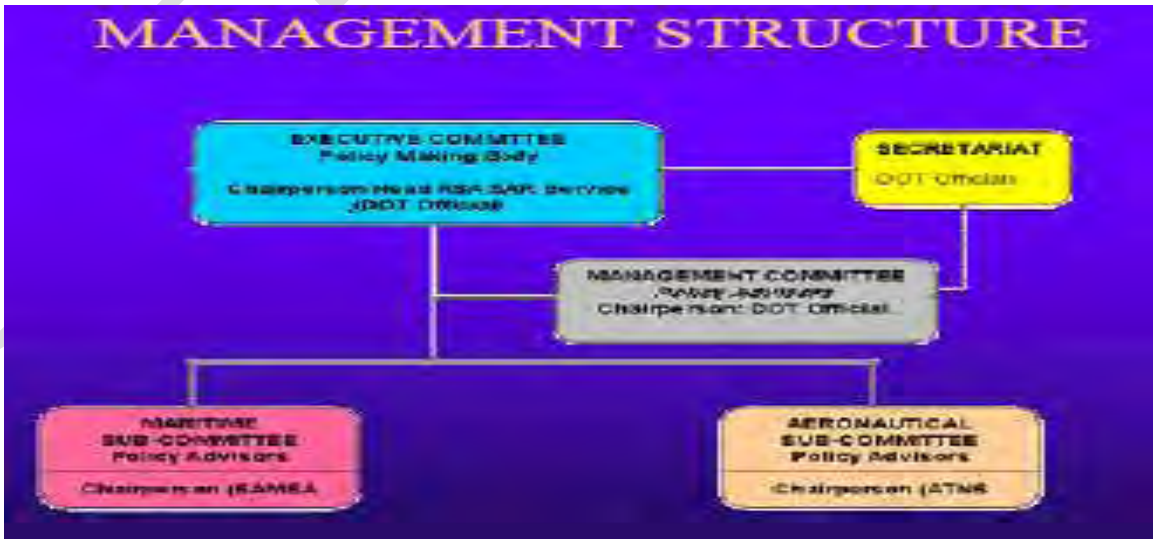
SOUTH AFRICAN SEARCH AND RESCUE (SASAR) ORGANISATION.

The SASAR Organisation will, within its means and capabilities, search for, assist and if necessary, rescue:-

a) Survivors of aircraft accidents or forced landings;

b) The crew and passengers of vessels in distress and survivors of maritime casualties, civilian or military aircraft and ships, that finds themselves in distress in the South African area of responsibility.

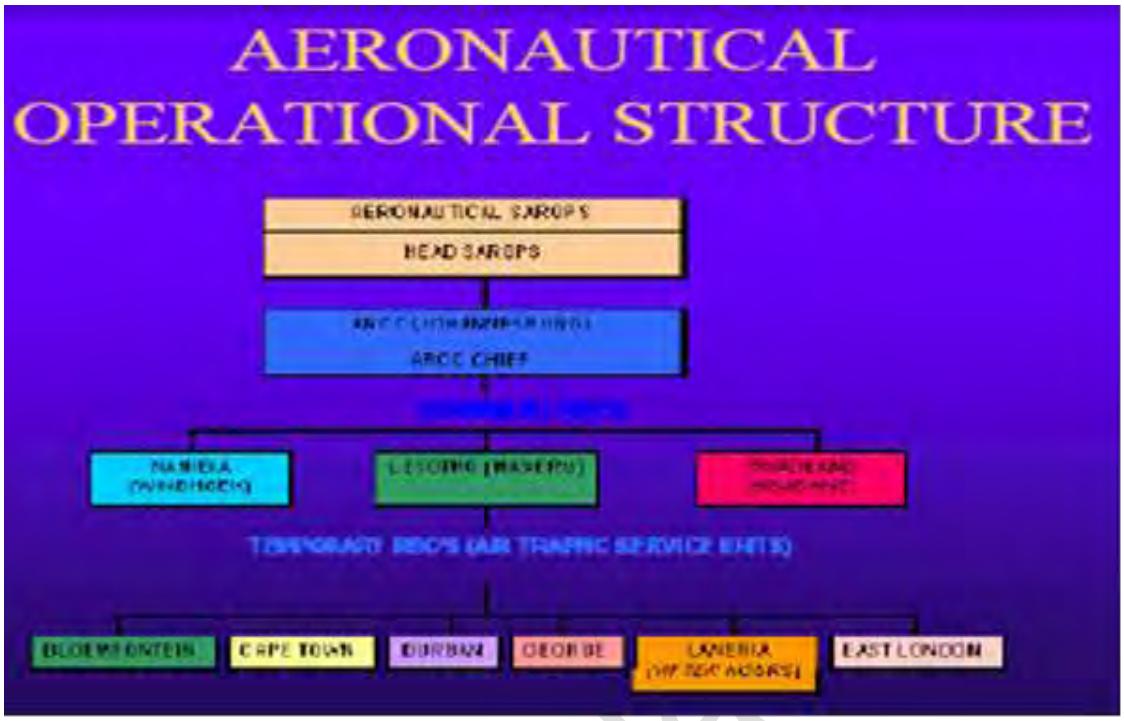
1. AREA OF RESPONSIBILITY



The National area of responsibility, which corresponds with that, laid down by both ICAO and IMO (International Maritime Organisation), includes countries encircled by the Republic of South Africa. This Area is divided into two Search and Rescue Regions (SRRs):

a) **The Aeronautical Region – co-ordinated by the ARCC**
(Tel. +27(0)11 928 6454/5 / Fax. +27(0)11 9343829

This covers the continental area of the Republic of South Africa, Namibia, Swaziland and Lesotho and associated flight information and oceanic regions.



b) **The Maritime Region – co-ordinated by the MRCC**
Tel. +27 (0) 21 938 3300 / Fax: +27(0)21 938 3309
This area covers the sea area bordering the continental area mentioned in the Aeronautical Region above, commencing at the position where the international borders between Namibia and Angola, coincide on the coast proceeding in a westerly direction to 18S010W, then to the South Pole, then to 50S075E, then to 50S045E, then to 30S045E, then to 30S040E, then to 26.5S040E and then to a position where the international borders between the RSA and Mozambique coincide on the coast (26.5S035E)

2. ICAO's CRITERIA FOR LONG RANGE AERONAUTICAL SEARCH CAPABILITIES

a) Long Range (LRG) Aircraft with a radius of action 1 390KM (750NM) plus 2hr 30" search capability remaining.
b) Very Long Range (VLR) Aircraft with a radius of action of more than 1 850KM (1000NM) plus 2hr 30" search capability remaining.
c) Extra Long Range (ELR) Aircraft with a radius of action of 2 780KM (1500NM) or more, plus 2hr 30" search capability remaining.

3. SOUTH AFRICAN LONG RANGE AERONAUTICAL CAPABILITY

South Africa has the following internal long range capabilities:-

a) Long Range (LRG) Aircraft with a radius of action of more than 1390KM (1 000NM) plus 02HR30 search remaining.

b) Very Long Range (VLR) Aircraft with a maximum radius of action of 2593KM (1 400NM) plus 02HR30 search remaining.

NOTE: In the event of search and rescue operations having to be conducted beyond 2 593KM (1400NM), external assistance, as contained in any Agreements, will be activated and use made of surface SAR Units, where applicable.

INFORMATION ON MARITIME SASAR REGION – CO-ORDINATED BY THE MRCC AND SUB-COMMITTEES, IN ASSOCIATION WITH THE TRANSNET NATIONAL PORTS AUTHORITY (TNPA), THE ARCC AND THE NSRI

Role

The area of responsibility falling under the control of the MRCC that is adjacent to the coastline of the RSA is hereby divided into seven sub regions. The sub regions shall fall under the control of the Harbour Masters (National Ports Authority) of Saldahna, Cape Town, Port Elizabeth, East London, Durban, Richards Bay and the Port Captain of Walvis Bay. Within each sub-region the Harbour Master's office acts as a Rescue Sub Centre (RSC). The RSCs are accountable to the head of maritime search and rescue operations.

Within the sub region of a Harbour Master (National Ports Authority), the various NSRI bases, harbour masters of minor ports act as secondary-rescue sub-centre (sec-RSCs) for the area that falls within their responsibility. The sec-RSCs are accountable to the Chief of the RSC in whose area of responsibility they are stationed and/or operate.

Other objectives of SASAR/Sub committees are inter alia the following:-

1. To minimize loss of life and personal injury to aviators and mariners.
2. To minimize time spent searching for persons in distress by using technology,
3. Improve co-operation between aeronautical and maritime search and rescue authorities;
4. To promote or enhance regional search and rescue capacity or capability;
5. To promote and ensure the optimal use of the limited available search and rescue resources; and to ensure the implementation of the international standards and recommended practices (SARPS) where appropriate.

SASAR must, within its means and capabilities, co-ordinate its resources to:-

(a) Search for, assist and, where appropriate, effect a rescue operation for:
   (i) Survivors of aircraft crashes or forced landings;
   (ii) Survivors of any military aircraft or vessel accident or incident if such aircraft or vessel is not engaged in an act of war.

(b) Make available telecommunication facilities in line with provisions made in Telecommunications Act, 103 of 1996.

(c) Perform its functions in a manner which promotes efficient, economic and effective use of all resources.

(d) Endeavour to co-operate with Disaster Management Agencies established in terms of any law providing for the management of disasters.

Reference: ARTICLE 17 - MEMBERS RESPONSIBILITIES …. *"*Each Member undertakes and commits to carry out the responsibilities assumed and outlined in paragraph 4 of the SASAR Manual, and as amended from time to time".

MARITIME OPERATIONAL STRUCTURE

♦Manager: SAROPS serves as the Head of SAROPS
♦Permanent RSC's strategically placed along the coast with Harbour Masters' offices serving as RSC's
♦Within the sub-region of a Harbour Master, Secondary RSC's have been created.
♦Various NSRI stations and some smaller Harbour Master's offices act as secondary RSC's

ALERTING POSTS

♦Air Traffic Service Units
♦Harbour Master's Offices
♦Coastal Radio Stations
♦SA Police Stations
♦MRCC
♦ARCC

REGIONS

♦SRR's prescribed by both ICAO and the IMO
♦Aeronautical covers the continental areas of the sovereign territory of SA, Swaziland and Lesotho and associated Flight Information Regions

SEARCH AND RESCUE REGIONS

The Maritime SRR is as follows:-
♦On the Western side, approximately halfway between SA and South America
♦Eastern side, approximately halfway SA and Australia
♦Northern side, borders on Namibia, SA and Mozambique and then proceed to the South Pole
Total SRR for both is approx. 28.5 m square kilometres

SAR COMMUNICATIONS

♦DoT, responsible department to ensure that MSI services including distress alert is provided
♦Telkom provide above services on a contractual basis
♦Services provided I.t. o. relevant international conventions and the Cospas-Sarsat Programme
♦SA became member of Cospas-Sarsat as Ground Segment Provider in November 2000
♦LUT installed in Milnerton, Cape Town by Telkom on behalf of DoT
♦Telkom manage and run the MCC on behalf of the DoT
♦SAMSA is the agency appointed to ensure that Telkom as a service provider provides an efficient and effective SAR communications

CONCLUSION

♦The execution of SAROPS devolved to SASAR, but the DoT remains responsible and accountable
♦SASAR gets its mandate from international conventions, domestic legislation, national and international SAR manuals

♦The management and control of SASAR rests with the Executive Committee assisted by the Management Committee, the Secretariat and the two Subcommittees
♦Two separate RCC's have been created, namely, the ARCC situated in JHB and MRCC stationed in Cape Town
♦RSC's strategically stationed across the country
♦SA's total SRR, both aeronautical and maritime inclusive, 28.5 square kilometres and is prescribed by both IMO and ICAO
♦Telkom SA contracted to advise and render SAR communications on behalf of the DoT and SASAR
♦Services rendered include INMARSAT, Cospas-Sarsat
♦The DoT undertakes to continue co-operating with other countries, relevant UN and regional bodies in their quest to ensure compliance with and implementation of SARP's

Maritime Rescue Co-ordination Centre (MRCC)

In January 2007, a multilateral agreement was formally signed between the Governments of the Comoros, Madagascar, Mozambique and South Africa for the coordination of maritime search and rescue services in areas adjacent to the coast. During this time, H.E. Efthimio Mitropoulos, the Secretary-General of the International Maritime Organisation, visited South Africa with one of the primary objectives being to launch the sub-regional Maritime Rescue Coordination Centre at SAMSA's MRCC Cape Town.

The MRCC is operational 24/7 and must within its mean and capabilities coordinate its resources to search for, assist and, as required effect a rescue operation for:-

- Survivors of aircraft crashes or forced landings at sea;
- The crew and passengers of vessels in distress;
- Survivors of maritime accidents or incidents;
- Survivors of any military aircraft or vessel accident or incident if such aircraft or vessels is not engaged in an act of war; and
- The MRCC must also coordinate the evacuation of seriously injured or ill person from a vessel at sea when the person requires medical treatment sooner than the vessel would be able to get him or her to a suitable medical facility.

MRCC is also pro-actively involved in monitoring towing operations, vessels not under command, pollution reports and vessels aground around the South African coasts and report incidents to SAMSA for action as required. The average incident rate is 100 per year.

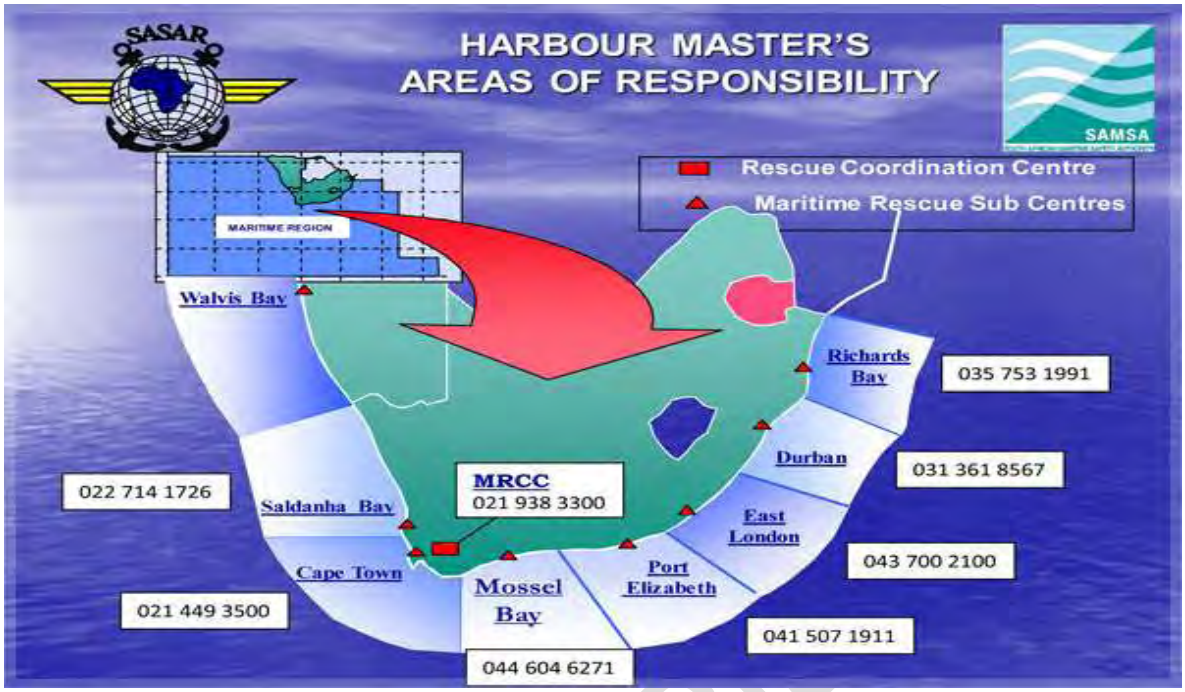
MRCC, CAPE TOWN

Assisting any person on a vessel in distress serves national interests, is an established international practice based on traditional humanitarian obligations, and is founded in international law.

The main operational unit of a maritime SAR service is the Maritime Rescue Co-ordination Centre (MRCC), which is established in the maritime Search and Rescue region (SRR). South Africa's contribution towards SAR services are viewed as part of a global safety system. To this end, in the South Africa context, all available resources co-operate in assisting persons in distress.

The SRR of South Africa covers the entire South African coastal area; extends down to the South Pole, half way to South America to the West, and half way to Australia in the East.

The coastal area is divided into seven sub regions under the control of the TNPA - the Harbour Masters of Saldahna Bay, Cape Town, Port Elizabeth, East London, Durban, Richards Bay, as well as the Port Captain of Walvis Bay. Within each sub-region the Harbour Master's office acts as a Rescue Sub Centre (RSC) – refer to the map below.



In maintaining a state of full readiness the MRCC also performs the following functions:-

- it monitors and evaluates levels of risk from Maritime Safety Information (MSI) broadcasts to ensure an immediate response in case of life threatening situations developing;
- manages the South African Ship Reporting System (SAFREP) in order to keep track of vessels around the coast and within the EEZ to call upon for support during SAR operations;
- it provides a Maritime Assistance Service (MAS), to receive reports and notifications in the event of an non-SAR incident involving a ship and to monitor the ship's situation in case it needs assistance and to serve as the point of contact between the master and the local authorities;
- The MRCC receives, evaluates and passes on Maritime Security pre-arrival and alert information to the Maritime Security Co-ordination Centre (MSCC) for dissemination to National authorities involved with the International ship and port security (ISPS) measures, for their action;
- it ensures that International SAR standards are implemented and maintained by local SAR operators to ensure that SAR operations are conducted in accordance with laid down standards and recommended practices;
- it implements the requirements of bilateral SAR agreements with neighbouring States regarding procedures and training in accordance with the letter and spirit of these agreements and established a SAR co-ordinators training capability to assist local and neighbouring authorities and countries in the sub-region, in terms of bilateral agreements and as accepted by the SA Government.
- The MRCC is also the custodian of the South African EPIRB, ELT and PLB (emergency beacons) database and is responsible for keeping it up-to-date and accessible on 24 hour basis.

7. *RESPONSE PLAN* FOR A SIGNIFICANT SHIPPING INCIDENT OR EMERGENCY OCCURRING AT SEA *OFF THE CAPE TOWN MUNICIPAL AREA*

7.1 INTRODUCTION

The Disaster Management Act 57 of 2002, directs that the Head of the Municipal Disaster Risk Management Centre is the designated Entity for identifying and organising the preparation for, and response to, **all identified hazards in the City of Cape Town**, including Maritime Transport/Shipping Emergencies. As such, the Head: DRMC is responsible for the preparation of the overall CoCT Shipping Incident Disaster Risk Management Plan so that there can be preparation for and a controlled and co-ordinated response to, and initial recovery from, a shipping incident along our coastline and which may affect the community of Cape Town.

Co-ordinated and integrated preparedness and response to a shipping incident or emergency requires the assistance of a wide range of Response Entities and support organisations, each with its own statutory responsibilities/mandates but working together to achieve the set goals. The location of the incident/emergency site and distance from the shore, the availability of Emergency Response Entities, the time required to reach the incident site and the prevailing weather and sea conditions ***may complicate the manner*** in which most eventualities can be dealt with.

The CoCT Shipping Incident DRM Plan strives to provide a broad tactical framework for a multi-agency response to the occurrence of any shipping incident/emergency occurring off the shores of this City.

Specific operating procedures must be developed by all the Responding Entities to be able to deal with their mandated functions and tasks and they should be structured to facilitate a multi-disciplinary, co-operative, co-ordinated and rapid response to any shipping incident/emergency occurrence.

7.2 AIM & CONCEPT OF OPERATIONS

Response operations are the emergency management arrangements for the control and the co-ordination of the response to and recovery from a shipping incident/emergency utilising the resources available in the City, including the resources of the relevant National and Provincial Departments, the Municipality of City of Cape Town, Para-statal Entities, NGO's and Volunteer Groups, whose mandates and responsibilities are covered by relevant legislation and/or operating protocols concerning aspects of Maritime Operations, and more specifically, roles in dealing with the occurrence of any Shipping Incident or Emergency.

Generally the shipping incident/emergency management concept is based on the execution of the following phases, as and when applicable to a particular/prevailing situation:-

a. Search Phase –
This includes all efforts to locate the vessel and to respond with the necessary available Search and Rescue (SAR) resources. Co-ordination of this SAR phase for all civil aircraft is the responsibility of the South African Search and Rescue Organisation (SASAR) with the Maritime Rescue Co-ordination Centre (MRCC) acting as its Co-ordinating Agency. In the case of a military vessel the responsibility for the co-ordination of SAR remains with SASAR/MRCC but in conjunction with the SA Navy and the SAAF. In cases where aircraft are assisting with the maritime search and rescue mission or when an aircraft is missing over the sea, the Aeronautical Rescue Co-ordination Centre (ARCC) will work jointly with the MRCC.

***b.* Emergency Response Phase –**
Upon receipt from the MRCC or from the Transnet National Ports Authority (TNPA), or Cape Town Radio, or the NSRI or the public or any other source, **of a shipping emergency or significant incident where the location is known**, all the relevant First Response Entities will be activated in the appropriate manner and endeavour to respond to the incident site as rapidly as possible. The first Services / Agencies on the scene will strive analyse the prevailing situation and to co-ordinate follow-up activities through the establishment of the necessary incident site management structures and emergency management areas.

** **WARNING NOTICE TO ALL EMERGENCY RESPONSE PERSONNEL** **
The Incident Commander and all personnel involved in this phase should be made aware that a shipping emergency **MAY** also have an additional risk of hazardous material release and military vessels and certain cargo vessels may be carrying unexploded munitions, explosive devices, etc.

Therefore, only those persons considered essential to save life or minimise further destruction to the vessel or wreckage or property (if beached on shore) should enter an shipping emergency site, first ensuring that all appropriate precautions are taken to protect themselves and to safeguard all subsequent responders to the site.

c) ***Rescue Phase after response –***
(1) render the vessel and the site safe from fire and hazardous substances, including unexploded ordinance, to enable the rescue and removal of victims;
(2) remove the victims to a safe area;
(3) rescue the trapped victims and proceed to a suitable landing area;
(4) carry out the triage, treatment and evacuation of all casualties to hospital, as appropriate;
(5) ensure immediate welfare of all uninjured victims;
(6) arrange for the removal of the deceased (ideally after investigators have had an opportunity to examine the scene) ; and
(7) the preservation of evidence where possible.

d) ***Initial Recovery Phase –***
includes, but is not limited to such actions as:-
(1) the hospitalisation and treatment of injured,
(2) the identification and registration of all victims, and reunification with relatives where applicable;
(3) reconciliation and identification of the deceased; and
(4) hand over of the incident to the South African Maritime Safety Authority's (SAMSA) Accident Investigators or to the appropriate Military Authority, as applicable.

e) ***Subsequent Recovery Phases (as applicable) –***
includes, but is not limited to such actions as:-
(1) the safety of the affected vessel(s),
(2) deal with any ship fires, oil spills, cargo and debris spillage and related issues (as per the respective SOPs and Emergency/Disaster Management Plans,
(3) ship recovery operations.

7.3 RESPONSE ENTITIES

Due to shipping/maritime incidents or emergencies generally occurring out to sea which is outside the jurisdictional area of the Municipality of Cape Town – except for shipping incidents/emergencies occurring within a port or harbour – the National Departments of Transport, of Environmental Affairs, of Agriculture, Forestry and Fisheries and of Defence and the mandated safety authorities such as SAMSA (incl. the MRCC), the SAPS, Customs, NSRI and others, will assume their mandated roles in dealing with the Situation. Where the consequences of this type of incident/emergency impact on the City of Cape Town and on the South African mainland or off-shore islands, the CoCT DRMC, which has the primary responsibility for the co-ordination and management of any hazard with the potential of becoming a disaster, including a shipping emergency, will co-ordinate these land-based efforts, irrespective of whether a local state of disaster has been declared or not. Therefore, the relevant City Department role-players, in conjunction with the above-mentioned Entities plus various other responding Services/Agencies, including the Line or Ship's Agents, foreign embassies and any other land-based Entities involved, will respond to any significant incident or emergency in accordance with this (tactical) DRM Plan.

It must be noted that various laws and regulations govern specific aspects of the response, recovery, the investigation to such incidents and provide authority to specific Agencies/Services. Therefore, provision has been made to accommodate these aspects in the CoCT's Municipal Disaster Risk Management Plan (the "strategic" document under which this DRM Plan falls), as the Disaster Management Act ensures the co-ordinated application of all specific legislation and regulations in order to provide an optimum response to any disaster. However, the CoCT DRMC retains the responsibility for the overall co-ordination of any major Incident, as envisaged in the Disaster Management Act, 57 of 2002.

**** The TACTICAL DISASTER RESPONSE ACTIONS SUMMARY FOR AN INCIDENT is indicated overleaf.**

TACTICAL DISASTER RESPONSE ACTIONS SUMMARY

SHIPPING INCIDENT(S) THAT MAY RESULT IN DIRECT OR INDIRECT SOCIO-ECONOMIC OR ENVIRONMENTAL IMPACTS TO THE CITY CAPE TOWN

**** NB: This Table only provides a *tactical summary* of the response activities that may be taken to deal with any incident – more detailed Emergency Response Procedures / SOPs will be used by each of the mandated Role-players involved for these Actions i.r.o. their mandated functions at the operational level**

BASIC ACTIONS (AS PER SOPs) ***Apply the MIMP system to deal with Incident ...***	**PRIMARY RESPONDERS: LEAD DISCIPLINES**	**SUPPORT SERVICES THAT MAY BE INVOLVED**
Notification of a significant Shipping / Maritime Incident off the Cape Town coastline & communication to all Role-players = ALERT or STANDBY or ACTIVATION (*dependant on the nature (location, magnitude & impact) of the Incident)* = through communication from the TNPA Port of Cape Town Harbour Master, SAMSA / MRCC or from another reliable source (subject to verification), giving as much Incident information as is available.	TNPA-Port of Cape Town Harbour Master; NSRI; MRCC; SAMSA; Cape Town Radio; DoT; DEA; Ship's Captain and available crew	Alert the following Organisations to be on standby: - CoCT DRMC (DOC); Ship's Owner/Shipping Agent; SANDF-SA Navy & SAAF, if necessary (via J Tac HQ); Additional land support by:- SAPS Waterwing; CoCT Fire & Rescue; CoCT ERMD-Marine Environmental Compliance & Coastal Management; CoCT Law Enforcement; MPD; CoCT Traffic; CoCT Communications; WCG EMS; WCG Forensic Pathology Services; Hospitals; plus any other CoCT Services; Customs; Dept. of Health; Dept. Home Affairs; Dept. Foreign Affairs; Embassies (incl. interpreters); AAL-SA; Disaster Relief NGO's; DM Vols. and Others, as required, depending on the location & impact of the Shipping Incident;
Activation of all Response Services to scene of the Shipping Incident out to sea – give location with details incl. map references and any immediate requirements/resources that are to be provided by the Responders. If Incident is very close to the shore or in the Port/Harbour, notification to the land-based law enforcement units as well. **NB: Port Incidents will be dealt with according to the prevailing hazard(s) using the appropriate Port's Emergency Plan, supported by the Hazard-specific DRM Plan(s) and the relevant SOPs of the Responders, dependant on the Situation.**	TNPA-Port of Cape Town Harbour Master; NSRI; MRCC; SAMSA; Cape Town Radio; DoT; DEA; Ship's Captain and available crew;	CoCT DRMC (DOC); Ship's Owner/Shipping Agent; SANDF-SA Navy & SAAF, if necessary (via J Tac HQ); Additional land support by:- SAPS-Water and/or Land Units; CoCT Fire & Rescue; CoCT ERMD-Marine Environmental Compliance & Coastal Management; CoCT Law Enforcement; MPD, as applicable; CoCT Traffic, as applicable ; CoCT Communications; WCG EMS; WCG Forensic Pathology Services; Hospitals; Private EMS; plus any other CoCT Services; Customs; Dept. of Health; Dept. Home Affairs; Dept. Foreign Affairs; Embassies (incl. interpreters); AAL-SA; Disaster Relief NGO's; DM Vols. and Others, as required, depending on the location & impact of the Shipping Incident;
First arrivals on scene of Incident to do a Rapid Impact Assessment of the prevailing Situation and to provide feedback to the Supporting Services on land via SAMSA, MRCC and the TNPA Port of Cape Town's Harbour Master for onward notification.	NSRI; TNPA-Port of Cape Town Harbour Master; MRCC; SAMSA; Cape Town Radio; SAAF (as applicable); DoT; DEA; Ship's Captain and available crew;	Other available sea rescue/transport services can assist, where applicable, in support of the Lead Role-players; *Additional land support by*:- CoCT DRMC (DOC); Ship's Owner/Shipping Agent; SANDF-SA Navy, if necessary (via J Tac HQ); SAPS-Waterwing; CoCT Fire & Rescue, as applicable; CoCT ERMD-Marine Environmental Compliance & Coastal Management; CoCT Law Enforcement; CoCT Communications; WCG EMS; WCG Forensic Pathology Services; Hospitals; Private EMS; *Further support, as applicable:-* Other CoCT Services; Customs; Dept. of Health; Dept. Home Affairs; Dept. Foreign Affairs; Embassies (incl. interpreters); AAL-SA; Disaster Relief NGO's; DM Vols. and Others, as required, depending on the location & impact of the Shipping Incident;

If fire-fighting on board a vessel is required the TNPA Port of Cape Town's Harbour Master must notify the CoCT Fire & Rescue Service and the contracted Marine Tugs, as applicable, so that arrangements can be made to transport personnel and supplementary fire-fighting equipment to the vessel in distress, where this is possible	TNPA-Port of Cape Town Harbour Master; NSRI; MRCC; SAMSA; CoCT Fire & Rescue Service; DoT; Ship's Captain and available crew	CoCT DRM (DOC); Ship's Owner/ Shipping Agent; SANDF-SA Navy, if necessary (via J Tac HQ); WCG EMS; Others, as required; Contracted Marine Fire-fighting Tug(s), as applicable;
Responders to undertake co-ordinated searches, rescues, triage, treatment & evacuation from the ship of crew and passengers. Also search the surrounding sea and rescue other casualties / evacuees onto the rescue vessels, as applicable to the Situation. Transportation of casualties by quickest and best means to the nearest harbour or landing place. Recovery of the dead and other actions, such as firefighting and hazard mitigation, as applicable. Initiate area safety measures around the ship, as necessary. If close to shore, initiate land cordons and crowd control measures. Obtain passenger & crew lists from affected ship(s), record casualty/patient information on arrival on land or at hospitals of emergency shelters and compare the lists.	TNPA-Port of Cape Town Harbour Master; NSRI; MRCC; SAMSA; SAAF (as applicable); DoT; DEA; Ship's Captain and available crew; Ship's Owner/ Shipping Agent;	Other available sea rescue/transport services can assist, where applicable, in support of the Lead Role-players; *Additional land support by*:- CoCT DRMC (DOC)-assists with communications; SANDF-SA Navy, if necessary (via J Tac HQ); SAPS-Diving & Water Policing Unit and/or SAPS Land Units; CoCT Fire & Rescue, as applicable; CoCT ERMD-Marine Environmental Compliance & Coastal Management; CoCT Law Enforcement; MPD, as applicable; CoCT Traffic as applicable; CoCT Communications; WCG EMS; WCG Forensic Pathology Services; Hospitals; Private EMS; *Further support, as applicable:-* Other CoCT Services, incl. CoCT Sport & Rec. & Human Settlements Depts for Emergency Shelter organisation, if applicable; Customs; Dept. of Health; Dept. Home Affairs; Dept. Foreign Affairs; Embassies (incl. interpreters); AAL-SA; Disaster Relief NGO's; DM Vols. and Others, as required, depending on the location & impact of the Shipping Incident;
Establish an on-site JOC / Forward Command Post (FCP) aboard one of the vessels on the scene, as well as an Off-site JOC at the TNPA Port of Cape Town Harbour Master's Boardroom or at a place designed by *SAMSA* in order to co-ordinate incident activities. All Support Services participating in the Off-site JOC to be notified and activated.	TNPA-Port of Cape Town Harbour Master; NSRI; MRCC; SAMSA; SAAF (as applicable); DoT; DEA; Ship's Owner/ Shipping Agent;	CoCT DRMC (DOC)-assists with communications; DRMC Rep.; Ship's Owner / Shipping Agent; SANDF-SA Navy, if necessary (via J Tac HQ); SAPS-Waterwing and/or Land Units; CoCT Fire & Rescue, as applicable; CoCT ERMD-Marine Environmental Compliance & Coastal Management; CoCT Law Enforcement; MPD; CoCT Traffic ; CoCT Communications; WCG EMS; WCG Forensic Pathology Services; Others, as required, depending on the location & impact of the Shipping Incident
Supply the necessary SITREPs & the supply of "disaster intelligence" information to SAMSA and the MRCC; the TNPA Port of Cape Town's Harbour Master and to the CoCT DOC for relay to the DCT (when activated) & to own Service Control Rooms & management.	TNPA-Port of Cape Town Harbour Master; NSRI; MRCC; SAMSA; SAAF (as applicable); DoT; DEA; **All other** on-site/incident area Responders; CoCT DOC;	CoCT DRMC; **All** relevant Support Services; CoCT's DCT (when activated); Ship's Owner/ Shipping Agent;
A Joint Media Centre (JMC) is established at Port of Cape Town or at any other suitable venue to brief media of the evolving Situation.	SAMSA; DoT; NSRI; TNPA-Port of Cape Town Harbour Master; MRCC; DEA; Ship's Owner / Shipping Agent; CoCT DRMC; All Off-site JOC participants;	CoCT Communications; Others, as required

Activation of the CoCT Disaster Co-ordinating Team (DCT) in the CoCT DOC, Goodwood, as required by the impact of the Incident on the City of Cape Town.	Head DRMC; CoCT DOC-assists with communications; DRMC Support Staff; SAMSA, TNPA-Port of Cape Town Harbour Master; MRCC; DoT; DEA; NSRI; Ship's Owner / Shipping Agent;	SANDF- J Tac HQ); SAPS-Waterwing and Land Units' Reps.; CoCT Fire & Rescue, as applicable; CoCT ERMD-Marine Environmental Compliance & Coastal Management; CoCT Law Enforcement; MPD & CoCT Traffic, as applicable ; CoCT Communications; 107 PECC; WCG EMS; WCG Forensic Pathology Services; CoCT Communications; Other CoCT Services and external Entities, as required by the nature of the Situation;
Arrange and monitor the land transport of all casualties to hospitals and/or to places of safety / emergency shelter(s) for survivors' welfare, trauma counselling and next of kin notifications. Securing of bodies / patient information / care for next of kin, as required by the Situation.	CoCT DRMC Staff; MPD; CoCT Traffic; SAPS; WCG EMS; WCG Forensic Pathology Services; Hospitals; Ship's Owner/Shipping Agent;	Setting-up of emergency shelters and casualty administration, as required:- CoCT Human Settlements Dept; CoCT Sport & Recreation; CoCT Law Enforcement; City Health; Dis. Relief NGO's; Trauma Counselling Centres; Customs; Dept. of Health; Dept. Home Affairs; Dept. Foreign Affairs; Embassies (incl. interpreters); Disaster Relief NGO's; DM Volunteers; Others, as required, depending on the location & impact of the Shipping Incident;
Continuing Media Liaison & further public notification / information, as required by the Situation.	Joint Media Centre - with SAMSA; NSRI; TNPA-Port of Cape Town Harbour Master; All Off-site JOC participants & supported by the DCT participants (as applicable) through CoCT Communications and the DRMC;	Others, as required;
Continue with local actions at sea or on adjacent land to mitigate further damage or disruption. Initiate oil, debris and other environmental clean-up operations if safe to do so (as per the DEA Coastal Oil Spill Plan) ** In the event of a sinking, stranding or wreck, SAMSA and DoT to initiate formal investigation into the Incident as per Protocol.	TNPA-Port of Cape Town Harbour Master; NSRI; MRCC; SAMSA; SAAF (as applicable); DoT; DEA; CoCT ERMD--Marine Environmental Compliance & Coastal Management; CoCT Solid Waste Management CoCT DRMC All other on-site/incident area Responders; All Off-site JOC participants;	Ship's Owner/Shipping Agent; SANCCOB; Others, as required;
Management of Recovery Resources - Tactical and Operational assistance of additional resources (via mutual aid agreements and or short-term contracts) as necessary – consider a Local State of Disaster Declaration, if applicable.	All on-site JOC/FCP and off-site JOC participants;	CoCT's DCT (if activated); CoCT DRMC; CoCT Solid Waste Management; SAPS; MPD, CoCT Traffic; SANCCOB; Others, incl. Private Services, as required; Senior City Management and Council/MAYCO; Provincial & National Government Departments & other identified supporting role-players;
POSSIBLE SUPPLEMENTARY ACTIONS / SUPPORT, DEPENDANT ON SITUATION:- Further impact assessments, asset /facilities & environmental protection.	SAMSA; NSRI; TNPA Port of Cape Town Harbour Master; DoT; DEA; CoCT DRMC; CoCT ERMD-Marine Environmental Compliance & Coastal Management; MPD; CoCT Law Enforcement (for the protection of Municipal Property); CoCT Solid Waste Management; SAPS; SANDF/SA Navy, if applicable; Other CoCT Services, as required; Other Facilities, as applicable.	WCG & National Government Departments, as & when they are required; Ship's Owner/Shipping Agent;
Stand down of response and rehabilitation activities. Continue with the Incident investigation, judicial & liability processes with the relevant Parties. Start with site rehabilitation, wreck removal, etc. (as applicable)	SAMSA; TNPA Port of Cape Town Harbour Master; DoT; DEA; CoCT ERMD-Marine Environmental Compliance & Coastal Management; SAPS; Ship's Owner/Shipping Agent; Others, as required;	Others, as applicable;

SOME OF THE SPECIAL RESOURCES / LOGISTICS WHICH _MAY_ BE REQUIRED FOR A SHIPPING INCIDENT RESPONSE - SOURCED FROM THE RESPONDING LEAD & SUPPORTING DISCIPLINES' RESOURCE AVAILABILITY AND FROM OTHER CONTINGENCY RESOURCE DATABASES:-

a) Sea-worthy Vessels and trained personnel for rescue & assistance / Divers / Lifejackets / Helicopters (where applicable) - for transportation to incident site & for casualty evacuation
b) Ship Rescue equipment, incl. high-angle equipment and ropes, plus necessary medical equipment / Stretchers
c) Rescue Teams / Paramedics / Doctors
d) Breathing Apparatus / Gas masks and the appropriate protective clothing
e) Fire-fighting teams & equipment, with chemical foam and water tanks, as applicable
f) Pumping Equipment / Generators / Emergency Lighting
g) Ambulances / Land Transport for evacuated casualties & other affected persons
h) Salvage crews & equipment
i) Cordoning-off / Site securing equipment (for land-based operations)
j) Tents & shelter areas (land-based operations)
k) Blood Supplies / hospitals
l) Food / Welfare / Data collection / Counselling / Temporary Shelters for evacuees & next of kin, as required
m) Refrigerator trucks or containers (land-based) for storage of bodies
n) Front-end loaders / trucks (for oil & debris removal – land-based)
o) Any other identified resources – dependant on the nature of the Situation and resource availability = refer to Stakeholders' Asset Databases.

A NOTE ON MEDICAL TRIAGE:

Many lives *may* be lost as a result of a shipping or maritime incident/accident. If this occurs closer to the shore and rescue units are available, then many could survive. An Advanced Trauma Life Support Doctor will respond close to the scene on-shore or at the designed casualty landing point and will assume the role of Chief Medical Officer. Once the Triage area has been set up, the Chief Medical Officer will assume control of the area. His sole responsibility would be to reclassify all arriving casualties and prioritise the casualties for transport to Hospitals.

The Critical Care Assistants from the various Services will move out into the field and act as Triage Officers. Their sole responsibility will be to assess the condition of the victims and classify them accordingly. Stretcher parties will accompany them into the field.

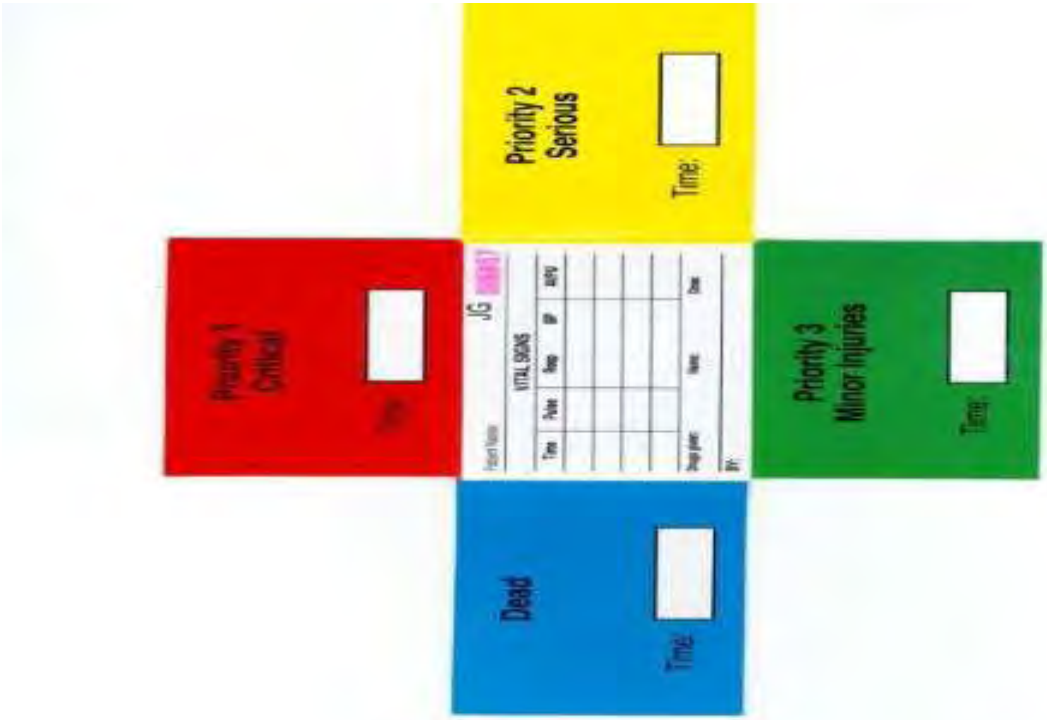
Once triage has been completed, they shall then assist with the treatment of the patients. Treatment of survivors should be limited to stabilisation of patients in order for them to be transported to hospitals for specialised treatment.

All patients will be categorised in order of the severity of his/her condition. The approved Triage Tags will be used. After completing as many details as possible, the triage tags will be fastened to the patient's body, never tie the tag to jewellery or clothing, as these may have to be removed during surgery. The tag, where possible, should be tied to the right wrist of the casualty, should this not be possible, the left wrist could be utilised, then the right ankle and finally the left ankle.

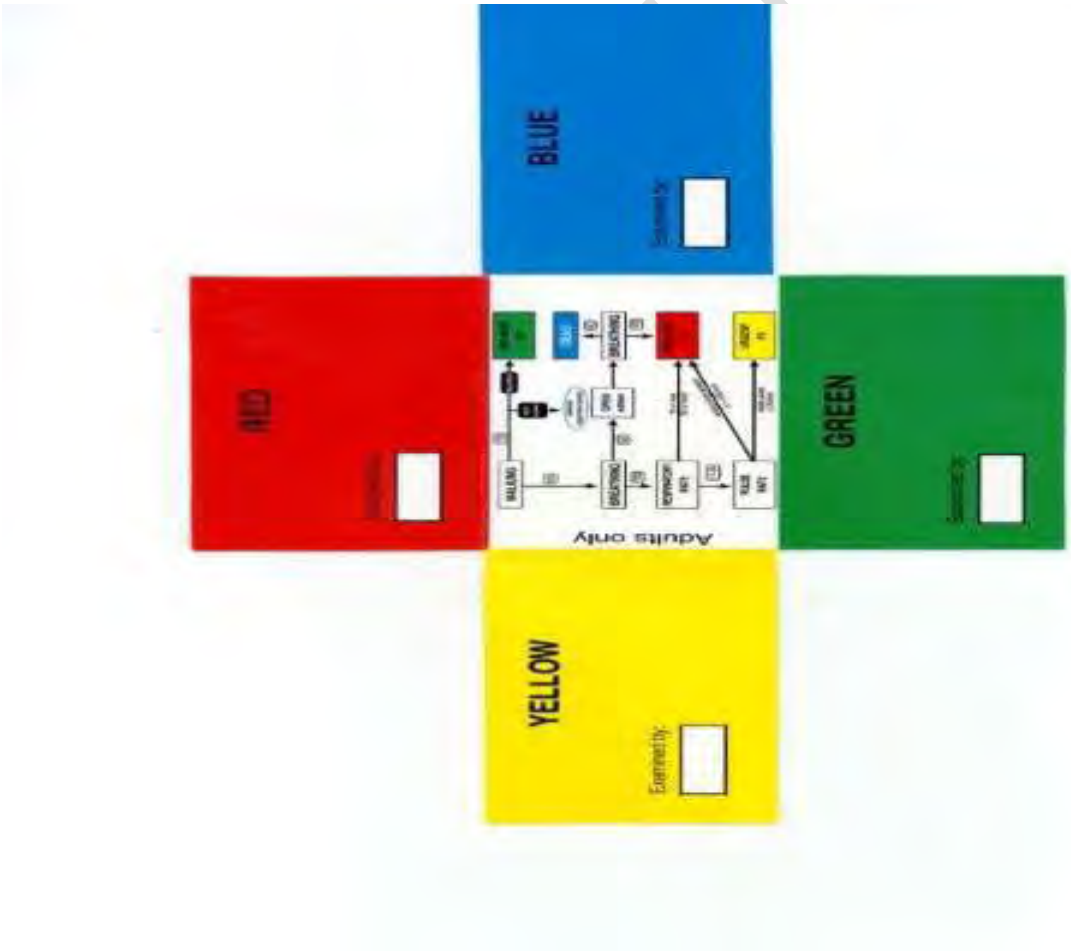
For all incidents the patients will be classified into four categories, each of which is easily identifiable. Each category is colour coded. The centre 'white' card has reference details of the patient.,

The following information should be collected at the Triage Area:-
a) Numbers: - How many people have been found and taken to the Triage Area?
b) Condition: - How serious are their injuries?
c) Where: - To which holding area or hospitals have they been sent?

An example of the approved triage tags, which will be used in the event of a major incident is shown overleaf …



Front of Traige Card



Back of Triage Card

SPECIFIC RESPONSE PLAN FOR SHIP SINKING, STRANDING OR WRECKING NEAR THE HIGH-WATERMARK (INSHORE) OFF CAPE TOWN, WITH POSSIBLE ENVIRONMENTAL IMPACTS

- **AS PER ARTICLE 7 OF THE SIGNED MULTI-PARTY IMPLEMENTATION PROTOCOL (ATTACHED TO THIS DRM PLAN AS ADDENDUM 1) ...**

RESPONSE PLAN

7.1 ONCE AN INSHORE SINKING, STRANDING OR WRECK OCCURS THE FOLLOWING STANDARD RESPONSE PLAN WILL BE IMPLEMENTED:-

7.1.1 IMMEDIATE RESCUE OPERATIONS OF THE VESSEL'S CREW WILL BE INITIATED THROUGH SAMSA, THE CITY'S DISASTER RISK MANAGEMENT CENTRE AND THE NATIONAL SEA RESCUE INSTITUTE WITH THE ASSISTANCE OF THE SOUTH AFRICAN NAVY WHERE NECESSARY.

7.1.2 SAMSA WILL BE RESPONSIBLE FOR CO-ORDINATING THE IMMEDIATE CREW RESCUE ACTIONS.

7.1.3 ON NOTIFICATION OF AN INSHORE SINKING, STRANDING OR WRECK, A FORMAL AND MANDATED JOINT OPERATIONS COMMITTEE (JOC) WILL BE ESTABLISHED UNDER THE DIRECT COMMAND OF SAMSA.

7.1.4 THE JOC SHALL HAVE FORMAL ESTABLISHED REPRESENTATION FROM ALL PARTIES TO THE PROTOCOL.

7.1.5 EACH PARTY WILL AT THE TIME OF SIGNATURE OF THE PROTOCOL MANDATE ITS NOMINATED REPRESENTATIVES TO REPRESENT THE SAID PARTY ON THE JOC FULLY AND EXPLICITLY AND EACH PARTY WILL HAVE ITS OWN INTERNAL PROTOCOL IN THIS REGARD.

7.1.6 EACH JOC MEMBER WILL BE MANDATED BY THEIR ORGANISATION WITH REGARDS TO THE COMMITMENT OF RESOURCES AND CAPACITY TO RESOLVE THE INCIDENT AS EXPEDIENTLY AND EFFECTIVELY AS POSSIBLE.

7.1.7 THE JOC SHALL TAKE OVERALL CONTROL OF ALL SALVAGE AND REMEDIATION OPERATIONS AND ACTIONS.

7.1.8 SAMSA WILL CHAIR AND COORDINATE THE JOC.

7.1.9 NOMINATED REPRESENTATIVES TO THE JOC AND THEIR CONTACT DETAILS ARE LISTED IN ANNEXURE A TO THIS PROTOCOL.

7.1.10 THE CITY'S DISASTER RISK MANAGEMENT CENTRE SHALL CO-ORDINATE ALL COMMUNICATION AS PER THE CITY'S SHIPPING INCIDENT DISASTER RISK MANAGEMENT PLAN WHICH WILL BE BASED ON THIS PROTOCOL. THE DISASTER RISK MANAGEMENT PLAN WILL INCLUDE A NOTIFICATION SYSTEM AND ACTIVATION PROCEDURES TO ENSURE THAT ALL REPRESENTATIVES ARE NOTIFIED OF THE JOC FORMATION AND THE VENUE AND TIME OF MEETINGS. IF REQUIRED BY THE MAGNITUDE OF ANY SHIPPING INCIDENT, ESPECIALLY FOR THE RESPONSE AND RELIEF PHASES, THE DISASTER CO-ORDINATION TEAM WILL ALSO BE ACTIVATED BY THE CITY'S DISASTER OPERATIONS CENTRE TO DEAL WITH TACTICAL AND STRATEGIC DISASTER MANAGEMENT ASPECTS. THE DISASTER OPERATIONS CENTRE WILL LIAISE CLOSELY WITH THE JOC AND THE DISASTER COORDINATION TEAM WILL HAVE REPRESENTATIVES OF ALL RELEVANT ROLE-PLAYERS.

7.1.11 THE JOC WILL MAKE ALL DECISIONS WITH REGARDS THE SALVAGE AND REMEDIATION ACTION WITH PARTICULAR EMPHASIS ON THE EXPEDIENT, EFFECTIVE, SAFE AND APPROPRIATE PERMANENT RESOLUTION OF THE INCIDENT.

7.1.12 EACH JOC MEMBER MUST ENSURE THAT THEIR ORGANISATION AS WELL AS THEIR LEADERSHIP IS FULLY AND COMPLETELY BRIEFED AT ALL TIMES FOR THE DURATION OF THE INCIDENT.

7.1.13 EACH MEMBER OF THE JOC SHALL TAKE RESPONSIBILITY TO ENSURE THAT ALL DECISIONS CAN BE MADE AND ACTED UPON WITH IMMEDIATE EFFECT BY THE JOC IN THE KNOWLEDGE OF THE FULL SUPPORT OF THE RESPECTIVE ORGANISATIONS.

7.1.14 COMMUNICATION WITH THE MEDIA, PUBLIC AND STAKEHOLDERS THROUGHOUT THE SALVAGE OPERATION WILL BE CENTRALLY CO-ORDINATED THROUGH THE JOC BY THE JOC CHAIRPERSON OR THE CHAIRPERSON'S NOMINATED SPOKESPERSON.

7.1.15 ALL COMMUNICATION SHALL REFLECT THE SITUATION AS A COLLECTIVE ACTION CO-ORDINATED THROUGH THE JOC AND WITH MULTIPLE-DISCIPLINARY CO-ORDINATION AND CO-OPERATION. IN THE EVENT OF A DISASTER SITUATION, THE CITY'S DISASTER OPERATIONS CENTRE AND THE DISASTER CO-ORDINATION TEAM WILL ASSIST WITH THIS PROCESS.

8. CLASSIFICATION OF DISASTERS

When an event / incident of disaster proportions occurs or is threatening to occur in any part of the City or in any adjacent area, the Head of the Disaster Risk Management Centre will determine whether the event can be classified as a Local State of Disaster in terms of the Disaster Management Act, 57 of 2002 and, if so, the DRM Centre will immediately:-

- initiate efforts to assess the magnitude and severity or potential magnitude and severity of the disaster;
- alert all the disaster risk management role-players in the municipal area that may be of assistance in the circumstances;
- initiate the implementation the disaster response plan or any contingency plans and emergency procedures that may be applicable under the circumstances of the threat; and
- inform the Western Cape Provincial and National Disaster Management Centres of the disaster and the initial assessment of the magnitude and severity or potential magnitude and severity of the disaster.

When informing the Western Cape Provincial and National Disaster Risk Management Centres, the Head of the DRM Centre may make recommendations regarding the classification of the disaster as may be appropriate in terms of Section 49 of the Disaster Management Act, 57 of 2002.

Irrespective of whether a local state of disaster has been declared or not, the City is primarily responsible for the co-ordination and management of local disasters that occur in its area, in terms of Section 55 (1) of the Disaster Management Act, 57 of 2002.

Whether or not an emergency situation is determined to exist, municipal and other agencies may take such actions under this plan as may be necessary to protect the lives and property of the inhabitants of the City of Cape Town.

Declaration of a local state of disaster :- In terms of Section 55 of the Disaster Management Act, 57 of 2002, in the event of a local disaster, the City Council may, by notice in the Provincial Gazette ***declare a local state of disaster*** if existing legislation and contingency arrangements do not adequately provide for the municipality to deal effectively with the disaster, or if there are any other prevailing or special circumstances that warrant the declaration of a local state of disaster.

If a local state of disaster has been declared, the City Council ***may*** make by-laws or issue directions, or authorise the issue of directions to:-

- Assist and protect the public;
- Provide relief to the public;
- Prevent or combat disruption; or
- Deal with the destructive and other effects of the disaster.

9. POST INCIDENT AND DISASTER RECOVERY ASPECTS

9.1 DISASTER RESPONSE CO-ORDINATION

The Disaster Co-ordination Team (DCT) shall be convened in the (off-site) Disaster Operations Centre (DOC)when an emergency or disaster has occurred or is likely to occur, in accordance with the following parameters :-

* where the size or seriousness of the emergency seems beyond the capability of a Service, in the opinion of the most senior on-duty official of that Service, the DRMC can be requested to activate the DCT,
* where the Head of the DRMC is of the opinion that it is necessary to activate the DCT in order to effectively manage an emergency which has occurred or is likely to occur, the DCT must convene in the DOC,

* the activating Service shall, via the Disaster Operations Centre's, contact the Disaster Risk Management Duty Co-ordinator who shall immediately arrange to notify the designated members of the Disaster Co-ordination Team (DCT),
* the Disaster Risk Management Duty Co-ordinator shall request the DCT members to meet at the DOC in Goodwood or at any other viable alternate centre should the DOC not be available for whatever reason,
* the DCT will evaluate the situation and collaborate with the Head of the DRM Centre regarding the need for a declaration of a Local State of Disaster, as well as the continued activation or standing-down of the DCT.

All incidents will be managed by the Disaster Co-ordination Team in accordance with the principles and guidelines contained in the City of Cape Town Multi-Disciplinary Incident Management Plan (MIMP) and the DRMC DOC SOPs.

9.2 DISASTER OPERATIONS CENTRE (DOC)

All the co-ordination and response integration activities by the various responding disciplines will be managed from the City's Disaster Operations Centre (DOC) whose functions and responsibilities are described under DOC's Standard Operating Procedures.

9.3 REQUESTS FOR PROVINCIAL AND NATIONAL GOVERNMENT ASSISTANCE

Under certain circumstances, National (including SANDF), Provincial Department and even International assistance, may be requested from the Western Cape Provincial Disaster Management Centre or the National Disaster Management Centre. This will be in the instance where the ***emergency / disaster has been declared a provincial or national state of disaster***, when a ***joint disaster management co-ordination system will be put in place***.

9.4 RECOVERY AND REHABILITATION OPERATIONS

Post-disaster recovery and rehabilitation operations, which may include reconstruction or redevelopment efforts, will normally take on the nature of special programmes and projects.

The Disaster Risk Management Centre will assist with the identification of needs and will facilitate recovery and rehabilitation operations. The function or department with the most direct involvement in the operation will take responsibility for project management and delivery. Project Teams convened for these purposes must report to the CoCT Municipal Disaster Management Advisory Forum on a regular basis (as determined by the MDMAF).

In this regard the causal factors of disasters must be addressed and disaster prevention through risk elimination should be pursued in the rehabilitation, reconstruction or redevelopment efforts in order to avoid a repetition of the disaster.

ADDENDUM 1

(LATEST DRAFT) IMPLEMENTATION PROTOCOL

by and between

INSERT LOGO

THE DEPARTMENT OF TRANSPORT,

(Hereinafter referred to as "the DoT")

Duly represented by **Mr/Ms xxx** in his/her capacity as **xxx** and duly authorized thereto

and

INSERT LOGO

THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS ,

(Hereinafter referred to as "the DEA")

Duly represented by **Mr/Ms xxx** in his/her capacity as **xxx** and duly authorized thereto

and

INSERT LOGO

THE TRANSNET NATIONAL PORTS AUTHORITY ,

(Hereinafter referred to as "TNPA")

Duly represented by **Mr/Ms xxx** in his/her capacity as **xxx** and duly authorized thereto

and

INSERT LOGO

THE SOUTH AFRICAN MARITIME SAFETY AUTHORITY,

(Hereinafter referred to as "SAMSA")

Duly represented by **Mr/Ms xxx** in his/her capacity as **xxx** and duly authorized thereto

and

THE CITY OF CAPE TOWN MUNICIPALITY,

(Hereinafter referred to as "the City")

Duly represented by **Mr/Ms xxx** in his/her capacity as **xxx** and duly authorized thereto

(Hereinafter sometimes referred to collectively as "the Parties" and individually as the "Party")

FOR COOPERATION IN PREVENTING AND RESPONDING TO SHIPPING ACCIDENTS AND STRANDINGS OFF THE COASTLINE OF THE CITY OF CAPE TOWN

PREAMBLE

A. **WHEREAS** the Parties recognise that:

- The marine and coastal environment is central to Cape Town's economy, sense of place, heritage, identity and recreational value and holds significant potential for contributing to further economic growth, job creation, social opportunities, development, social well-being and resilience towards climate change;
- Cape Town has a highly sensitive and rich coastal environment where a major oil or shipping accident may have catastrophic impacts;
- Shipping accidents and strandings impact across coastal jurisdictional boundaries, ecosystems and the marine and terrestrial environment and have the potential to cause significant negative impacts on the economic, environmental and social value of the coastline in Cape Town over extended periods of time;
- Shipping accidents and strandings have historically created significant financial burden on public funds administered by the different government departments and organs of state; including government agencies; and instances of default by owners and insurers have been high;
- Due to Cape Town's geographic location at the tip of Africa and the Cape Town harbour being a core economic hub, it forms a key shipping route and as such the potential for shipping accidents and strandings remains high;
- The severe weather and sea conditions to which Cape Town is exposed further increases the risks of shipping accidents and strandings;
- A shared and coordinated approach between the different government departments and organs of state; including government agencies, and a clear understanding of roles and responsibilities across the various agencies will significantly mitigate the risk of further shipping accidents and strandings and where these do occur, increase the effective and efficient resolution of such events and reduce the long term impacts; and
- Formalising a collaboration and co-operation between the Parties holds significant benefits for all Parties.

B. AND WHEREAS Section 35 of the Intergovernmental Relations Framework Act, 2005 (Act 13 of 2005) provides that where the implementation of a policy, the exercise of a statutory power, the performance of a statutory function or the provision of a service depends on the participation of organs of state in different governments, those organs must co-ordinate their actions in such a manner as may be appropriate or required in the circumstances, and may do so by entering into an Implementation Protocol;

C. AND WHEREAS *Section 35(c)* provides that an Implementation Protocol will materially assist the organs of state participating in the provisioning of a service in a specific area to co-ordinate their efforts;

D. AND WHEREAS the parties are committed in the spirit of co-operative governance to support each other in preventing the risk of and responding to shipping accidents and strandings off the coastline of the City of Cape Town;

E. The parties hereby enter into an Implementation Protocol for purposes of promoting co-operation, co-governance and joint operations in respect of preventing shipping accidents and to define respective

roles and responsibilities so that where these do occur, they are responded to more efficiently and in a co-ordinated manner.

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

ARTICLE 1

Objectives of the Protocol

1.1 The objectives of the Protocol are:

1.1.1 To reduce the potential for inshore shipping accidents, strandings and sinkings and to increase efficiency in responding to shipping accidents, strandings and sinkings.

1.1.2 To establish long-term, on-going, clear and effective working relationships and build shared resources and capacity between the Parties relating to effective salvage operations that require reactions and assistance from the Parties.

1.1.3 To ensure that the correct and appropriate delegations, authority and mandates are in place to allow for the collaboration, co-operation, joint operations and information sharing between officials from all Parties across jurisdictional boundaries in the event of shipping accidents, strandings or sinkings.

1.1.4 To ensure that mechanisms are in place for legally compliant joint operations and activities by officials from all Parties using infrastructure, assets and resources which belong to one or all of the Parties.

ARTICLE 2

Duration, Execution and Amending

2.1 This Protocol comes into effect upon signature and will remain effective unless and until terminated in writing by the Parties.

2.2 This Protocol shall be subject to a mandatory review within 2 (two) years from the date of coming into effect as well as a mandatory review following any shipping accident, stranding or sinking to which the provisions of this Protocol are applicable.

2.3 The Parties shall meet from time to time if deemed necessary by any Party to discuss the implementation of the Protocol and the need for any revision.

2.4 This Protocol including the Annexure/s hereto constitute the whole agreement between the Parties relating to the subject matter of this Protocol.

2.5 There are no other conditions, representations, whether oral or written and whether express or implied, applicable to this Protocol, save for those contained in this Protocol.

2.6 No amendment, alteration addition or variation of this Protocol shall be of any force or effect unless reduced to writing, signed by the Parties and attached hereto as an addendum.

2.7 This Protocol does not limit any Party from entering into cooperative or other agreements with any other Party in respect of shipping accidents, strandings or sinkings.

ARTICLE 3

Geographic Area

The Protocol applies to the municipal area of the City of Cape Town and to any other location that may result in direct or indirect socio-economic or environmental impacts to the City of Cape Town.

ARTICLE 4

Lead Agencies

The DoT and SAMSA are recognised as the collective lead agency.

ARTICLE 5

Assessment of South Africa's Maritime Legislation

5.1 The DoT shall commission an independent specialist assessment of the current status of South African's national maritime legislation with regards to insurance, liability, compensation and financial protection of the country's marine and coastal assets insofar as these relate to shipping accidents, oil pollution, strandings and sinkings.

5.2 Making use of the findings and recommendations flowing from this specialist assessment, the DoT will initiate a process to make the necessary legislative amendments or to enact new legislative provisions to ensure that appropriate and adequate financial insurance and internationally funded cover is in place to prevent shipping accidents, strandings, sinkings and oil pollution incidents impacting on public funds.

ARTICLE 6

Safety Zone

6.1 The Parties will define a Safety Zone (excluding the entry channels/shipping lanes to the Cape Town Port) along the length of Cape Town's coastline. This Safety Zone must be set at a minimum of at least three nautical miles off shore and the entire False Bay will be included in the Safety Zone. This new Safety Zone will be monitored as part of the TNPA radar and reporting system.

6.2 This new Safety Zone will be formally entered onto all national and international shipping charts as a Safety Exclusion Zone.

6.3 Any vessel entering this Safety Zone shall trigger the following response:

6.3.1 The TNPA shall notify SAMSA and the City's Disaster Risk Management Centre.

6.3.2 The vessel shall be contacted and requested to alter course out of the Safety Zone.

6.3.3 In the event that the vessel does not respond, the TNPA shall inform SAMSA and the City's Disaster Risk Management Centre of the exact location of the vessel.

6.3.4 The City's Marine and Environment Law Enforcement Unit's vessel shall be dispatched to intercept the vessel and ensure that the vessel is operating safely, is within control of the vessel's captain and to escort the vessel out of the Safety Zone.

6.3.5 The TNPA shall record all radar and communication transmissions for the purpose of investigations.

6.3.6 In the event that the vessel is unable to respond due to mechanical failure, steering failure or mutiny, SAMSA shall coordinate an emergency response to prevent the ship stranding on the City's coastline. This may include assistance from the South African Navy or the South African Police Services in physically taking control of the vessel.

6.4 All South African military, safety and emergency vessels are excluded from the conditions of the Safety Zone as are all small scale fishing vessels registered and operating out of Kalk Bay and Hout Bay Harbours.

ARTICLE 7

Response Plan

7.1 Once an inshore sinking, stranding or wreck occurs the following standard Response Plan will be implemented:

7.1.16 Immediate rescue operations of the vessel's crew will be initiated through SAMSA, the City's Disaster Risk Management Centre and the National Sea Rescue Institute with the assistance of the South African Navy where necessary.

7.1.17 SAMSA will be responsible for coordinating the immediate crew rescue actions.

7.1.18 On notification of an inshore sinking, stranding or wreck, a formal and mandated Joint Operations Committee (JOC) will be established under the direct command of SAMSA.

7.1.19 The JOC shall have formal established representation from all Parties to the Protocol.

7.1.20 Each Party will at the time of signature of the Protocol mandate its nominated representatives to represent the said Party on the JOC fully and explicitly and each Party will have its own internal protocol in this regard.

7.1.21 Each JOC member will be mandated by their organisation with regards to the commitment of resources and capacity to resolve the incident as expediently and effectively as possible.

7.1.22 The JOC shall take overall control of all salvage and remediation operations and actions.

7.1.23 SAMSA will Chair and coordinate the JOC.

7.1.24 Nominated representatives to the JOC and their contact details are listed in Annexure A to this Protocol.

7.1.25 The City's Disaster Risk Management Centre shall coordinate all communication as per the City's Shipping Incident Disaster Risk Management Plan which will be based on this Protocol. The Disaster Risk Management Plan will include a notification system and activation procedures to ensure that all representatives are notified of the JOC formation and the venue and time of meetings. If required by the magnitude of any shipping incident, especially for the response and relief phases, the Disaster Coordination Team will also be activated by the City's Disaster Operations Centre to deal with tactical and strategic disaster management aspects. The Disaster Operations Centre will liaise closely with the JOC and the Disaster Coordination Team will have representatives of all relevant role-players.

7.1.26 The JOC will make all decisions with regards the salvage and remediation action with particular emphasis on the expedient, effective, safe and appropriate permanent resolution of the incident.

7.1.27 Each JOC member must ensure that their organisation as well as their leadership is fully and completely briefed at all times for the duration of the incident.

7.1.28 Each member of the JOC shall take responsibility to ensure that all decisions can be made and acted upon with immediate effect by the JOC in the knowledge of the full support of the respective organisations.

7.1.29 Communication with the media, public and stakeholders throughout the salvage operation will be centrally coordinated through the JOC by the JOC Chairperson or the Chairperson's nominated spokesperson.

7.1.30 All communication shall reflect the situation as a collective action coordinated through the JOC and with multiple-disciplinary coordination and cooperation. In the event of a disaster situation, the City's Disaster Operations Centre and the Disaster Coordination Team will assist with this process.

ARTICLE 8

Insurance and Liability Determination

8.1 In parallel to the establishment of the JOC and salvage operations in the event of a sinking, stranding or wreck, SAMSA and the DoT shall immediately initiate formal legal processes to ascertain, confirm and establish insurance cover, insurance liability, vessel ownership and associated company or ownership assets attachable for the purpose of recouping public expenditure, remediating environmental damage and rehabilitating environmental conditions.

8.2 As part of this assessment, SAMSA and the DoT shall establish and manage a formal cost database against which all costs by all members of the JOC are logged and verified for the explicit purpose of insurance claims, financial reclamation of public funds and asset disposal, applicable operating costs relevant to the incident and the provision of contracted services.

8.3 The DoT shall be responsible for coordinating the submission of a single collated claim against the insurance agent, owner or his/her assets for the reclamation of all funds utilised in the salvage and environmental remediation actions.

8.4 The DoT will refund all members of the JOC based on the costs as reflected in the central Cost Database upon payment by the owner or insurer of the vessel.

8.5 In the event that costs are not fully recoverable for any reason, the DoT shall take responsibility for submitting the full account from the Cost Database to National Treasury for the refunding of all monies to the members of the JOC who incurred costs as reflected on the Cost Database.

ARTICLE 9

Wreck Investigation

9.1 In the event of a sinking, stranding or wreck, SAMSA and DoT shall also immediately initiate a formal investigation into the incident.

9.2 This investigation will aim to:

9.2.1 Determine the cause of the incident;

9.2.2 Allocate and define responsibility and accountability where appropriate;

9.2.3 Determine if further legal, criminal or liability action is warranted; and

9.2.4 Clarify and ascertain the Protection and Indemnity (P&I) and responsibility that includes but not limited to diversion expenses, collision liabilities, loss or damage to property; pollution; towage contract liabilities; wreck liabilities; cargo liabilities; cargo's proportion of general average or salvage; expenses of salvors; fines and omnibus cover.

9.3 In the event that criminal or legal liability is determined, the DoT shall be responsible for initiating formal charges against responsible parties through the National Prosecuting Authority or the DoT's legal representatives.

9.4 The complete and formal investigation report will be made available to all member organisations of the JOC.

9.5 The investigation report must also determine through the incident investigation any recommendations that should be added to this Protocol to further prevent these events from occurring in the future.

ARTICLE 10

JOC Debriefing and Incident Reporting

10.1 On completion of the salvage and remedial action, the JOC shall compile a Salvage and Remediation Report.

10.2 This report shall detail the salvage and remedial operations, determine successes, failures and lessons learned.

10.3 Full and complete expenditure incurred (financial and capacity) by all organisations in the JOC will also be detailed in this report.

10.4 This Report shall identify any negative environmental impacts that may have resulted or may result from the initial incident or subsequent salvage or remedial action and recommend suitable mitigation or remedial actions. All further expenses that may be incurred for any required remedial actions will be submitted by the DoT to the owner or insurer of the vessel.

10.5 This report shall stand as a record of the events, the actions taken and the costs of the actions.

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ARTICLE 11

Good Faith, Reasonableness and Dispute Resolution

11.1 In their dealings with each other for purposes of this Protocol, the Parties undertake to act in good faith and reasonably and warrant that they shall not do anything or shall refrain from doing anything that might prejudice or detract from the powers or functions of each other, or the implementation of this Protocol.

11.2 This Protocol does not make any legal or otherwise enforceable commitments on behalf of any of the Parties, nor does it in any way limit any statutory powers and functions of the Parties.

11.3 This Protocol defines a collaborative execution of activities. No Party has the authority to create any obligations, express or implied, on behalf of any of the others.

11.4 The Parties must seek to resolve any dispute concerning the implementation of this Protocol through dialogue and discussions in good faith.

11.5 Should there be no resolution in terms of Article 11.4 above, the Parties will further attempt to resolve the dispute through the engagement of representatives of the Parties nominated for this specific purpose.

11.6 Should the dispute remain unresolved, then the provisions of section 41 to section 45 of the Intergovernmental Relations Framework Act, 2005 (Act No. 13 of 2005) shall apply.

ARTICLE 12

Domicila and Notices

12.1 The parties choose as their *domicilia citandi et executandi* the following physical addresses for all purposes under this Protocol:

The Department of Transport: **Name/Title**

Address

The Department of Environmental Affairs: **Name/Title**

Address

Transnet National Ports Authority: **Name/Title**

Address

The South African Maritime Safety Authority: **Name/Title**

Address

The City of Cape Town: **Name/Title**

Address

12.2 Any party shall be entitled by notice in writing to the other Parties, to change its *domicilium* to any other address within the Republic of South Africa, provided that the change shall become effective only fourteen (14) days after the service of the notice in question.

ARTICLE 13

Liaison

13.1 The Parties will liaise with the nominated representatives (as set out in Annexure A to this Protocol) in respect of all matters pertaining to this Protocol.

ARTICLE 14

Confidentiality

14.1 Any Party shall treat information furnished by another Party or another person for purposes of the execution of this Protocol, as confidential.

14.2 Subject to this clause, the Party (ies) so furnished with information shall not disclose such information to another person without the prior written consent of the other Party and shall take reasonable steps to ensure that such information is not disclosed to another person.

ARTICLE 15

Limitation of Liability / Indemnity

15.1 The Parties indemnify one another and hold one another harmless against any and all liabilities arising from any acts and/or omissions except for gross negligence or intentional acts and/or omissions of any of their servants, agents, members and/or appointed officers or representatives arising out of this Protocol.

15.2 The Parties have no authority to bind each other contractually, and hereby indemnify each other for any actions or applications, including all costs that arise in this regard.

Signed at on the day of 2014

WITNESSES

1. _____ for and on behalf of the Department of Transport

2. _____ _____

Name

TITLE

Signed at on the day of 2014

WITNESSES

1. _____ for and on behalf of the Department of Environmental Affairs

2. _____ _____

Name

TITLE

Signed at on the day of 2014

WITNESSES

1. _____ for and on behalf of the Transnet National Ports Authority

2. _____ _____

Name

TITLE

Signed at on the day of 2014

WITNESSES

1. _____ for and on behalf of the South African Maritime Safety Authority

2. _____ _____

Name

TITLE

Signed at on the day of 2014

WITNESSES

1. _____ for and on behalf of the City of Cape Town

2. _____ _____

Name

TITLE

DRM PLAN APPENDIX 1 **- MAIN ROLE-PLAYERS' CONTACT NUMBERS**

Name of Organisation	24-Hour Communications / Standby Personnel Contact Tel. Numbers	Contact No. for Emergency Planning queries only!!
Maritime Rescue Co-ordination Centre (MRCC) - Tygerberg	021 938 3300	*Jared Blows* - 021 938 3321 / *071 608 8621*
SAMSA	021 421 6170 (O) / 021 938 3300 (via MRCC)	*Capt. Gustav Louw* - 021 421 6075 (O) / 071 608 8579
TNPA Port of Cape Town - Harbour Master	021 449 3500 / 021 449 5752 (O) Other Port Control Contact Numbers: 021 449 2805 / 021 449 3666 / 021 449 3339	*Capt. Sabelo Mdlalose* - 021 449 5762 (O) / 083 318 0298 *Capt. Yael Wearley* - 073 600 0809 *Nazier Cassiem* - 021 449 3182 (O)
National Department of Transport (DoT)	-	DoT CT Regional Office = 021 465-7260 / *Mr Molakane* - 082 059 0033
National Department of Environmental Affairs (DEA) – Oceans & Coasts	-	*Dr Yazeed Peterson 021 819 2450 / 0835303127Feroza Albertus* - 021 819 2457 (O) / 072 1736 234
National Sea Rescue Institute (NSRI)	NSRI callout is via **TNPA Port of Cape Town's Harbour Master = 021 449 3500** (refer *APPENDIX 2* for individual NSRI Station details)	*Brad Geyser* - 082 372 8792 *Andy Connell* – 083 678 0072
CoCT Disaster Risk Management Centre - DOC	**Disaster Operations Centre (DOC) =** 080 911 4357 (HELP) / 021 597 6000	*Chris Konings (Planning)* - 084 711 7756 *Wilfred Solomons-Johannes (Head: DOC)* - 084 711 7709 *Mark Pluke (Area West)* - 084 711 7721
107 Public Emergency Communications Centre (PECC)	107 (Landlines only) / 021 480 7700 (from Cellphones)	Head of Operations - *Jaco Groenewald* = 021 487 2745 / 084 220 0072 *Estelle le Keur* = 021 480 7741 / 074 1335463
CoCT Fire & Rescue Service	**Goodwood Dispatch** = 021 590 1900 / 10	*Clinton Manuel – 071 687 8721* *Michael Abrahams – 084 225 1955* *CFO* = 021 590 1738 / 084 220 0214
SAPS – Sea Border Unit / Diving & Water Policing Unit / VisPol	10111	*Hubert Jack* – 079 506 8870 Col. Mark September – 082 567 2251 *Capt. White* – 082 576 2890 Lt Col. Dulozoni – 082 760 6001 Diving Unit = *Capt. PJ van der Merwe* – 082 469 1838
South African Police Service (SAPS)	Emergency = 10111 / 021 506 2018 Prov Ops Room = 021 466 0011 / 15 & 021 466 0025 / 27	*Col Olivier:* 082 7787 320 *Col Hugo:* 021 417 7109 / 082 469 1858 *Capt Venter:* 021 417 7226 / 082 444 4017
South African National Defence Force (SANDF) - J Tac HQ. Western Cape (for SA Navy and SAAF)	J Tac HQ W. Cape Ops Room = 021 787 2354 / 021 787 2222 *OC J Tac HQ WC: Col B. Mkula* = 021 787 2282 Cell - 082 720 5060 *SO1 Ops: Lt Col A. Lotriet* = 021 787 2380 Cell - 083 3268 756 *SO2 Ops Med: Maj M. Trauernicht* = 021 787 2336 Cell - 084 645 5340	SO2 Ops Med: *Maj M. Trauernicht* = 021 787 2336 / 021 787 2359 / 084 645 5340 SO1 Ops: *Lt. Col. A. Lotriet* = 021 787 2320 / 083 326 8756 SA Navy = *Capt. Mkhwanazi - 083 633 3169*
CoCT Law Enforcement & Security Services (incl. marine and beach law enforcement)	086 076 5423	Chief: Law Enf & Sec. Serv: R Wiltshire = 082 599 8884 *Area Mgr-North:* *J* van Schalkwyk = 084 220 0135 Asst Chief- West: *G Greeve* = 082 661 8434 Asst Chief-South: *L Wentzel* = 083 592 8883 Asst Chief-East: *G Crowster* = 083 525 0463 Asst Chief-RRU: *A Joseph* = 071 202 7751
CoCT Environmental Resource Management Department (ERMD), incl. marine environmental compliance	*Arne Purves* – P.O. Environmental Compliance = 021 713 0510 / 082 940 8937 *Head: Environmental Policy & Strategy* – Gregg Oelofse=021 487 2238 / 083 940 8143	*Arne Purves* – P.O. Environmental Compliance = 021 713 0510 / 082 940 8937 *Head: Environmental Policy & Strategy* – Gregg Oelofse = 021 487 2238 / 083 940 8143
WCG Dept. of Health - Emergency Medical Services (EMS)	10177 / 021 937 0300	*Dr Wayne Smith* = 082 991 0760 *Neville van Rensburg* = 021 948 9908 / 083 231 1535

Name of Organisation	24-Hour Communications / Standby Personnel Contact Tel. Numbers	Contact No. for Emergency Planning queries only!!
WCG Dept. of Health - Forensic Pathology Services	Mr Kevin Jones: Deputy Director : PGWC Forensic Pathology Service = 083 446 0859 (24 Hrs) **or** via EMS Control = 021 937 0500 , as required by Situation	021 938 6796 021 448 4456 021 931 9142
CoCT Metropolitan Police Department (MPD)	086 076 5423 / 021 812 4492	Chief: *Wayne le Roux* = 021 427 5160
CoCT Traffic Services	086 076 5423 / 021 812 4580	*Brian Schippers* = 021 918 2572 / 084 220 0136
CoCT Communication	*Media Liaison Officer :* Jan Kruger = 021 400 1292 / 084 300 0630	*Media Liaison Officer:* Jan Kruger = 021 400 1292 / 084 300 0630
CoCT Specialised Technical Services - - Fleet & Mechanical Workshop - Radio Infrastructure	Quintin Dean = 084 808 0194 Via the **TOC =** 086 010 3054 Derek Alexander = 021 957 4703 / 082 799 8478	*Snr Sup – Operations, Workshop –* Quintin Dean = 021 400 6051 / 021 511 0480 / 084 808 0194 *Head: Radio Infrastructure –* Derek Alexander = 021 957 4703 / 082 799 8478
WCG Disaster Management Centre - provincial co-ordination, for the WC DMC JOC activation and links to the NDMC, if required	083 577 1100 (24 hrs Duty phone) or Lavenia Nicholson = 021 937 0813 / 083 277 4221 Jackie Pandaram = 021 937 0806 / 083 440 9698	*Lavenia Nicholson* = 021 937 0813 / 083 277 4221 *Jackie Pandaram* = 021 937 0806 / 083 440 9698 *Colin Deiner* = 021 937 0808 / 082 550 6770 *Schalk Carstens* = 083 273 1372
SANParks (Table Mountain National Park)	Regional Head Office (Westlake) - - 021 780 9100 (O) Control - Emergency No . = 0861 106 417 / 021 946 6414 / 5	*Paddy Gordon* = 021 701 8692 / 082 888 0353
Cape Nature	Tony Marshall = 082 740 7787 Peter Viljoen = 082 740 7736	Tony Marshall = 082 740 7787 Peter Viljoen = 082 740 7736
South African Weather Service	CT Weather Office = 082 233 9900	*Forecaster:* Carlton Fillis = 021 934 0836 *Forecaster:* Johan Stander = 021 934 0450 /084 264 4765
Eskom – Koeberg Nuclear Power Station	021 950 6111	Gary Thomson = 021 950 6111
Robben Island Museum (RIM)	021 409 5100	Frikkie Nel = 021 411 1921 / 076 903 3374
Robben Island – Nelson Mandela Gateway (Ferry) Office – Clock Tower, V & A Waterfront	021 413 4200 (office) Information: 021 413 4220 / 021 413 4215(o)	-
National Department of Agriculture, Forestry & Fisheries (DAFF)	-	*Forestry & Natural Resources Management* – Dr N. Motete = 012 309 5718
National Department of Home Affairs (DHA)	-	Petro Snyders – 076 304 0848
Smit Amandla Marine (currently contracted for emergency towing vessels (ETVs), crisis management, incl. emergency response, fire-fighting, fuel removal & refloating & demolition of vessels, environmental protection & pollution prevention services)	021 507 5777	021 507 5777
Svitzer Africa (currently contracted for towage services) & Svitzer Salvage Africa (currently contracted for salvage services)	021 408 6710 (O) 24-hour No. = +31 (0)255 562 666	021 408 6710
AAL-SA Helicopters (currently contracted for Off-shore Shipping Logistics & Supplies)	021 934 9127	021 934 9127
SA Red Cross Society, Western Cape	021 797 5360 (office) *or* 079 887 3259 / 078 450 4303	-
Salvation Army (Western Cape Division)	021 425 2138 (office) *or* 083 304 9493	-
Mustadafin Foundation	021 633 0010 / 60 (office) *or* 084 572 2355 / 076 422 1668	-

Name of Organisation	24-Hour Communications / Standby Personnel Contact Tel. Numbers	Contact No. for Emergency Planning queries only!!
HDI Support	021 511 4153 (office) *or* 082 935 3353 / 079 879 9977	-
HAMNET (Cape Town – Goodwood Centre)	Via **Disaster Operations Centre (DOC) =** 080 911 4357 (HELP) / 021 597 6000	Paul Van Spronsen = 083 302 3366
SPCA (Society for the Prevention of Cruelty to Animals), Cape of Good Hope region in Grassy Park	CoGH SPCA = 24-hours = 021 700 4158 / 9 / 083 326 1604	Brett Glasby - *Wildlife Unit Mgr, COGH SPCA* = 021 700 4158/9

DRM PLAN APPENDIX 2

NSRI's OPERATIONAL STATIONS & RESOURCES FOR RESCUES IN THE SOUTH-WESTERN CAPE AREA

*** THE CAPE TOWN MUNICIPAL AREA STATIONS ARE HIGHLIGHTED IN *YELLOW* & THE STATIONS LOCATED IN ADJACENT MUNICIPALITIES HIGHLIGHTED IN *GREEN* ***

SASAR Area	NSRI Station		Page No.
	Location	No.	
Saldanha	Lambert's Bay, W. Cape	24A	1 - 2
	Mykonos, W. Cape	4	3 – 5
	Yzerfontein, W. Cape	34	6 – 7
Cape Town	Melkbosstrand	18	8 - 10
	Table Bay	3	11- 12
	Bakoven	2	13
	Hout Bay	8	14 - 16
	Kommetjie	26	17 - 19
	Simon's Town	10	20 – 21
	Strandfontein	26	22 – 24
	Gordon's Bay	9	25 – 27
	Hermanus	17	28 – 30
	Agulhas	30	31 – 32
	Air-Sea Rescue Unit	H*	33
	Titan Hi-Line Team	H*	34
Port Elizabeth	Witsand, W. Cape	33	35 – 37
	Still Bay, W. Cape	31	38 – 39
	Mossel Bay, W Cape	15	40 - 42

H* = Helicopter Unit

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Saldanha

NSRI REGION:	1	**LOCATION:**	32° 05.000′ S 018° 18.000′ E

STATION NAME:	Lambert's Bay	**CALLOUT NO.:**	082 922 4334 082 457 0402 084 670 8436

NSRI STN. NO.:	24A	**STATION CELL:**	082 922 4334

BOATHOUSE TEL:	027 432 1715	**STATION E-MAIL:**	ronselley@kingsley.co.za

RESCUE UNIT:	"Condor" - 9.8m Renato Levi mono hull - Twin 150hp outboards - 3 crew - Marine VHF, 29MHz - Radar, GPS

CALL SIGN:		**STN ID:**	RESCUE 24	**REG. NO.:**	DTS 554 B

RANGE-COASTAL:	70 nm	**RANGE-OFFSHORE:**	40 nm

OPERATIONAL AREA:	Northwards : Doring Bay Southwards : Elands Bay Note: The operational area is indicative only. As required, Rescue 24 will respond north and south of the above limits.

HOURS OF OPERATION:	24 hours

ENDURANCE:	24 hours

TIME TO LAUNCH FROM CALLOUT:	15 minutes

HELICOPTER CO-OPERATION:	

SHORE SUPPORT VEHICLE:	Nil

STATION COMMANDER:	Ron Selley 082 922 4334

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Saldanha

NSRI REGION:	1	**LOCATION:**	32° 05.000′ S 018° 18.000′ E

STATION NAME:	Lambert's Bay	**CALLOUT NO.:**	082 922 4334 082 457 0402 084 670 8436

NSRI STN. NO.:	24A	**STATION CELL:**	082 922 4334

BOATHOUSE TEL:	027 432 1715	**STATION E-MAIL:**	ronselley@kingsley.co.za

RESCUE UNIT:	"Bynes" - West Coast Chukkie - Ford diesel engine - 3 crew - Marine VHF

CALL SIGN:		**STN ID:**	RESCUE 24 ALPHA	**REG. NO.:**	DTS 2400 D

RANGE-COASTAL:	15 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	30nm radius from Lambert's Bay Note: The operational area is indicative only. As required, Rescue 24A will respond north and south of the above limits.

HOURS OF OPERATION:	24 hours

ENDURANCE:	12 hours

TIME TO LAUNCH FROM CALLOUT:	15 minutes

HELICOPTER CO-OPERATION:	

SHORE SUPPORT VEHICLE:	Nil

STATION COMMANDER:	Ron Selley 082 922 4334

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Saldanha

NSRI REGION:	1	LOCATION:	33° 02.842′ S 018° 02.388′ E

STATION NAME:	Mykonos	CALLOUT NO.:	022 714 1726 082 990 5966 083 561 1113

NSRI STN. NO.:	4	STATION CELL:	082 990 5966

BOATHOUSE TEL:	022 714 1858	STATION E-MAIL:	station4@searescue.org.za

RESCUE UNIT:	"Spirit of Freemasonry" - 9m Cape Craft monohull - Twin 200hp outboards - Minimum 4 crew, maximum 6 crew - Marine VHF, Metro VHF, 29MHz - Radar, GPS

CALL SIGN:	ZR 4515	STN ID:	RESCUE 4	REG. NO.:	DTC 3761 A

RANGE-COASTAL:	50 nm	RANGE-OFFSHORE:	40 nm

OPERATIONAL AREA:	Yzerfontein to Elands Bay .

HOURS OF OPERATION:	24 hours

ENDURANCE:	12 hours (rations carried)

TIME TO LAUNCH FROM CALLOUT:	Working hours : 30 minutes Other times : 30 minutes

HELICOPTER CO-OPERATION:	All types including long line transfers

SHORE SUPPORT VEHICLE:	Mitsubishi Colt

STATION COMMANDER:	Darius van Niekerk 083 561 1113

AMENDMENT NO:	December 2011	PREV AMENDMENT	January 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Saldanha

NSRI REGION:	1	LOCATION:	33° 02.842′ S 018° 02.388′ E

STATION NAME:	Mykonos	CALLOUT NO.:	022 714 1726 082 990 5966 083 561 1113

NSRI STN. NO.:	4	STATION CELL:	082 990 5966

BOATHOUSE TEL:	022 714 1858	STATION E-MAIL:	station4@searescue.org.za

RESCUE UNIT:	"Gemini Rescue II" - 5.5m Gemini RIB - Twin 60hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 2805	STN ID:	RESCUE 4 ALPHA	REG. NO.:	DTS 1618 C

RANGE-COASTAL:	20 nm	RANGE-OFFSHORE:	15 nm

OPERATIONAL AREA:	Yzerfontein to Elands Bay For rescues north of Jacobsbaai, the boat will be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 30 minutes Other times : 30 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	Mitsubishi Colt

STATION COMMANDER:	Darius van Niekerk 083 561 1113

AMENDMENT NO:	December 2011	PREV AMENDMENT	January 2010

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Saldanha

NSRI REGION:	1	**LOCATION:**	33° 02.842′ S 018° 02.388′ E

STATION NAME:	Mykonos	**CALLOUT NO.:**	022 714 1726 082 990 5966 083 561 1113

NSRI STN. NO.:	4	**STATION CELL:**	082 990 5966

BOATHOUSE TEL:	022 714 1858	**STATION E-MAIL:**	station4@searescue.org.za

RESCUE UNIT:	"Loved 1's 24" - 4.2m Gemini inflatable surf boat - Single 50hp outboard - 2 crew - Marine VHF

CALL SIGN:	Pending	**STN ID:**	RESCUE 4 BRAVO	**REG. NO.:**	DTS 3187 D

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Yzerfontein to Elands Bay For rescues beyond the coastal range, the boat will be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 30 minutes Other times : 30 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	Mitsubishi Colt

STATION COMMANDER:	Darius van Niekerk 083 561 1113

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

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N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Saldanha

NSRI REGION:	1	LOCATION:	33° 20.760′ S 018° 08.990′ E

STATION NAME:	Yzerfontein	CALLOUT NO.:	022 714 1726 083 561 1113 082 990 5974

NSRI STN. NO.:	34	STATION CELL:	082 990 5974

BOATHOUSE TEL:		STATION E-MAIL:	station34@searescue.org.za

RESCUE UNIT:	"Rotary Onwards" - 7.3m Gemini RIB - Twin 115hp outboards - 4 crew - Marine VHF - Radar, GPS

CALL SIGN:	ZR 3742	STN ID:	RESCUE 34	REG. NO.:	DTC 8196 B

RANGE-COASTAL:	70 nm	RANGE-OFFSHORE:	40 nm

OPERATIONAL AREA:	Robben Island to Saldanha Bay Note: The operational area is indicative only. As required, Rescue 34 will respond north and south of the above limits, in co-operation with its flank stations: Station 4, Mykonos and Station 18, Melkbosstrand

HOURS OF OPERATION:	24 hours

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	20 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Toyota Hilux

STATION COMMANDER:	Darius van Niekerk 083 561 1113

AMENDMENT NO:	December 2011	PREV AMENDMENT	January 2010

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NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Saldanha

NSRI REGION:	1	**LOCATION:**	33° 20.760′ S 018° 08.990′ E

STATION NAME:	Yzerfontein	**CALLOUT NO.:**	022 714 1726 083 561 1113 082 990 5974

NSRI STN. NO.:	34	**STATION CELL:**	082 990 5974

BOATHOUSE TEL:		**STATION E-MAIL:**	station34@searescue.org.za

RESCUE UNIT:	"Spirit of Iffley" - 4.2m Gemini inflatable surf boat - Single 50hp outboard - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 8418	**STN ID:**	RESCUE 34 A	**REG. NO.:**	DTS 2920 D

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Yzerfontein area

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	20 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	4 x 4 Toyota Hilux

STATION COMMANDER:	Darius van Niekerk 083 561 1113

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	33° 43.740′ S 018° 26.310′ E

STATION NAME:	Melkbosstrand	**CALLOUT NO.:**	021 449 3500 082 990 5958 082 575 6954

NSRI STN. NO.:	18	**STATION CELL:**	082 990 5958

BOATHOUSE TEL:	021 553 2146	**STATION E-MAIL:**	station18@searescue.org.za

RESCUE UNIT:	"Spirit of the Vines" - 6.5m Gemini RIB - Twin 90hp outboards - 4 crew - Marine VHF - Radar, GPS

CALL SIGN:	ZR 8533	**STN ID:**	RESCUE 18	**REG. NO.:**	DTC 3762 C

RANGE-COASTAL:	70 nm	**RANGE-OFFSHORE:**	40 nm

OPERATIONAL AREA:	Tableview to Yzerfontein

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	Mitsubishi Triton

STATION COMMANDER:	Rhine Barnes 082 990 5958

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	33° 43.740′ S 018° 26.310′ E

STATION NAME:	Melkbosstrand	**CALLOUT NO.:**	021 449 3500 082 990 5958 082 575 6954

NSRI STN. NO.:	18	**STATION CELL:**	082 990 5958

BOATHOUSE TEL:	021 553 2146	**STATION E-MAIL:**	station18@searescue.org.za

RESCUE UNIT:	"Mens Health Rescuer" - 4.2m Zap-Cat inflatable surf boat - Single 50hp outboard - 2 crew - Marine VHF

CALL SIGN:	ZR 5150	**STN ID:**	RESCUE 18 ALPHA	**REG. NO.:**	DTC 3704 D

RANGE-COASTAL:	10 nm	**RANGE-OFFSHORE:**	5 nm

OPERATIONAL AREA:	Tableview to Yzerfontein For rescues north of Silverstroom Strand and south of Big Bay Beach, the boat may be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	At Melkbos Slipway: Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	Mitsubishi Triton

STATION COMMANDER:	Rhine Barnes 082 990 5958

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	33° 43.740′ S 018° 26.310′ E

STATION NAME:	Melkbosstrand	**CALLOUT NO.:**	021 449 3500 082 990 5958 082 575 6954

NSRI STN. NO.:	18	**STATION CELL:**	082 990 5958

BOATHOUSE TEL:	021 553 2146	**STATION E-MAIL:**	station18@searescue.org.za

RESCUE UNIT:	"Discovery IV" - Rescue Runner (Jetski) - 140hp petrol inboard jet - 2 crew - Marine VHF

CALL SIGN:	Pending	**STN ID:**	RESCUE 18 CHARLIE	**REG. NO.:**	

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Melkbossstrand local area. Can be trailed to adjacent areas.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Nil

SHORE SUPPORT VEHICLE:	Mitsubishi Triton

STATION COMMANDER:	Rhine Barnes 082 990 5958

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	33° 54.550′ S 018° 25.417′ E

STATION NAME:	Table Bay	**CALLOUT NO.:**	021 449 3500 082 990 5963 083 409 9271

NSRI STN. NO.:	3	**STATION CELL:**	082 990 5963

BOATHOUSE TEL:	021 419 3517	**STATION E-MAIL:**	station3@searescue.org.za

RESCUE UNIT:	"Spirit of Vodacom" - 12m Rodman monohull - Twin Volvo 425hp diesel engines - 5 crew - Marine VHF, Marine HF, 29MHz - Radar, GPS, VHFDF

CALL SIGN:	ZR 7269	**STN ID:**	RESCUE 3	**REG. NO.:**	DTC 8097 A

RANGE-COASTAL:	150 nm	**RANGE-OFFSHORE:**	150 nm

OPERATIONAL AREA:	Dassen Island to Bakoven Note: The operational area is indicative only. As required, Rescue 3 will respond north and south of the above limits, in co-operation with its flank stations: Station 4, Saldanha and Station 8, Hout Bay.

HOURS OF OPERATION:	24 hours

ENDURANCE:	+24 hours - rations carried

TIME TO LAUNCH FROM CALLOUT:	Working hours 06h15 - 18h45 : 60 - 120 minutes depending on traffic conditions Other times : 30 - 50 minutes

HELICOPTER CO-OPERATION:	All types including long line transfers

SHORE SUPPORT VEHICLE:	Mitsubishi Triton

STATION COMMANDER:	Paula Leach 083 409 9271

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	33° 54.550′ S 018° 25.417′ E

STATION NAME:	Table Bay	**CALLOUT NO.:**	021 449 3500 082 990 5963 083 409 9271

NSRI STN. NO.:	3	**STATION CELL:**	082 990 5963

BOATHOUSE TEL:	021 419 3517	**STATION E-MAIL:**	station3@searescue.org.za

RESCUE UNIT:	"Rotary Endeavour" - 5.5m Gemini RIB - Twin 60hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 5333	**STN ID:**	RESCUE 3 ALPHA	**REG. NO.:**	DTC 7015 C

RANGE-COASTAL:	20 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	Bakoven to Dassen Island Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours 06h15 - 18h45 : 60 - 120 minutes depending on traffic conditions Other times : 30 - 50 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	Mitsubishi Triton

STATION COMMANDER:	Paula Leach 083 409 9271

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	LOCATION:	33° 57.635′ S 018° 22.382′ E

STATION NAME:	Bakoven	CALLOUT NO.:	021 449 3500 082 990 5962 082 491 1547

NSRI STN. NO.:	2	STATION CELL:	082 990 5962

BOATHOUSE TEL:	021 438 9710	STATION E-MAIL:	station2@searescue.org.za

RESCUE UNIT:	"Spirit of Rotary Table Bay" - 6m Mallard Swift 190WT ski boat - Twin 90hp outboards - 4 crew - Marine VHF - GPS

CALL SIGN:	ZR 4330	STN ID:	RESCUE 2	REG. NO.:	DTC 3684 B

RANGE-COASTAL:	45 nm	RANGE-OFFSHORE:	40 nm

OPERATIONAL AREA:	Llandudno to Robben Island Note: The operational area is indicative only. As required, Rescue 2 will respond north and south of the above limits, in co-operation with its flank stations: Station 3, Table Bay and Station 8, Hout Bay.

HOURS OF OPERATION:	24 hours

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 10 minutes

HELICOPTER CO-OPERATION:	All types including long line transfers

SHORE SUPPORT VEHICLE:	Nil

STATION COMMANDER:	Mark Thompson 082 491 1547

AMENDMENT NO:	December 2011	PREV AMENDMENT	January 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	34° 03.015′ S 018° 20.720′ E

STATION NAME:	Hout Bay	**CALLOUT NO.:**	021 449 3500 082 372 8792 071 678 0523

NSRI STN. NO.:	8	**STATION CELL:**	082 372 8792

BOATHOUSE TEL:	021 790 3170	**STATION E-MAIL:**	station8@searescue.org.za

RESCUE UNIT:	Brede class - "Nadine Gordimer - MTU" - 10m monohull - Twin MTU 400hp diesel engines - 5 crew - Marine VHF, Marine HF, Metro, 29 Mhz - Radar, GPS, VHFDF Commercial vessels who also offer their services (Area of operation : 10nm radius of Hout Bay): - Nauticat : can be used as a primary medical base because of her stability - Drumbeat

CALL SIGN:	ZR 6298	**STN ID:**	RESCUE 8	**REG. NO.:**	DTC 7068 A

RANGE-COASTAL:	120 nm	**RANGE-OFFSHORE:**	120 nm

OPERATIONAL AREA:	Cape Point to Bakoven Note: The operational area is indicative only. As required, Rescue 8 will respond north and south of the above limits, in co-operation with its flank stations: Station 3, Table Bay and Station 10, Simon's Town.

HOURS OF OPERATION:	24 hours

ENDURANCE:	+24 hours - rations carried

TIME TO LAUNCH FROM CALLOUT:	Working hours : 60 minutes Other times : 20 minutes

HELICOPTER CO-OPERATION:	All types including long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Brad Geyser 082 372 8792

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	34° 03.015′ S 018° 20.720′ E

STATION NAME:	Hout Bay	**CALLOUT NO.:**	021 449 3500 082 372 8792 071 678 0523

NSRI STN. NO.:	8	**STATION CELL:**	082 372 8792

BOATHOUSE TEL:	021 790 3170	**STATION E-MAIL:**	station8@searescue.org.za

RESCUE UNIT:	"Albie Matthews" - 7.3m Gemini RIB - Twin 115hp outboards - 4 crew - Marine VHF - GPS

CALL SIGN:	ZR 7728	**STN ID:**	RESCUE 8 ALPHA	**REG. NO.:**	DTC 8176 B

RANGE-COASTAL:	70 nm	**RANGE-OFFSHORE:**	40 nm

OPERATIONAL AREA:	Cape Point to Bakoven Note: The operational area is indicative only. As required, Rescue 8 will respond north and south of the above limits, in co-operation with its flank stations: Station 3, Table Bay and Station 10, Simon's Town.

HOURS OF OPERATION:	24 hours

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 60 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Brad Geyser 082 372 8792

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	Dec-08

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	34° 03.015′ S 018° 20.720′ E

STATION NAME:	Hout Bay	**CALLOUT NO.:**	021 449 3500 082 372 8792 071 678 0523

NSRI STN. NO.:	8	**STATION CELL:**	082 372 8792

BOATHOUSE TEL:	021 790 3170	**STATION E-MAIL:**	station8@searescue.org.za

RESCUE UNIT:	"Nedbank Rescuer" - 4.2m Gemini inflatable surf boat - Single 50hp outboard - 2 crew - Marine VHF (hand held)

CALL SIGN:	Pending	**STN ID:**	RESCUE 8 BRAVO	**REG. NO.:**	DTC 7098 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Hout Bay & Chapman's Bay

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 60 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Brad Geyser 082 372 8792

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	34° 08.450′ S 018° 19.730′ E

STATION NAME:	Kommetjie	**CALLOUT NO.:**	021 449 3500 082 782 2001 082 990 5979

NSRI STN. NO.:	26	**STATION CELL:**	082 990 5979

BOATHOUSE TEL:	Nil	**STATION E-MAIL:**	station26@searescue.org.za

RESCUE UNIT:	"Spirit of Winelands" - 5.5m Gemini RIB - Twin 60hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 7662	**STN ID:**	RESCUE 26	**REG. NO.:**	DTC 8116 C

RANGE-COASTAL:	20 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	Chapman's Peak to Cape Point Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 45 minutes Other times : 10 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Toyota

STATION COMMANDER:	Tom Coetzee 072 754 3792

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

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NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	34° 08.450′ S 018° 19.730′ E

STATION NAME:	Kommetjie	**CALLOUT NO.:**	021 449 3500 082 782 2001 082 990 5979

NSRI STN. NO.:	26	**STATION CELL:**	082 990 5979

BOATHOUSE TEL:	Nil	**STATION E-MAIL:**	station26@searescue.org.za

RESCUE UNIT:	"FNB Wavescapes" - 4.7m Gemini RIB - Single 60hp outboard - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 4586	**STN ID:**	RESCUE 26 ALPHA	**REG. NO.:**	DTC 8050 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Chapman's Peak to Cape Point For rescues outside the coastal range, can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 45 minutes Other times : 10 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	4 x 4 Toyota

STATION COMMANDER:	Tom Coetzee 072 754 3792

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	1	**LOCATION:**	34° 08.450′ S 018° 19.730′ E

STATION NAME:	Kommetjie	**CALLOUT NO.:**	021 449 3500 082 782 2001 082 990 5979

NSRI STN. NO.:	26	**STATION CELL:**	082 990 5979

BOATHOUSE TEL:	Nil	**STATION E-MAIL:**	station26@searescue.org.za

RESCUE UNIT:	"Discovery 7" - Rescue Runner (Jetski) - 140hp petrol inboard jet - 2 crew - Marine VHF

CALL SIGN:	ZR 8752	**STN ID:**	RESCUE 26 BRAVO	**REG. NO.:**	DTC 8358 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Local Kommetjie area.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 45 minutes Other times : 10 minutes

HELICOPTER CO-OPERATION:	Nil

SHORE SUPPORT VEHICLE:	4 x 4 Toyota

STATION COMMANDER:	Tom Coetzee 072 754 3792

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 11.537′ S 018° 26.062′ E

STATION NAME:	Simon's Town	**CALLOUT NO.:**	021 449 3500 082 990 5965 082 851 5062

NSRI STN. NO.:	10	**STATION CELL:**	082 990 5965

BOATHOUSE TEL:	021 786 1624	**STATION E-MAIL:**	station10@searescue.org.za

RESCUE UNIT:	Brede class - "Spirit of Safmarine III" - 10m monohull - Twin MTU 400hp diesel engines - 5 crew - Marine VHF. Marine HF, 29MHz - Radar, GPS, VHFDF

CALL SIGN:	ZR 6247	**STN ID:**	RESCUE 10	**REG. NO.:**	DTC 7069 B

RANGE-COASTAL:	120 nm	**RANGE-OFFSHORE:**	120 nm

OPERATIONAL AREA:	West half of False Bay (east half covered by Station 9, Gordons Bay) Note: The operational area is indicative only. As required, Rescue 10 will respond east and south of the above limits, in co-operation with its flank stations: Station 16, Strandfontein, Station 26, Kommetjie and Station 8, Hout Bay.

HOURS OF OPERATION:	24 hours

ENDURANCE:	+24 hours - rations carried

TIME TO LAUNCH FROM CALLOUT:	Working hours : 25 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	All types including long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Darren Zimmerman 084 402 7736

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

Sea Rescue
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N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 11.537′ S 018° 26.062′ E

STATION NAME:	Simon's Town	**CALLOUT NO.:**	021 449 3500 082 990 5965 082 851 5062

NSRI STN. NO.:	10	**STATION CELL:**	082 990 5965

BOATHOUSE TEL:	021 786 1624	**STATION E-MAIL:**	station10@searescue.org.za

RESCUE UNIT:	"Eddie Beaumont II" - 5.5m Gemini RIB - Twin 60hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 2804	**STN ID:**	RESCUE 10 ALPHA	**REG. NO.:**	DTC3760 C

RANGE-COASTAL:	20 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	Muizenberg to Cape Point Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 25 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Darren Zimmerman 084 402 7736

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

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N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 05.263′ S 018° 33.498′ E

STATION NAME:	Strandfontein	**CALLOUT NO.:**	021 449 3500 082 990 6753 071 594 5371

NSRI STN. NO.:	16	**STATION CELL:**	082 990 6753

BOATHOUSE TEL:	021 393 2321	**STATION E-MAIL:**	station16@searescue.org.za

RESCUE UNIT:	"Spirit of Grand West CSI" - 5.5m Gemini RIB - Twin 60hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 4793	**STN ID:**	RESCUE 16	**REG. NO.:**	DTC 8042 C

RANGE-COASTAL:	20 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	Strand to Muizenberg Note: The operational area is indicative only. As required, Rescue 16 will respond east and west of the above limits, in co-operation with its flank stations: Station 10, Simon's Town, and Station 9, Gordon's Bay. Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Mario Fredericks 082 990 6753

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

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N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 05.263′ S 018° 33.498′ E

STATION NAME:	Strandfontein	**CALLOUT NO.:**	021 449 3500 082 990 6753 071 594 5371

NSRI STN. NO.:	16	**STATION CELL:**	082 990 6753

BOATHOUSE TEL:	021 393 2321	**STATION E-MAIL:**	station16@searescue.org.za

RESCUE UNIT:	"I&J Rescuer III" - 4.7m Gemini Rigid Hull - Single 60hp outboard - 3 crew - Marine VHF

CALL SIGN:	ZR 8401	**STN ID:**	RESCUE 16 ALPHA	**REG. NO.:**	DTC 8213 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Strand to Muizenberg

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Mario Fredericks 082 990 6753

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 05.263′ S 018° 33.498′ E

STATION NAME:	Strandfontein	**CALLOUT NO.:**	021 449 3500 082 990 6753 071 594 5371

NSRI STN. NO.:	16	**STATION CELL:**	082 990 6753

BOATHOUSE TEL:	021 393 2321	**STATION E-MAIL:**	station16@searescue.org.za

RESCUE UNIT:	"Discovery III" - Rescue Runner (Jetski) - 140hp petrol inboard jet - 2 crew - Marine VHF

CALL SIGN:	Pending	**STN ID:**	RESCUE 16 BRAVO	**REG. NO.:**	DTC 8202 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Strand to Muizenberg.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Nil

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Mario Fredericks 082 990 6753

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 09.861′ S 018° 51.584′ E

STATION NAME:	Gordon's Bay	**CALLOUT NO.:**	021 449 3500 083 625 0481 083 275 2853

NSRI STN. NO.:	9	**STATION CELL:**	083 625 0481

BOATHOUSE TEL:	021 856 1992	**STATION E-MAIL:**	station9@searescue.org.za

RESCUE UNIT:	Phoenix class - "Jack Riley" - 14m monohull - Twin 600hp diesel engines - 5 crew - Marine VHF. Marine HF, 29MHz - Radar. GPS, VHFDF

CALL SIGN:	ZR 8630	**STN ID:**	RESCUE 9	**REG. NO.:**	DTC 8353 A

RANGE-COASTAL:	120 nm	**RANGE-OFFSHORE:**	120 nm

OPERATIONAL AREA:	East half of False Bay (west half covered by Station 10, Simon's Town) Note: The operational area is indicative only. As required, Rescue 9 will respond west and south of the above limits, in co-operation with its flank stations: Station 16, Strandfontein, Station 10, Simon's Town and Station 17, Hermanus.

HOURS OF OPERATION:	24 hours

ENDURANCE:	+24 hours - rations carried

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 20 minutes

HELICOPTER CO-OPERATION:	All types including long line transfers

SHORE SUPPORT VEHICLE:	Mazda Drifter

STATION COMMANDER:	Nigel Pepperell 083 625 0481

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
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N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 09.861′ S 018° 51.584′ E

STATION NAME:	Gordon's Bay	**CALLOUT NO.:**	021 449 3500 083 625 0481 083 275 2853

NSRI STN. NO.:	9	**STATION CELL:**	083 625 0481

BOATHOUSE TEL:	021 856 1992	**STATION E-MAIL:**	station9@searescue.org.za

RESCUE UNIT:	"Spirit of Surf Ski" - 5.5m Gemini RIB - Twin 60hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 8768	**STN ID:**	RESCUE 9 ALPHA	**REG. NO.:**	DTC 8313 C

RANGE-COASTAL:	20 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	East half of False Bay (west half covered by Station 10, Simon's Town) Note: The operational area is indicative only. As required and within its range limitations, Rescue 9A will respond west and south of the above limits, in co-operation with its flank stations: Station 16, Strandfontein and Station 10, Simon's Town.

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 20 minutes

HELICOPTER CO-OPERATION:	All types including long line transfers

SHORE SUPPORT VEHICLE:	Mazda Drifter

STATION COMMANDER:	Nigel Pepperell 083 625 0481

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

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N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 09.861′ S 018° 51.584′ E

STATION NAME:	Gordon's Bay	**CALLOUT NO.:**	021 449 3500 083 625 0481 083 275 2853

NSRI STN. NO.:	9	**STATION CELL:**	083 625 0481

BOATHOUSE TEL:	021 856 1992	**STATION E-MAIL:**	station9@searescue.org.za

RESCUE UNIT:	"Inge" - Rescue Runner (Jetski) - 140hp petrol inboard jet - 2 crew - Marine VHF

CALL SIGN:	Pending	**STN ID:**	RESCUE 9 BRAVO	**REG. NO.:**	DTM 1808 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1nm

OPERATIONAL AREA:	Gordon's Bay local area.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 20 minutes

HELICOPTER CO-OPERATION:	Nil

SHORE SUPPORT VEHICLE:	Mazda Drifter

STATION COMMANDER:	Nigel Pepperell 083 625 0481

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

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N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 26.005′ S 019° 13.509′ E

STATION NAME:	Hermanus	**CALLOUT NO.:**	021 449 3500 082 568 1829 082 772 2984

NSRI STN. NO.:	17	**STATION CELL:**	082 568 1829

BOATHOUSE TEL:	028 312 3180	**STATION E-MAIL:**	station17@searescue.org.za

RESCUE UNIT:	Brede class - "South Star" - 10m monohull - Twin 203hp diesel engines - 5 crew - Marine VHF, Marine HF - Radar, GPS, VHFDF

CALL SIGN:	ZR 5709	**STN ID:**	RESCUE 17	**REG. NO.:**	DTC 2521 A

RANGE-COASTAL:	50 nm	**RANGE-OFFSHORE:**	50 nm

OPERATIONAL AREA:	Cape Hangklip to Cape Agulhas Note: The operational area is indicative only. As required, Rescue 17 will respond west and east of the above limits, in co-operation with its flank stations: Station 9, Gordon's Bay and Station 30, Agulhas.

HOURS OF OPERATION:	24 hours

ENDURANCE:	±12 hours depending on speed and conditions. Rations carried.

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	All types including long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Isusu

STATION COMMANDER:	Henk Henn 082 568 1829

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	January 2010

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 26.005′ S 019° 13.509′ E

STATION NAME:	Hermanus	**CALLOUT NO.:**	021 449 3500 082 568 1829 082 772 2984

NSRI STN. NO.:	17	**STATION CELL:**	082 568 1829

BOATHOUSE TEL:	028 312 3180	**STATION E-MAIL:**	station17@searescue.org.za

RESCUE UNIT:	"Hunter's Gold Rescuer" - 5.5m Gemini RIB - Twin 60 hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 8902	**STN ID:**	RESCUE 17 ALPHA	**REG. NO.:**	DTC 2520 C

RANGE-COASTAL:	20 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	Cape Hangklip to Danger Point Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	4 x 4 Isusu

STATION COMMANDER:	Henk Henn 082 568 1829

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 26.005′ S 019° 13.509′ E

STATION NAME:	Hermanus	**CALLOUT NO.:**	021 449 3500 082 568 1829 082 772 2984

NSRI STN. NO.:	17	**STATION CELL:**	082 568 1829

BOATHOUSE TEL:	028 312 3180	**STATION E-MAIL:**	station17@searescue.org.za

RESCUE UNIT:	"Le Jenmar II" - 4.2m Gemini inflatable surf boat - Single 50hp outboard - 2 crew - Marine VHF (hand held)

CALL SIGN:	Pending	**STN ID:**	RESCUE 17 BRAVO	**REG. NO.:**	DTC 8372 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Walker Bay Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 20 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	4 x 4 Isusu

STATION COMMANDER:	Henk Henn 082 568 1829

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 47.914′ S 020° 03.566′ E

STATION NAME:	Agulhas	**CALLOUT NO.:**	028 435 7777 082 990 5952

NSRI STN. NO.:	30	**STATION CELL:**	082 990 5952

BOATHOUSE TEL:	Nil	**STATION E-MAIL:**	'station30@searescue.org.za

RESCUE UNIT:	"Vodacom Rescuer VII" - 8.5m Gemini RIB - Twin 150hp outboards - 4 crew - Marine VHF - Radar, GPS

CALL SIGN:	ZR 7420	**STN ID:**	RESCUE 30	**REG. NO.:**	DTM 1918 B

RANGE-COASTAL:	95 nm	**RANGE-OFFSHORE:**	40 nm

OPERATIONAL AREA:	Cape Infanta - Quoin Point

HOURS OF OPERATION:	24 hours

ENDURANCE:	7 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 30 minutes Other times : 20 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	Mitsubishi Colt

STATION COMMANDER:	Reinard Geldenhuys 083 273 8234

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

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N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	2	**LOCATION:**	34° 47.914′ S 020° 03.566′ E

STATION NAME:	Agulhas	**CALLOUT NO.:**	028 435 7777 082 990 5952

NSRI STN. NO.:	30	**STATION CELL:**	082 990 5952

BOATHOUSE TEL:	Nil	**STATION E-MAIL:**	'station30@searescue.org.za

RESCUE UNIT:	"I&J Rescuer II" - 4.7m Gemini Rigid Hull - Single 60hp outboard - 3 crew - Marine VHF

CALL SIGN:	ZR 5416	**STN ID:**	RESCUE 30 ALPHA	**REG. NO.:**	DTC 3788 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Local Struisbaai area

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 30 minutes Other times : 20 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	Mitsubishi Colt

STATION COMMANDER:	Reinard Geldenhuys 083 273 8234

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	0	**LOCATION:**	22 SQDN AFB YSTERPLAAT

STATION NAME:	Air Sea Rescue Unit	**CALLOUT NO.:**	021 449 3500
NSRI STN. NO.:	ASRU	**STATION CELL:**	083 677 7946
BOATHOUSE TEL:	22 Sqdn (Base Ops) 021-508 6303	**STATION E-MAIL:**	statcomasru@gmail.com

RESCUE UNIT:	Oryx helicopter - Crew: 2 Pilots, Engineer, 2-4 NSRI Rescue Swimmers - Marine VHF - Aviation VHF - HF radio; Iridium satellite telephone - Cellphone

CALL SIGN:	Rescue + allocated number	**STN ID:**	#99	**REG. NO.:**	

RANGE-COASTAL:	As required	**RANGE-OFFSHORE:**	150 nm

OPERATIONAL AREA:	Alexander Bay (W Coast) to Plettenberg Bay (E coast) : Up to 150nm offshore

HOURS OF OPERATION:	24 hours depending on flying conditions
ENDURANCE:	3 hours
TIME TO LAUNCH FROM CALLOUT:	Working hours : 60 minutes Other times : 120 minutes
HELICOPTER CO-OPERATION:	- Searching for missing persons - Recovery of casualties from the water/ ships in distress - Swift water rescue i.e. flooding Limitations
SHORE SUPPORT VEHICLE:	Nil
STATION COMMANDER:	Andre Beuster 083 677 7946

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2008

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Cape Town

NSRI REGION:	0	**LOCATION:**	

STATION NAME:	Titan (Helitrans)Hi-Line Team	**CALLOUT NO.:**	021 449 3500 082 441 8448

NSRI STN. NO.:		**STATION CELL:**	082 441 8448

BOATHOUSE TEL:	021 421 5900	**STATION E-MAIL:**	

RESCUE UNIT:	Bell 212 helicopter with flotation - Crew: 2 x Pilots, Engineer, Metro paramedic, 1NSRI rescue swimmer - Marine VHF - Aviation VHF

CALL SIGN:		**STN ID:**	TITAN HELICOPTER	**REG. NO.:**	

RANGE-COASTAL:	100 nm	**RANGE-OFFSHORE:**	100 nm

OPERATIONAL AREA:	As required

HOURS OF OPERATION:	24 hours depending on flying conditions

ENDURANCE:	

TIME TO LAUNCH FROM CALLOUT:	Within 45 minutes

HELICOPTER CO-OPERATION:	- Medivac operations from and to ships * Advanced life support * Hi-line winching system * Full stretcher recovery - Recovery of casualties from ships in distress - Extended deep sea searches

SHORE SUPPORT VEHICLE:	

STATION COMMANDER:	Phil Ress 082 441 8448

AMENDMENT NO:	December 2010	**PREV AMENDMENT**	January 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Southern Cape

NSRI REGION:	3	**LOCATION:**	34° 23.480′ S 020° 50.270′ E

STATION NAME:	Witsand	**CALLOUT NO.:**	082 990 5957 071 683 8162

NSRI STN. NO.:	33	**STATION CELL:**	082 990 5957

BOATHOUSE TEL:		**STATION E-MAIL:**	station33@searescue.org.za

RESCUE UNIT:	"Queenie Paine" - 5.5m Gemini RIB - Twin 60hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	Pending	**STN ID:**	RESCUE 33	**REG. NO.:**	DTC 7076 B

RANGE-COASTAL:	20 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	Cape Infanta area & Breede River

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 15 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Attie Gunter 071-683 8162

AMENDMENT NO:	December 2010	**PREV AMENDMENT**	January 2010

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Southern Cape

NSRI REGION:	3	**LOCATION:**	34° 23.480′ S 020° 50.270′ E

STATION NAME:	Witsand	**CALLOUT NO.:**	082 990 5957 071 683 8162

NSRI STN. NO.:	33	**STATION CELL:**	082 990 5957

BOATHOUSE TEL:		**STATION E-MAIL:**	station33@searescue.org.za

RESCUE UNIT:	"Falcon Rescuer" - 4.5m Falcon inflatable surf boat - Single 40hp outboard - 2 crew - Marine VHF (hand held)

CALL SIGN:	Pending	**STN ID:**	RESCUE 33 ALPHA	**REG. NO.:**	DTM 1825 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Brede River / Witsand area

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 15 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	4 x4 Colt

STATION COMMANDER:	Attie Gunter 071-683 8162

AMENDMENT NO:	December 2010	**PREV AMENDMENT**	January 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Southern Cape

NSRI REGION:	3	**LOCATION:**	34° 23.480′ S 020° 50.270′ E

STATION NAME:	Witsand	**CALLOUT NO.:**	082 990 5957 071 683 8162

NSRI STN. NO.:	33	**STATION CELL:**	082 990 5957

BOATHOUSE TEL:		**STATION E-MAIL:**	station33@searescue.org.za

RESCUE UNIT:	"Discovery 9" - Rescue Runner (Jetski) - 140hp petrol inboard jet - 2 crew - Marine VHF

CALL SIGN:	ZR 8760	**STN ID:**	RESCUE 33 BRAVO	**REG. NO.:**	DTM 2145

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Local Witsand area.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 15 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Nil

SHORE SUPPORT VEHICLE:	4 x 4 Colt

STATION COMMANDER:	Attie Gunter 071-683 8162

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Southern Cape

NSRI REGION:	3	**LOCATION:**	34° 23.144′ S 021° 25.435′ E

STATION NAME:	Still Bay	**CALLOUT NO.:**	082 990 5978 028 754 1501 082 855 9460

NSRI STN. NO.:	31	**STATION CELL:**	082 990 5978

BOATHOUSE TEL:	028 754 2324	**STATION E-MAIL:**	station31@searescue.org.za

RESCUE UNIT:	"Spirit of St Francis" - 7.3m Gemini RIB - Twin 115hp outboards - 4 crew - Marine VHF, 29MHz - GPS

CALL SIGN:	ZR 5707	**STN ID:**	RESCUE 31	**REG. NO.:**	DTP 889 B

RANGE-COASTAL:	70 nm	**RANGE-OFFSHORE:**	40 nm

OPERATIONAL AREA:	Gouritz River mouth to Witsand Note : For rescues west of Cape Barracouta, the boat may be trailed and launched at the nearest safe launching site.

HOURS OF OPERATION:	24 hours

ENDURANCE:	6 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 15 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	All types but NOT long line transfers

SHORE SUPPORT VEHICLE:	Mitsubishi Colt

STATION COMMANDER:	Enrico Menezies 082 855 9460

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Southern Cape

NSRI REGION:	3	**LOCATION:**	34° 23.144′ S 021° 25.435′ E

STATION NAME:	Still Bay	**CALLOUT NO.:**	082 990 5978 028 754 1501 082 855 9460

NSRI STN. NO.:	31	**STATION CELL:**	082 990 5978

BOATHOUSE TEL:	028 754 2324	**STATION E-MAIL:**	station31@searescue.org.za

RESCUE UNIT:	"Colorpress Two" - 4.2m Gemini inflatable surf boat - Single 40hp outboard - 2 crew - Marine VHF

CALL SIGN:	ZR 7386	**STN ID:**	RESCUE 31 ALPHA	**REG. NO.:**	DTM 3073 E

RANGE-COASTAL:	5 nm	**RANGE-OFFSHORE:**	1 nm

OPERATIONAL AREA:	Local area Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 15 minutes Other times : 15 minutes

HELICOPTER CO-OPERATION:	Small machines only

SHORE SUPPORT VEHICLE:	Mitsubishi Colt

STATION COMMANDER:	Enrico Menezies 082 855 9460

AMENDMENT NO:	December 2011	**PREV AMENDMENT**	December 2010

Sea Rescue
NATIONAL SEA RESCUE INSTITUTE

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Southern Cape

NSRI REGION:	3	**LOCATION:**	34° 10.835′ S 022° 08.928′ E

STATION NAME:	Mossel Bay	**CALLOUT NO.:**	082 990 5954 044 604 6271 082 658 6242

NSRI STN. NO.:	15	**STATION CELL:**	082 990 5954

BOATHOUSE TEL:	044 690 4322	**STATION E-MAIL:**	station15@searescue.org.za

RESCUE UNIT:	'Vodacom Rescuer" - 9.0m Cape Craft monohull - Twin 200hp outboards - 4 crew - Marine VHF, 29MHz - Radar, GPS, Echo sounder

CALL SIGN:	ZR 5341	**STN ID:**	RESCUE 15	**REG. NO.:**	DTM 1807 B

RANGE-COASTAL:	50 nm	**RANGE-OFFSHORE:**	40 nm

OPERATIONAL AREA:	Gericke Point in the east to Gouritz River in the west. Note : The operational area is indicative only. As required, Rescue 15 will respond east and west of the above limits in co-operation with its flank stations: Station 23, Wilderness, Station 12, Knysna and Station 31, Still Bay.

HOURS OF OPERATION:	24 hours

ENDURANCE:	12 hours - rations carried

TIME TO LAUNCH FROM CALLOUT:	Working hours : 10 minutes Other times : 10 minutes

HELICOPTER CO-OPERATION:	All types

SHORE SUPPORT VEHICLE:	4x4 Colt

STATION COMMANDER:	Dawie Zwiegelaar 082 990 5954

AMENDMENT NO:	December 2010	**PREV AMENDMENT**	December 2008

N.S.R.I. OPERATIONAL CAPABILITIES

SASAR AREA:	Southern Cape

NSRI REGION:	3	**LOCATION:**	34° 10.835′ S 022° 08.928′ E

STATION NAME:	Mossel Bay	**CALLOUT NO.:**	082 990 5954 044 604 6271 082 658 6242

NSRI STN. NO.:	15	**STATION CELL:**	082 990 5954

BOATHOUSE TEL:	044 690 4322	**STATION E-MAIL:**	station15@searescue.org.za

RESCUE UNIT:	"Vodacom Rescuer II" - 5.5m Gemini RIB - Twin 60hp outboards - 3 crew - Marine VHF - GPS

CALL SIGN:	ZR 5676	**STN ID:**	RESCUE 15 ALPHA	**REG. NO.:**	DTM 1726 B

RANGE-COASTAL:	20 nm	**RANGE-OFFSHORE:**	15 nm

OPERATIONAL AREA:	Gericke Point in the east to Gouritz River in the west. Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	24 hours

ENDURANCE:	4 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 10 minutes Other times : 10 minutes

HELICOPTER CO-OPERATION:	All types

SHORE SUPPORT VEHICLE:	4x4 Colt

STATION COMMANDER:	Dawie Zwiegelaar 082 990 5954

AMENDMENT NO:	December 2010	**PREV AMENDMENT**	January 2010

SASAR AREA:	Southern Cape

NSRI REGION:	3	LOCATION:	34° 10.835′ S 022° 08.928′ E

STATION NAME:	Mossel Bay	CALLOUT NO.:	082 990 5954 044 604 6271 082 658 6242

NSRI STN. NO.:	15	STATION CELL:	082 990 5954

BOATHOUSE TEL:	044 690 4322	STATION E-MAIL:	station15@searescue.org.za

RESCUE UNIT:	"Vodacom Rescuer IV" - 4.2m Gemini inflatable surfboat - Single 50hp outboard - 2 crew - Marine VHF

CALL SIGN:	ZR 6205	STN ID:	RESCUE 15 BRAVO	REG. NO.:	DTM 1778 E

RANGE-COASTAL:	5 nm	RANGE-OFFSHORE:	1nm

OPERATIONAL AREA:	Herolds Bay in the east to Gouritz River in the west. Can be trailed and launched from a suitable safe site.

HOURS OF OPERATION:	Daylight hours only

ENDURANCE:	3 hours

TIME TO LAUNCH FROM CALLOUT:	Working hours : 5 minutes Other times : 5 minutes

HELICOPTER CO-OPERATION:	Small machines (Alouette type) only

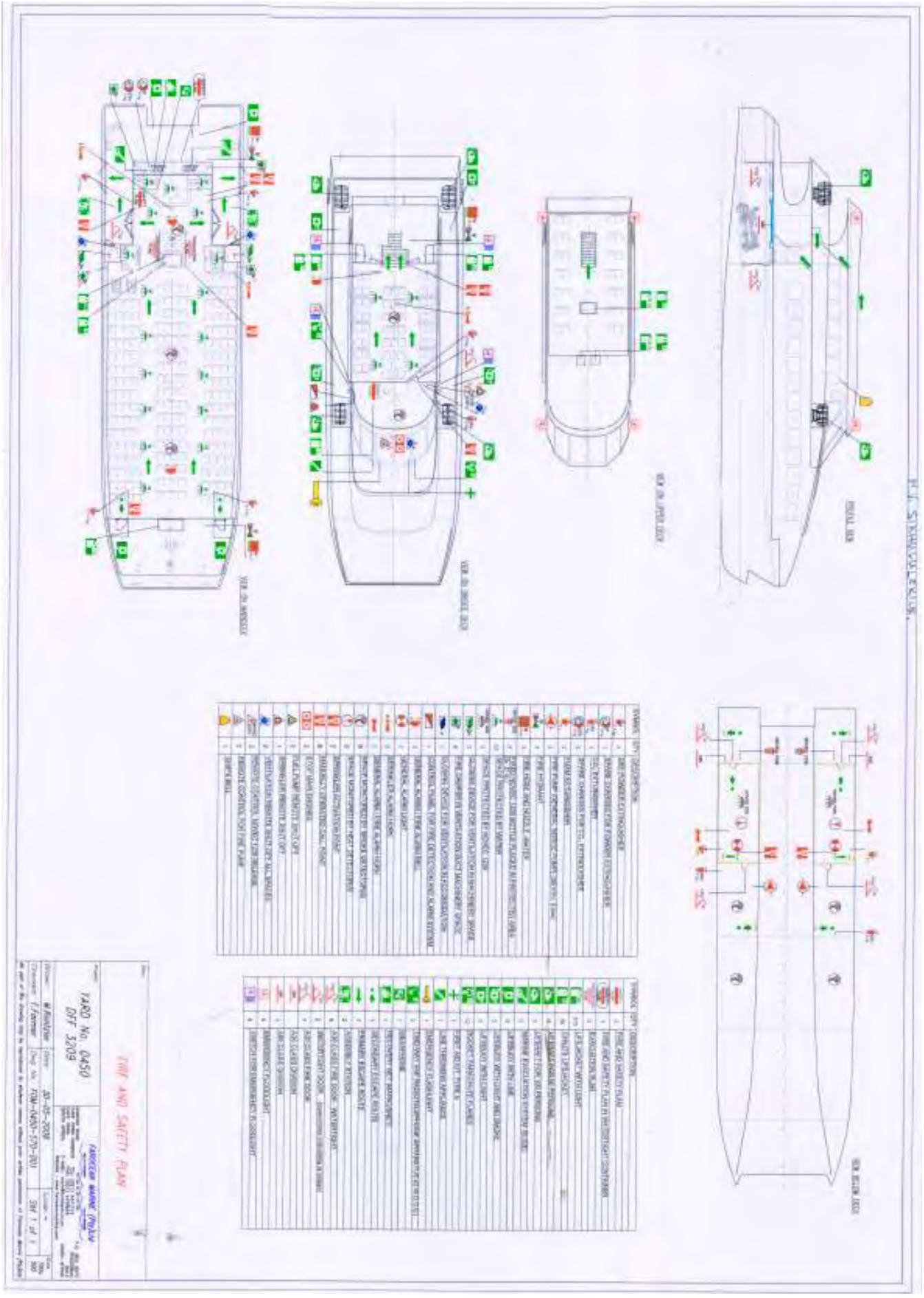
SHORE SUPPORT VEHICLE:	4x4 Colt

STATION COMMANDER:	Dawie Zwiegelaar 082 990 5954

AMENDMENT NO:	December 2010	PREV AMENDMENT	January 2010

DRM PLAN APPENDIX 3

ROBBEN ISLAND FERRY - m.v. SIKHULULEKILE - FIRE AND SAFETY PLAN AND SHIP'S LAYOUT



MAIN DECK

UPPER DECK

FORWARD

BOAT DECK

SAFETY PLAN

APPROVED

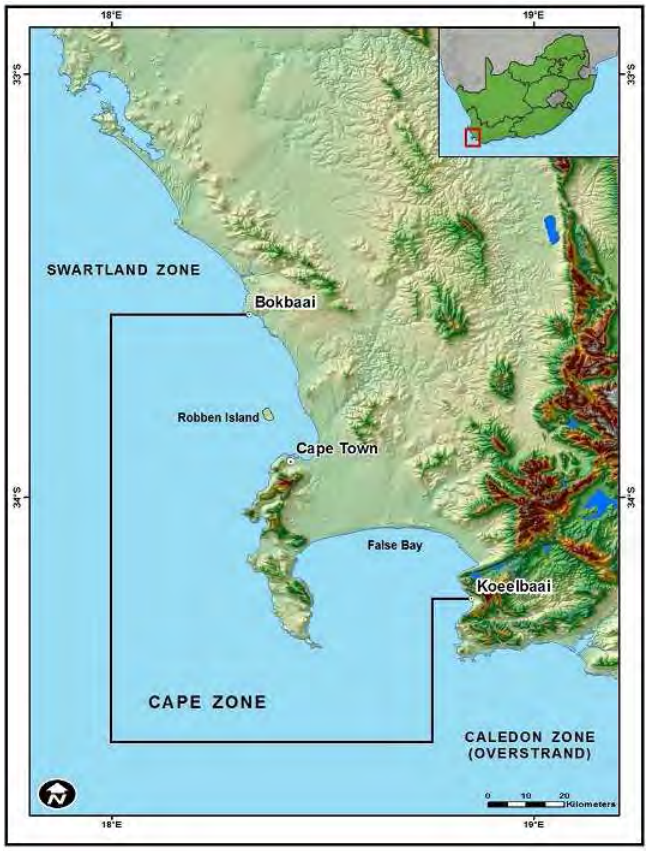
COASTAL OIL SPILL CONTINGENCY PLAN

NO. 3: CAPE ZONE

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Plan No:
Date of Issue: December 2010

COASTAL OIL SPILL CONTINGENCY PLAN
NO. 3: CAPE ZONE



RESPONSIBLE LOCAL AUTHORITIES:

City of Cape Town Metropolitan Municipality	Eskom
South African National Parks	SA Navy
Transnet National Ports Authority	RD Munitions
Robben Island Museum	Heartland Leasing
Granger Bay Academy	V&A Waterfront
Granger Bay Water Club	CapeNature

DAFF: Hout Bay, Kalk Bay and Gordons Bay Fishing Harbours

Approved after due consultation with all stakeholders and authorities with the responsibility to respond to coastal oil spills in terms of this Plan.

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Deputy Director General: Oceans and Coasts
Department of Environmental Affairs
CAPE TOWN
Date: 7 February 2011

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

ACKNOWLEDGEMENTS

This Plan was prepared for:

Marine and Coastal Pollution Management
Department of Environmental Affairs
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V & A Waterfront
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Due acknowledgement is given to DEA, SAMSA, local authorities, stakeholders and interested and affected parties, for their co-operation and the information that they made available.

Enact International: Cullinan and Associates provided the specialist input for the legal review.

The Maps were compiled by GEOSS (Pty) Ltd.

Special thanks are due to Anton Moldan, Environmental Advisor, SAPIA for his invaluable comments, advice and peer review.

PREFACE

In terms of the Marine Pollution (Control and Civil Liability) Act 6 of 1981, the Department of Transport is charged with the responsibility of ensuring that the appropriate actions are taken in order to minimise the impact of discharges of harmful substances (e.g. oil) from ships, tankers, or offshore installations. In terms of the South African Maritime Safety Authority Act 5 of 1998, the majority of these responsibilities are transferred to the South African Maritime Safety Authority (SAMSA). Section 52 of the SAMSA Act, however, delegates the responsibility for combating pollution of the sea and shoreline by oil to the Minister of Environmental Affairs (DEA). The implication of this is that the DEA is responsible for protection and clean-up measures to be taken once oil has been released into the sea, while SAMSA's responsibilities are limited to those actions required while the oil is within the confines of the ship.

In effect this means that SAMSA is responsible for:

- overall co-ordination of the prevention and/or combating of an oil spill incident
- control of the technical aspects of shipping casualties
- supervision of oil transshipments
- prosecution of parties guilty of the deliberate discharge of oil
- compilation of contingency plans relating to the control of shipping casualties or potential casualties
- administering the Acts relating to oil pollution
- taking charge of the legal and financial aspects relating to oil spill incidents and casualties
- control of the use of the standby oil pollution prevention tug
- the issuing of pollution safety certificates for offshore installations.

The National Department of Environmental Affairs is responsible for:

- co-ordination and implementation of coastal environmental protection and clean-up measures
- control of the use of the pollution combating vessels and surveillance aircraft
- control of the use of oil spill dispersants and dispersant spraying operations
- maintenance and supply of oil dispersant stocks and other dedicated oil spill equipment
- compilation and maintenance of the DEA Local Coastal Oil Spill Contingency Plans
- the approval of contingency plans for offshore installations, in consultation with SAMSA.

The Provincial Departments of Environmental Affairs shall:

- assist the DEA in updating the Local Coastal Oil Spill Contingency Plans
- provide support in building capacity and awareness in the local authority organisations
- provide support to local authorities in the implementation of the Local Coastal Oil Spill Contingency Plans
- ensure that their MEC is kept informed of progress.

Local Authorities have an important role to play in dealing with oil spills. They are responsible for:

- taking specified measures to prevent or remedy adverse effects of the spill on the coastal environment
- providing assistance in the form of supervision, labour, transport and equipment for the protection and clean-up of their beaches, estuaries and other areas under their jurisdiction
- making arrangements with local Traffic and Police Officers to ensure traffic and crowd control in the vicinity of the impacted area.

DISTRIBUTION LIST

Doc. No.	Distribution
	NATIONAL AUTHORITIES
301	Director-General: Department of Environmental Affairs (DEA)
302	Chief Director: Integrated Coastal Management, DEA
303	Deputy Director: Marine and Coastal Pollution Management, DEA
304	Assistant Director: Marine and Coastal Pollution Management, DEA
305	Pollution Officer: Marine and Coastal Pollution Management, DEA
306	Director-General: Department of Transport
307	Executive Head, Centre of Ships: Shipping, SAMSA
308	Regional Manager: Eastern Region, SAMSA
309	Regional Manager: Western Region: Shipping, SAMSA
310	Principal Officer: Cape Town, SAMSA
311	Regional Manager: Southern Region, SAMSA
312	Principal Officer: Saldanha Bay, SAMSA
313	Principal Officer: Mossel Bay, SAMSA
314	Operations Manager, Maritime Information Services, SAMSA, P O Box 532, PAROW, 7477 (Attn: Ravi Naiker)
315	Chief Director: Pollution and Waste Management, DEA
316	Director: Compliance, Fisheries Branch, DAFF
317	Regional Representative: Coast Chief Directorate: Environmental Conservation Dept of Environmental Affairs
318	Manager: Pollution Combating Vessels, DAFF (Attn: Keith Govender)
319	

Doc. No.	Distribution
	PROVINCIAL / REGIONAL AUTHORITIES
320	Director: Disaster Management, Western Cape Province, Private Bag X3, SANLAMHOF, 7532 (Attn: Jackson Rhikotso)
321	Marine Manager: Dept of Environmental Affairs and Development Planning, Western Cape, Private Bag 9086, CAPE TOWN, 8000 (Attn: Zain Jumat).
322	Waste Manager: Dept of Environmental Affairs and Development Planning, Western Cape, Private Bag 908, CAPE TOWN 8000
323	Director: CapeNature, Private Bag 9086, CAPE TOWN, 8000
324	

	LOCAL AUTHORITIES
325	Manager Solid Waste: City of Cape Town, PO Box 298, CAPE TOWN, 8000
326	Head: Disaster Risk Management Centre: City of Cape Town, PO Box 298, CAPE TOWN, 8000
327	Manager: Catchment, Stormwater and River Management Branch, City of Cape Town, PO Box 1694, CAPE TOWN,8000 (Attn Barry Wood)
328	Coastal Co-ordinator: Environmental Resource Management, City of Cape Town, PO Box 16548, VLAEBERG, 8018 (Attn: Darryl Colenbrander)
329	Co-ordinator: Sport and Recreation, City of Cape Town, 22nd Floor Civic Centre, Hertzog Boulevard, CAPE TOWN, 8000 (Attn: Sakhile Tsotsobe):
330	Harbour Master: TNPA Port of Cape Town, PO Box 4245, CAPE TOWN, 8000
331	SHEQ Manager: TNPA Port of Cape Town, PO Box 4245, CAPE TOWN, 8000
332	Harbour Master: V&A Waterfront, P O Box 50001, Waterfront, CAPE TOWN, 8002 (Attn: Steven Bentley)
333	Harbour Master: Robben Island (Attn: Anthony Thomas), c/o Port of Cape Town, PO Box 4245, CAPE TOWN, 8000 for delivery by hand.
334	Naval Harbour Master, Naval Base, Fleet Mail Office, Private Bag X1, Simonstown, 7995 (Attn: Warrant Officer Haywood)
335	Manager: Granger Bay Water Club, PO Box 2398, CAPE TOWN, 8000 Attn: Faried Sylvester
336	Power Station Manager: Koeberg, Private Bag X10, KERNKRAG, 7440
337	Harbour Master: CPUT, Granger Bay, PO Box 2880, CAPE TOWN, 8000 Attn: Wilfred Prince
338	Harbour Master: Gordon's Bay Boat Angling Club, Breakwater Lane, HARBOUR ISLAND, 7140.
339	Harbour Master: Kalk Bay Harbour Office, KALK BAY, 7975
340	Harbour Master: Hout Bay Fishing Harbour, P O Box 26781, HOUT BAY, 7872

Doc. No.	Distribution
341	Harbour Master: Gordons Bay Fishing Harbour, Beach Road, GORDONS BAY, 7140
342	Manager: RD Munitions, PO Box 187, SOMERSET WEST, 7130
343	Manager: Heartland Leasing, Private Bag X101, SOMERSET WEST, 7129
344	Senior Section Ranger – South, SANParks, PO Box 62, SIMONSTOWN, 7995 (Attn: Justin Buchman)
345	Area Manager: Marine, SANParks, PO Box 37, CONSTANTIA, 7848 (Attn: Paul Sieben)
346	Section Ranger, Boulders, SANParks, PO Box 62, SIMONSTOWN, 7995 (Attn: Monique Ruthenberg)
347	Senior Section Ranger- North, SANParks, PO Box 37, CONSTANTIA, 7848 (Attn: Hilton Blumeris)
348	
	INTERESTED AND AFFECTED PARTIES
349	Environmental Advisor: SAPIA, 31 Norfolk Street, Claremont, 7708 Attn: Anton Moldan
350	CEO: SANCCOB, PO Box 11116, BLOUBERGRANT, 7443 (Attn: Venessa Strauss)
351	Manager: Smit Amandla, P O Box 1339, CAPE TOWN 8000
352	Commodore: Royal Cape Yacht Club, P O Box 772, CAPE TOWN, 8000
353	Commodore: False Bay Yacht Club, St George's Way, SIMONTOWN, 7995

AMENDMENT LISTING

No:	Date of issue:	Pages Amended:

AMENDMENTS

All amendments to this document will be issued by the Deputy Director: Marine and Coastal Pollution Management, P. O. Box 52126, V & A Waterfront, 8002 in the form of new pages which are to replace the amended pages. The holder of each copy of this plan as named in the Distribution List will receive a copy of the new pages. The amendments are high-lighted by a vertical line in the left hand margin and amended pages will be dated with a foot note.

Upon receipt of the amendments, the recipient is to verify its completeness and update his copy of the Plan accordingly, and then mail, or fax, the tear-off slip to the addressee given at the top of the tear-off slip. (See Appendix II)

Holders of the plan are to advise the Deputy Director: Marine and Coastal Pollution Management of any pertinent changes of telephone numbers, organisational structure or other information immediately it comes to their notice.

LIST OF ACRONYMS

AD	-	Assistant Director
CLC	-	Civil Liability Convention for Oil Pollution Damage
CoCT	-	City of Cape Town
CPUT		Cape Peninsula University of Technology
CRU	-	Casualty Response Unit of SAMSA
CSRM	-	Catchment, Stormwater and River Management Branch: CoCT
DAFF	-	Department of Agriculture, Forestry and Fisheries
DEA	-	Department of Environmental Affairs
DEA&DP	-	Department of Environmental Affairs and Development Planning (W.Cape)
DD	-	Deputy Director
DMC	-	Disaster Management Centre
DOC	-	Disaster Operations Centre
DOT	-	Department of Transport
EBMO	-	Emergency Barriers from Materials of Opportunity (Report 1985)
ECO	-	Environmental Conservation Officer
EMP	-	Estuary/Environmental Management Plan
EPO	-	Environmental Protection Officer
IOPC	-	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution
JOC	-	Joint Operations Centre
JRC	-	Joint Response Committee
MCM	-	Marine and Coastal Management (now called Oceans and Coast)
MCPM	-	Marine and Coastal Pollution Management (of Oceans and Coast)
O&C	-	Oceans and Coast (DEA), previously MCM
OPCSA-		Oil Pollution Control South Africa
OPRC	-	International Convention on Oil Pollution Preparedness, Response and Cooperation
OSC	-	On-Scene Co-ordinator
P&I Club	-	Ship Owners Protection and Indemnity Insurers
PEPSAE	-	Probable Effectiveness of Protection of the SA Estuaries by Oil Booms (Report 1986)
PO	-	Principal Officer (SAMSA)
SAMSA	-	South African Maritime Safety Authority
SANCCOB	-	South African National Foundation for the Conservation of Coastal Birds
SANParks	-	South African National Parks
SCC	-	Shore Control Centre
SLO	-	Shore Logistics Officer
TMNP		Table Mountain National Park
TNPA	-	Transnet National Ports Authority
UNCLOS	-	United Nations Convention on Law of the Sea
WWTW	-	Waste Water Treatment Works

CONTENTS

APPENDICES

ADDENDA

1. INTRODUCTION

This Coastal Oil Spill Contingency Plan covers the area for the Cape Zone, in the Western Cape. This Zone extends from Bokbaai in the north, along the Atlantic seaboard to Cape Point, and the whole of False Bay to Koeelbaai in the east. The entire area falls within the City of Cape Town Metro Municipality, and includes the suburbs of Blouberg, Milnerton, Simonstown and Gordon's Bay. The Port of Cape Town is located in Table Bay, and the V & A Waterfront, Robben Island and the Cape Point Nature Reserve are prime tourist destinations.

The Plan sets out the respective responsibilities of the South African Maritime Safety Authority (SAMSA) and the Department of Environmental Affairs (DEA) relating to an oil spill, the organisation that is to come into effect and the actions required of Local Authorities and other bodies (collectively referred to as Local Authorities for the purpose of this plan) to combat the impact of oil pollution on the shoreline in the event of an oil spill.

All operations will be co-ordinated by the DEA On-Scene Co-ordinator as outlined in Section 8 of this Plan.

2. OBJECTIVE

The primary objective of this Coastal Oil Spill Contingency Plan is to minimise loss of time and hence, environmental damage, in carrying out the appropriate remedial action. This is to be achieved by clearly stating the functions and responsibilities of the various authorities involved, the infrastructure to be set up, and the response required by such authorities for the duration of the incident.

3. INTERFACE WITH OTHER PLANS

South Africa's national oil spill preparedness and response strategy is guided by a suite of oil spill contingency plans; each dealing with a particular aspect of the spill situation. Although each plan is a stand alone document, it should be read in conjunction with the others, in order to ensure a co-ordinated approach. For the Cape Zone, the following Plans are applicable:

a. **"South Africa's National Contingency Plan for the Prevention and Combating of Pollution from Ships and Offshore Installations"**
This "National Plan" is an overall plan, setting out the policies of the Department of Environmental Affairs and SAMSA, for the Department of Transport towards their responsibilities for preventing and combating pollution of the sea by oil. It provides an overview of the actions to be taken by SAMSA, DEA and other relevant Authorities in preparation for, and in the event or the threat of an oil spill, and outlines the formation of a Joint Response Committee.

b. **The "Coastal Oil Spill Contingency Plans"** detail the actions to be taken when there is a threat of oil impacting the shoreline or an impact has occurred. The coastline from the Orange River mouth to the Mozambique border is divided into a number of zones, each of which has its own specific Local Coastal Plan. The **Cape Zone Plan** is one such Plan and covers the area from Bokbaai to Koeelbaai. The adjacent areas are covered by the West Coast Zone and Caledon (Overstrand) Zone Plans.

c. **The TNPA Oil Spill Contingency Plan for the Port of Cape Town.** This plan outlines the response required by TNPA for Tier 1 (minor) oil spills within the Port, and their role during Tier 2 and 3 oil spills.

d. **The "SANCCOB Contingency Plan for the Capture, Transport, Rehabilitation and Release of Oiled Seabirds Following a Major Oil Spill off the South African Coast."** This Plan covers all incidents where seabirds are oiled along the South African coastline and adjacent islands, but excludes the KwaZulu Natal coast (where stabilisation is undertaken by CROW etc). However, if requested, SANCCOB will assist with birds from both Namibia and KwaZulu Natal.

e. **Local Authority Disaster Management Plans** for the City of Cape Town Metro, which are linked to the Provincial and National Disaster Management Plans.

f. **SANParks Plans** for the protection, collection and transport of oiled seabirds from the major breeding colonies such as Boulders.

g. **Plans for Independent Installations** which detail the response actions that are to be undertaken in the event of oil spills at or near specific installations. These installations include offshore oil tanker discharge facilities, oil exploration and exploitation sites, power stations (Koeberg) etc.

The inter-relationship between all the Plans in the Cape Zone is illustrated in the diagram below (Fig. 1).

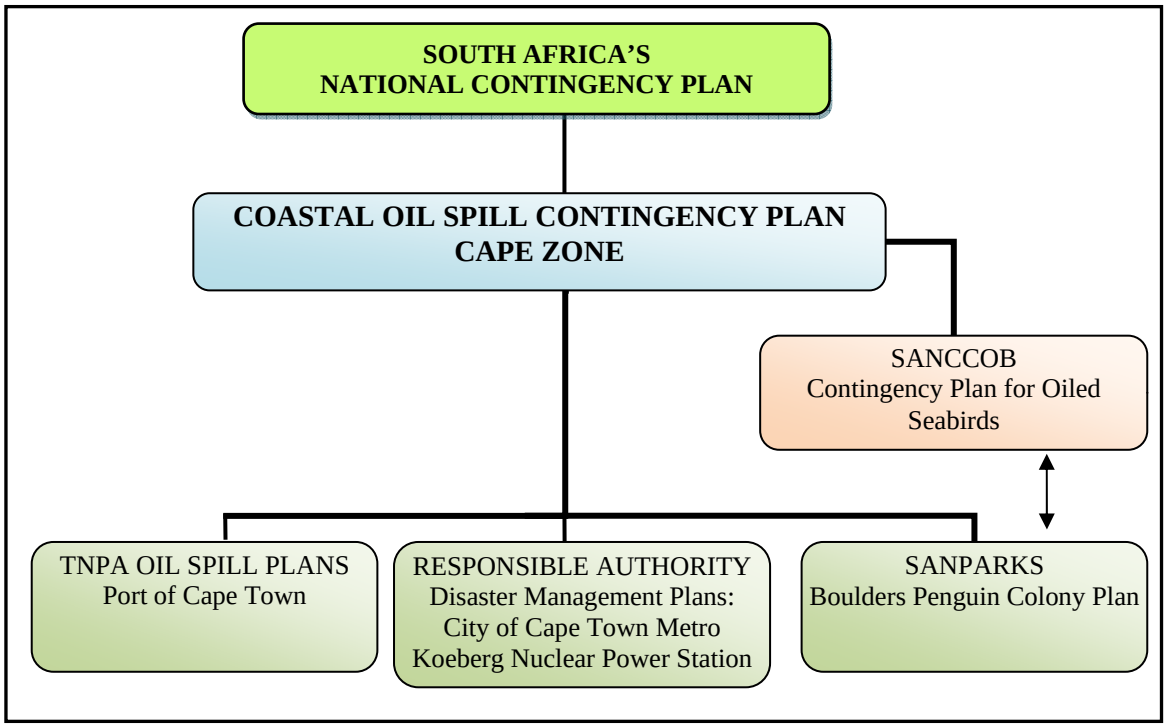


Figure 1: Inter-relationship between all the Oil Spill Contingency Plans in the Cape Zone.

4. ACTS AND AGREEMENTS RELATING TO THE COMBATING OF OIL POLLUTION

International and national legislation, relevant to combating and dealing with oil spills, is summarised below.

4.1 INTERNATIONAL CONVENTIONS *(and related South African Legislation)*

Below, are the main international conventions to which South Africa is a Party. For ease of reference, the conventions have been grouped according to the areas to which they are most relevant, namely, oil pollution, operational requirements in respect of oil pollution and compensation for oil pollution damage. Where applicable, the domestic legislation giving effect to the convention is provided.

4.1.1 Oil Pollution

United Nations Convention on Law of the Sea (UNCLOS)

UNCLOS is among the conventions ratified by South Africa. UNCLOS imposes a general obligation on states to protect and preserve the marine environment. It further provides that states shall take all measures to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities.

States, acting through the competent international organisation or general diplomatic conference are required to establish international rules and standards to prevent, reduce and control pollution of the marine environment from vessels and promote the adoption of routing systems designed to minimise the threat of accidents which might cause pollution of the marine environment, including the coastline, and pollution damage to the related interests of coastal states. Such rules and standards are required to be re-examined from time to time as necessary.

4.1.2 Compensation for Oil Pollution Damage

International Convention on Civil Liability for Oil Pollution Damage, 1992 (CLC)

This convention (originally adopted in 1969) aims to ensure that adequate compensation is available to persons exposed to oil pollution damage resulting from maritime casualties involving oil-carrying ships. It applies exclusively to pollution damage caused in the territory, including the territorial sea, of a contracting state and the exclusive economic zone of a contracting state.

It governs the liability of ship owners for oil pollution damage by laying down the principle of strict liability. The onus is on the owner to prove in each case that any of the exceptions should operate.

It also creates a system of compulsory liability insurance. Ships covered by the convention are required to maintain insurance or other financial security in sums equivalent to the owner's total liability for one incident. The ship owner is normally entitled to limit his liability to an amount which is linked to the tonnage of his ship, as stipulated in the Convention.

The convention applies to all sea going vessels actually carrying oil in bulk as cargo but only ships carrying more than two thousand tons of oil are required to maintain insurance in respect of oil pollution damage. An owner shall not be entitled to limit his or her liability if it is proved that the pollution damage resulted from his or her personal act or omission, committed with the intent to commit such damage, or recklessly and with knowledge that such damage would probably result. The 1992 CLC was adopted by South Africa in 2004.

Marine Pollution (Control and Civil Liability) Act 6 of 1981

This Act provides for the protection of the marine environment from pollution by oil and other harmful substances. It goes further than the CLC in that it deals with other harmful substances whereas the CLC is limited to oil pollution damage only. The Act provides for criminal as well as civil liability following a discharge which causes pollution of the sea.

While the Act is administered by the Department of Transport, the administration of the provisions of the Act regarding the combating of pollution of the sea by oil were assigned to the then Minister of Environmental Affairs and Tourism (now Minister of Water and Environmental Affairs) with effect from 20 May 1986. Furthermore, many of the administrative functions were transferred to the South African Maritime Safety Authority (SAMSA) in 1998.

An oil spill caused negligently or intentionally falls within the definition of discharge.

The Act sets out the powers of SAMSA to take steps to prevent the pollution of the sea where a harmful substance is being or is likely to be discharged from a ship or a tanker. Such steps include requiring the master or owner of such ship or tanker to unload the harmful substance from the ship or tanker, to dispose of any harmful substance so unloaded or to move the ship or tanker to a place specified by SAMSA. Where the master or the owner of a ship or tanker is not capable of complying with such requirements or cannot reasonably be expected to comply with these, SAMSA may cause such steps to be taken. Furthermore, where any harmful substance is discharged from a ship or tanker, the authority may cause any pollution of the sea caused thereby to be removed.

The owner of any ship, tanker or off-shore installation shall be liable for any loss or damage caused in the area of the Republic by pollution resulting from the discharge of oil, the cost of any measures taken by SAMSA after an incident has occurred for the purposes of reducing loss or damage caused or any loss or damage caused by measures so taken after a discharge has occurred.

The costs referred to shall include an amount deemed by the Director-General to be sufficient to compensate the South African National Foundation for the Conservation of Coastal Birds or any similar organisation approved by the Minister for expenses incurred in treating and rehabilitating coastal birds polluted by oil that has been discharged.

International Convention on the Establishment of an International Fund for Oil Pollution Damage, 1992 (1992 Fund Convention)

This convention establishes the International Oil Pollution Compensation Fund to provide compensation for pollution damage to the extent that the protection afforded by the 1992 CLC is inadequate. It applies exclusively to pollution damage caused in the territory, including the territorial sea of a contracting state and the exclusive economic zone of a contracting state.

South Africa acceded to the 1992 Fund Protocol which amended the 1972 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage and is accordingly 1 of 103 states for which the 1992 Fund Convention is in force. This Convention has not yet been brought into effect locally. This means that, in monetary terms, South African claimants would be able to recover no more than R 196 million under the present legislation. Once the enabling legislation is passed, a combined total recoverable amount under the two Conventions (CLC and the Fund) would be approximately R 2,85 billion. Therefore it is essential that enabling legislation be passed as soon as possible.

4.1.3 Operational Requirements

The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL)

South Africa is a signatory to the MARPOL convention which is the main international convention concerning the prevention of pollution of the marine environment from ships by operational or accidental causes. The Convention includes regulations aimed at preventing and minimising pollution from ships and contains 6 technical annexes which set out detailed rules and standards.

Annexure 1 contains regulations for the prevention of pollution by oil and is mandatory for state parties. The discharge into the sea of oil or oily mixtures is prohibited except when certain conditions are satisfied. The Marine Pollution (Prevention of Pollution from Ships) Act 2 of 1986 (discussed below) incorporates the convention and annexure 1 into South African domestic law.

Marine Pollution (Prevention of Pollution from Ships) Act, 2 of 1986 (the MARPOL Act)

The MARPOL Act gives effect to the MARPOL Convention, by providing for the protection of the sea from pollution by oil and other harmful substances discharged from ships. This Act is administered by the Department of Transport.

The Act provides for the Minister to make regulations to give effect to the provisions of the Convention. However this also extends to the Minister making regulations to exempt certain classes of ships from the provisions of the Convention thereby resulting in South Africa not being entirely restricted by the provisions of the Convention.

International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC Convention)

The OPRC Convention is designed to facilitate international cooperation and mutual assistance in preparing for and responding to major oil pollution incidents and to encourage states to develop and maintain an adequate capability to deal with oil pollution emergencies.

Ships flying the flags of contracting states are required to have on board a shipboard oil pollution emergency plan. Operators of offshore units, authorities or operators in charge of sea ports and oil handling facilities must have oil pollution emergency plans or similar arrangements which are coordinated with the national system for responding promptly and effectively to oil pollution incidents.

Ships are required to comply with the oil pollution reporting procedures and the details of the actions to be taken in this regard are set out in the Convention.

The Convention makes provision for parties to cooperate and provide advisory services, technical support and equipment for the purpose of responding to an oil pollution incident and provision is made for the reimbursement of any assistance provided. South Africa has signed this convention, but has not yet brought it into effect locally.

4.2 NATIONAL LEGISLATION *(other than that associated with international conventions)*

Constitution of the Republic of South Africa Act, 1996

Section 24 of the Constitution states that everyone has a right to an environment that is not harmful to their health or well-being and to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures that

(i) prevent pollution and ecological degradation;
(ii) promote conservation; and
(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The argument may be made that in order to give effect to this right, especially as it relates to preventing pollution of the marine environment, reasonable measures must be taken to combat oil spills as well as measures to remedy the effects of spills.

National Environmental Management Act, 107 of 1998 (NEMA)

NEMA is administered by the Department of Environmental Affairs and provides for cooperative environmental governance by establishing principles for decision-making on matters affecting the environment.

One of the most important principles relevant to the oil spill contingency plan is that the costs of remedying pollution, environmental degradation and consequent adverse health effects, and

controlling further pollution, environmental damage or adverse health effects must be paid for by those persons responsible for harming the environment.

Section 30 of NEMA is relevant to oil spills as it deals with the control of emergency incidents. An emergency incident is an unexpected sudden occurrence leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed.

The responsible person must as soon as reasonably practicable after knowledge of the incident, take all reasonable measures to contain and minimize the effects of the incident, undertake clean up procedures, remedy the effects of the incident and assess the immediate and long term effects of the incident on the environment and public health. A relevant authority (which includes a municipality, a provincial head of department, the Director-General or any other Director-General of a national department) may direct the responsible person to undertake specific measures within a specific time to fulfill his or her obligations in terms of this section.

Should the responsible person fail to comply or inadequately comply with a directive, the relevant authority may take the measures it considers necessary to contain and minimize the effects of the incident, undertake clean-up procedures and remedy the effects of the incident. The relevant authority may claim reimbursement of all reasonable costs incurred in the taking of such measures from every responsible person jointly and severally.

NEMA provides for a Duty of Care that requires reasonable measures to be taken for the prevention of pollution or environmental degradation. This is particularly relevant in dealing with responsibility for oil spill damage. The National Environmental Management: Integrated Coastal Management Act reaffirms this Duty of Care insofar as it relates to the coastal environment. The National Water Act, 36 of 1998 also imposes a similar Duty of Care. Below, we explain the Duty of Care provisions from these acts.

Section 28 of NEMA provides that every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from continuing or in so far as such harm to the environment is authorised by law or cannot be reasonably avoided or stopped, to minimize and rectify such pollution or degradation of the environment.

The steps required by this section include the taking of measures to control any activity causing the pollution, preventing the movement of pollutants, eliminating any source of the pollution or remedying the effects of the pollution.

Where a responsible person fails to take the required measures, the Director-General or a provincial head of department may direct the responsible person to commence taking specific reasonable measures before a given date and to complete them before a specified reasonable date. If the

responsible person fails to comply or inadequately complies with such a directive, the Director-General or provincial head of department responsible for Environmental Affairs may take reasonable measures to remedy the situation or apply to a competent court for appropriate relief. The Director-General or provincial head of department may recover the costs for reasonable remedial measures to be undertaken before such measures are taken and all costs incurred as a result of applying to court for appropriate relief.

Any person may after giving the Director-General or provincial head of department thirty days notice, apply to a competent court for an order directing the Director-General or any provincial head of department to take specific measures for the protection of the environment if the Director-General or provincial head of department fails to inform such person in writing that he or she has directed the person to take such steps.

National Water Act, 36 of 1998

The National Water Act deals with pollution of water resources and also provides for the control of ***emergency incidents***. Following an emergency incident such as an accident involving the spilling of a harmful substance that finds or may find its way into a water resource (water resource is defined to include a watercourse, surface water, estuary or aquifer), the responsibility for remedying the situation rests with the person responsible for the incident or the substance involved.

Measures to be taken by such person include taking all reasonable measures to contain and minimise the effects of the incident, undertaking clean-up procedures and remedying the effects of the incident. Where such person fails to act, the relevant catchment management agency may take the necessary steps and recover the costs from every responsible person. The Act is administered by the Department of Water Affairs.

The National Water Act also provides a duty of care similar to that in NEMA. This however deals more specifically with situations where pollution of a water resource occurs as a result of activities on land.

National Environmental Management: Integrated Coastal Management Act, 24 of 2008

Included among the aims of the Act is the control of dumping at sea and pollution in the coastal zone. The Act provides that in fulfilling the rights contained in section 24 of the Constitution, the state through its functionaries and institutions implementing the Act, must act as a trustee of the coastal zone and must in implementing the Act take reasonable measures to achieve the progressive realisation of those rights in the interest of every person.

The state in its capacity as the public trustee of all coastal public property must take whatever reasonable legislative and other measures it considers necessary to conserve and protect coastal public property for the benefit of present and future generations.

The Minister, an MEC or a municipality concerned may institute legal proceedings or take other appropriate measures to prevent damage or recover damages for harm suffered to coastal public property or the coastal environment or to abate nuisances affecting the right of the public in its use and enjoyment of coastal public property. Accordingly, these provisions can extend to damage caused or measures taken to prevent such damage as a result of oil spills.

This Act also provides that section 28 of NEMA applies to any impact caused by any person that has an adverse effect on the coastal environment. The persons to whom section 28 of NEMA apply include any person who produced or discharged a substance which caused, is causing or likely to cause an adverse effect and this may therefore include discharges from ships.

South African Maritime Safety Authority Act 5 of 1998

This Act provides for the establishment of SAMSA whose objectives are to ensure the safety of life and property at sea, to prevent and combat pollution of the marine environment by ships and to promote the Republic's maritime interests.

SAMSA may perform a function itself, in co-operating with another person or by delegating or assigning the power or duty concerned to another person. "Person" includes the state, a province, the government or an agency of the government of a foreign country or any juristic or natural person.

Certain functions of SAMSA are performed by the Department of Environmental Affairs. The responsibility for matters relating to the combating of pollution mentioned in Marine Notice No. 2 of 1996 issued by the Department of Transport on 24 January 1996 is regarded as having been assigned to the Department Environmental Affairs by this Act.

The Health Act, 63 of 1977

The Health Act provides that every local authority shall take all lawful, necessary and reasonably practicable measures to prevent the occurrence, within its district, of any condition which could be harmful or dangerous to the health of any person within its district or the district of any other local authority. Where such nuisance or condition has occurred, the authority must take measures to abate or remedy such condition. Accordingly where an oil spill could be harmful or dangerous to human health, the local authority may take measures to remedy its effects.

The Sea-Shore Act, 21 of 1935

The Sea-Shore Act makes specific provision for the protection of public health. The competent authority to whom the administration of the Health Act has been assigned, may declare that any local authority may exercise, in respect of the sea-shore and the sea situated within its area of jurisdiction or adjoining such area, any of the powers which are conferred by the Health Act on a local authority. This could therefore be extended to include the taking of measures to remedy an oil spill in cases where it could be harmful to human health.

The Minister of Transport may, in terms of this Act, make regulations or authorise any local authority to make regulations concerning the prevention or the regulation of the depositing or the discharging upon the sea-shore or in the sea of offal, rubbish or anything liable to be a nuisance or danger to health.

The Act will be repealed by section 98 of the National Environmental Management: Integrated Coastal Management Act when that section comes into force.

Other Relevant Legislation

The following legislation while not directly applicable in dealing with measures to be taken in cases of oil spills is still of relevance for purposes of the protection of the marine environment from oil spills.

Merchant Shipping Act, 57 of 1951
SAMSA is responsible for the administration of this Act. The Act imposes an obligation on an owner of a ship to secure the sea worthiness of a ship. Unseaworthy ships may be detained and where any ship is detained, it may be inspected by a surveyor who shall report on any supposed defects or deficiencies.

Dumping at Sea Control Act, 73 of 1980
This Act brings into force domestically the provisions of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (the London Convention). It provides for the control of dumping at sea of various substances and structures, including vessels, platforms or other man-made structures.

South Africa is a signatory to the 1996 Protocol, which will eventually replace the current Convention. The Protocol introduces the precautionary and polluter pays principles and expands the objectives of the Convention to include the elimination of pollution where practicable.

The Act is administered by Department of Environmental Affairs. It will however be repealed by section 98 of the National Environmental Management: Integrated Coastal Management Act when that section comes into force.

Marine Pollution (Intervention) Act 64 of 1987:
This Act gives domestic effect to both the Intervention Convention Relating to the Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 as well as the Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil, 1973. It allows the Minister of Transport to make regulations to give effect to the provisions of the Convention and the Protocol.

Disaster Management Act, 57 of 2002
This Act provides for, among others, an integrated and co-ordinated disaster management policy that focuses on preventing or reducing the risks of disasters, mitigating the severity of disasters, emergency preparedness, rapid and effective response to disasters and post-disaster recovery.

Disaster is defined in Section 1 of the Disaster Management Act, and includes oil spills when this hazard causes or threatens to cause damage to property, infrastructure or the environment, or the disruption of the livelihood of the community, and is of the magnitude that exceeds the ability of those affected by disaster to cope with its effects using only their own resources.

The Act does not however apply to a disaster where such occurrence can be dealt with effectively in terms of other national legislation aimed at reducing the risk, and addressing the consequences of occurrences of that nature and identified by the Minister by notice in the Gazette. Accordingly, this Act would not be of direct application in cases of oil spills as the other Acts related to oil pollution response, provide measures that can be enforced in dealing with oil spills.

In other words, The Disaster Management Act is essentially over-arching and supportive legislation which enables the integration and co-ordination of all role-players in the event of a major incident. All role-players will still function according to their own legislation and mandates at addressing the risks and consequences of any occurrence. Should any situation, including any Coastal Oil Spill, escalate or exceed the local capacities, a local state of disaster may be declared under the Disaster Management Act, which will enable further facilitation and assistance to be obtained.

The Public Finance Management Act, 1 of 1999
This Act regulates financial management in the national government and provincial governments and ensures that all revenue, expenditure, assets and liabilities of these governments are managed efficiently and effectively. It provides for the establishment of a national treasury consisting of the Minister who is the head of treasury and the national department or departments responsible for financial and fiscal matters.

While the Act is not directly relevant to procedures in the event of oil spills, the Minister or MEC for finance in a province may authorize the use of funds from the respective national revenue fund or provinces provincial revenue fund respectively to defray expenditure of an exceptional nature which is not currently provided for and which cannot, without serious prejudice to the public interests be postponed to a future appropriation of funds. Thus in particular circumstances additional budget could possibly be allocated in cases of oil spills that threaten the public interests.

National Ports Acts, 12 of 2005
This Act relates to the establishment of the National Ports Authority and the Ports Regulator; to provide for the administration of certain ports by the National Ports Authority; and to provide for matters connected therewith. The Authority is required in the performance of its functions to ensure that a fair and reasonable balance is achieved between the protection of the environment and the establishment, development and maintenance of ports.

4.3 RESPONSIBLE AUTHORITIES

4.3.1 South African Maritime Safety Authority (SAMSA)

SAMSA was established on 1 April 1998 in terms of the South African Maritime Safety Authority Act, 5 of 1998 and it is accountable to the Minister of Transport. Its mission is to promote South Africa's maritime interests and development and position the country as an international maritime centre while ensuring maritime safety, health and environmental protection.

The responsibility for matters relating to the combating of pollution however, mentioned in Marine Notice no. 2 of 1996 issued by the Department of Transport on 24 January 1996, is regarded as having been assigned to the Department of Environmental Affairs by the Act.

Included among the services provided by SAMSA are accident investigations and emergency casualty response, management of the Department of Transport contracted pollution prevention and response capability, statutory surveys and safety certification of ships, inspections of ships and cargos of hazardous goods, casualty investigation and management, oil pollution incident response and investigation, and providing a maritime search and rescue capability in the South African area of responsibility through the management, on behalf of the Department of Transport, of the Maritime Rescue Coordination Centre.

The South African Maritime Safety Authority Act establishes SAMSA as a juristic person. It may perform its functions both within and outside the Republic and it may do so by itself, in cooperation with another person or by delegating or assigning a power or duty concerned to another person (including the state, a province, the government or an agency of the government of a foreign country or a juristic or natural person). SAMSA also has the power to institute and conduct civil proceedings in all matters relating to its functions.

4.3.2 Transnet National Ports Authority (TNPA)

The main functions of the TNPA are to own, manage, control and administer ports to ensure their efficient and economic functioning. This includes regulating and controlling pollution and the protection of the environment within the port limits.

The TNPA may give notice to the owner or other person legally responsible for the upkeep of any vessel within port limits to remove or otherwise dispose of such vessel, or part thereof, which is not seaworthy or is likely to become an obstruction, wreck or derelict or a threat to the environment or public safety. It may also recover from that owner or person all costs incurred for the removal or disposal should he or she fail to comply with such notice within the time specified therein.

The Harbour Master is, in respect of the port for which he or she is appointed, the final authority in respect of all matters relating to the movement of vessels within port limits. Accordingly the Harbour Master may give such written or verbal instructions for the detention of a vessel reasonably suspected of causing oil pollution in the port area and ensuring that the total cost of the pollution clean–up operation is recovered, or acceptable guarantees are provided, prior to the vessel being giving permission to leave the port.

The TNPA may with the approval of the Minister of Transport make rules for the control and management of ports and for the maintenance of safety, security and good order in ports, in particular regarding the protection of the environment within ports, the cleaning of land and waters of the ports and the prevention of oil, filth, rubbish or any other matter from being thrown into the sea.

Port Rules

The TNPA has developed Port Rules in terms of the National Ports Act, which came into effect on 6 March 2009. Chapter 4 of the port rules deals with the protection of the environment and provides that all persons within a port must take all reasonable steps to prevent, minimize and mitigate pollution or degradation of the environment.

Any person who pollutes or causes damage to the environment will bear the costs associated with the combating and cleaning up of that pollution, damage or degradation and the associated impacts relating thereto.

Furthermore, no oil may be discharged or dumped from a vessel or be allowed to escape from a vessel into any part of the port. The clean up of pollutants, including oil, which is spilled within port limits must be dealt with in accordance with the applicable Port Contingency Plan.

4.3.3 Department of Environmental Affairs

The Marine Pollution Division of the Department of Environmental Affairs is responsible for, among others, combating pollution incidents, and cleaning up of spills. The Department may also issue directives in terms of the NEMA requiring pollution and degradation to be remedied including the undertaking of clean-up procedures.

In terms of the Policy on the Use of Oil Spill Dispersants in South African Waters, the decision to use oil spill dispersants should only be taken by the Department Environmental Affairs. In the event of a spill incident, the Department's on-scene director in consultation with the scientific advisors, should only decide to use oil spill dispersants if such use will minimize the overall environmental impact.

Oceans and Coast (O&C) is one of the four branches of the Department and it is a regulatory authority responsible for managing all marine and coastal activities. O&C has invested in the development of an oil spill response capability. This allows equipment and man-power to be mobilised at short notice to protect beaches, estuaries, bird colonies and other sensitive areas.

Provincial Departments of Environmental Affairs, such as DEDEA and DEA&DP, have concurrent powers with the DEA in terms of environmental responsibilities.

4.3.4 Municipalities / Local Authorities

Municipalities and Local Authorities also have an important role to play in dealing with oil spills. There exist provisions in South African law that can be invoked to enable municipalities to take appropriate measures in dealing with oil spills.

In terms of the provisions of NEMA dealing with emergency incidents, a relevant authority, which includes a municipality, may direct that specific measures be taken. Where the responsible person fails to comply or inadequately complies with a directive or there is an immediate risk of serious danger to the public or potentially serious detriment to the environment, the municipality may take the measures it considers necessary and claim reimbursement of its reasonable costs incurred from the responsible persons. Such measures would include undertaking clean-up procedures and remedying the effects of the incident.

The National Environmental Management: Integrated Coastal Management Act makes provision for a municipality to institute legal proceedings or take other appropriate measures to prevent damage suffered to coastal public property or the coastal environment. The Health Act also requires local authorities to take measures to prevent the occurrence of any condition which could be harmful or dangerous to the health of any person.

A municipality may also be directed to take specified measures to prevent or remedy adverse effects on the coastal environment in terms of the National Environmental Management: Integrated Coastal Management Act. Where the MEC is satisfied that the municipality is not taking adequate measures, he or she may in writing direct a municipality to take specified measures. Where the municipality does not comply with this directive, the MEC may take measures to prevent or remedy the adverse effects.

4.3.5 South African National Parks (SANParks)

The National Environmental Management: Protected Areas Act, 57 of 2003 provides for the continued existence of SANParks which was established by the National Parks Act, 57 of 1976. SANParks manages all existing national parks as well as various types of protected areas including marine protected areas assigned to it by the Minister. Included among SANParks' functions is to protect, conserve and control the national parks and other protected areas assigned to it, including their biological diversity. SANParks functions would be relevant in relation to oil spills insofar as they relate to marine protected areas.

The Table Mountain National Park (TMNP) falls within the Cape Zone Plan. SANParks manages all activities, species and land within the boundaries of the Park, in terms of the National Environmental Management: Protected Areas Act (57/2003) and National Environmental Management: Biodiversity Act (10/2004). Should oil wash ashore within the boundaries of the Park, the Park is responsible for cleaning, or arranging for the cleaning of the affected area. SANParks has a co-management agreement with DEA (O&C) for the TMNP Marine Protected Area (MPA).

4.3.6 Provincial Nature Reserves

Provincial Nature Reserves are managed in accordance with Provincial Ordinances, as well as the National Legislation listed above. Their functions are to protect, conserve and control the protected areas, especially in terms of biological diversity.

5. FINANCIAL ARRANGEMENTS AND COMPENSATION OF COSTS

South Africa's National Contingency Plan for Prevention and Combating of Pollution from Ships states: "Any response arising from a shipping casualty, whether an intervention of sorts, or an actual clean up exercise, can be very costly and the Republic has no dedicated state pollution contingency fund in place. Initially the costs of such operations fall to those involved in the operations and in line with the "polluter pays" principle may subsequently be claimed as costs and damages from the owner. It is however accepted that small service providers cannot be expected to carry the costs of providing services to the state for any (length of) time and SAMSA, as the responsible authority will assist in enabling a response to get under way, by way of underwriting such actions as it considers necessary in the early phases of any response. This undertaking is severely limited and a better arrangement regarding underwriting the costs will have to be made in the event."

If response operations, as covered by this Plan, are centrally co-ordinated, professionally carried out, cost-efficient and effective, well documented and fully integrated with overall response activities, they have a good chance, in principle, to qualify for compensation of costs incurred. Close liaison with insurers, through SAMSA and DEA, from the start of the response operation is essential. So it is imperative that local authorities participate in the discussions of the Joint Response Committee (JRC) which is chaired by SAMSA during a major shipping incident.

South Africa has acceded to the CLC92 and Fund 1992 Conventions, and through SAMSA has access to claiming protocols of up to approximately R 2.85 billion once enabling legislation is passed. Until then the limit is set at approximately R196 million.

Identifiable Source

In many cases the source of the spill will be identified and the vessel will have P&I Club (3rd Party) insurance cover. This will make the recovery of costs and damages a strong probability, especially if the claims are reasonable and any expenditure has been properly audited and controlled. In the event of the source of oil pollution being identified, the Minister of Transport may require the owners/insurers to establish a fund from which claims can be paid. As soon as possible, DEA should provide SAMSA with an estimation of costs for protection and clean-up operations so that this can be included in the guarantee. Local Authorities should inform DEA of any major costs at the outset and they should be kept updated on costs as they are incurred. It is important to bear in mind the limitation of liability regime that is in place in South Africa. This means that the sum total of costs may therefore not be met in full.

It is quite possible however that there might be no response from the owner and any interventions and clean-ups must be carried out nevertheless. These actions need to be tempered, however, with the reality that these costs may not be recoverable from the owner and that the state would need to be approached for compensation. SAMSA will make every effort to secure assets or funds associated with the owner in cases such as this, in order to mitigate the cost to the state.

Source not identified

If the source of the oil spill is not identified, the cost of clean-up may have to be borne by the State, and SAMSA will approach Treasury for an advance of funds. However, if it can be proved that the oil is a crude oil then compensation can be sought through IOPC. It would therefore be necessary for samples of the oil, or oily sand to be collected for analysis. DEA/SAMSA is responsible for undertaking the oil finger printing analysis. The number of samples taken will depend on the extent of the spill and the requirements of the insurers. A guide on the collecting and storing of samples is provided in Addendum E.

5.1 POLICY ON PURCHASING

In normal circumstances prior approval of the Department of Environmental Affairs is required for the purchase or hire of anything by Local Authorities for which recompense is to be sought. However, in the interests of continuity of an operation where the resources of Local Authorities are insufficient to prevent or remove oil pollution, the Area Controllers (see Section 8.4.2) may, within reasonable limits, purchase or hire additional equipment, purchase consumable materials, employ additional labour or engage the services of contractors without such prior approval, but are to advise the DEA Shore Controller or the JRC immediately of such acquisitions. The purchase of capital equipment may, however, only be undertaken after approval through the JRC.

NOTE:
The attention of the Area Controller is drawn to the terms of Sections 5(5) and 5(6) of Act 6 of 1981, entitling the Minister of Transport to enquire into the reasonableness of costs incurred and claims made.

5.2 CLAIMS

The Claims Manual produced by IOPC (April 2005) provides specific information on claiming procedures. The main points are summarised below.

5.2.1 Loss or Damage

All claims for loss or damage shall be submitted to the DEA On-Scene Co-ordinator, who will take the necessary steps to establish that the claim is adequately substantiated and reasonable. Once the details of each claim have been verified, it will be forwarded to the SAMSA Administration Officer for processing.

These claims could include loss or damage to property, grazing lands, livestock, fishing nets, loss of livelihood etc., in the area of the Republic, resulting from the discharge of oil from a ship, tanker or offshore installation and also damage or loss caused by methods used to clean up polluted areas. All claims made must be submitted according to the requirements listed in Appendix I, where an expenditure log sheet template is also provided.

Depending on the nature of the claim, the following information may be required:

- Nature of loss, including evidence that the alleged loss resulted from the contamination.
- Monthly breakdown of income for the period of the loss and over the previous three years. Where possible, monthly breakdown of units (eg kilograms of fish caught and sold or number of hotel rooms let etc) for the period of the loss and over the previous three years.
- Saved overheads or other normal variable expenses.
- Method of calculation of loss.

5.2.2 Measures Taken

Claims for costs of measures taken in respect of protection from, and clean-up of oil pollution are to be submitted to the DEA On-Scene Co-ordinator and are to be fully substantiated by detailed time sheets for labour and machinery, and invoices for material and equipment purchased. Justification for the action taken must be included. It is essential that costs are well documented and that stringent records of expenditure are maintained. Claims should answer the questions: **Who? What? Where? When? and Why?** A brief summary report outlining the nature of the incident and the associated activities should be provided with the claims.

The following information should be provided:

- Delineation of area affected, describing the extent of the pollution and identifying those areas most heavily contaminated (maps, charts, photographs and video tapes).
- Analytical or other evidence linking the oil pollution with the ship (chemical analysis, relevant wind, tide and current data, observation and plotting of oil movement).
- Summary of events, including description and justification of work carried out at sea, in coastal waters and on shore, together with an explanation of why the various methods were selected.
- Dates on which work was carried out at each site.
- Labour costs at each site (number and categories of response personnel, name of employer, hours or days worked, regular or overtime rates, and other costs).
- Travel, accommodation and living costs for response personnel.
- Equipment costs at each site (types of equipment used, by whom supplied, rate of hire or cost of purchase, method of calculation of hire rates, quantity used, period of use).
- Cost of replacing damaged equipment beyond reasonable repair (type and age of equipment, original purchase price, and circumstances of damage, supported by photographs etc).
- Consumable materials (description, by whom supplied, quantity, unit cost and where used).
- Any remaining value at the end of the operations, of equipment and materials purchased specifically for the incident.
- Transport costs (number and types of vehicles, vessels or aircraft, number of hours or days operated, rate of hire or operating cost, method of calculating rates).
- Cost of temporary storage and of final disposal of recovered oil and oily material, including quantities disposed, unit cost and method of calculating the claimed rate.

5.2.3 Claims for environmental reinstatement measures and post spill studies.

In some instances it is possible to enhance the speed of natural recovery after a spill, through reasonable re-instatement measures. The cost of such measures may be accepted for compensation by the IOPC under certain conditions.

Such measures should:

- accelerate significantly the natural process of recovery;
- seek to prevent further damage as a result of the incident;
- not result in degradation of other habitats or adversely affect other natural or economic resources;
- be technically feasible;
- not result in costs being out of proportion to the extent and duration of the damage and the benefits likely to be achieved.

The IOPC Fund may contribute to the cost of studies to determine the nature and extent of environmental damage caused by an oil spill or to determine whether reinstatement measures are necessary. Usually this would be appropriate for major incidents only, and if the studies are likely to provide reliable and useful information. Strict conditions apply; the IOPC should be consulted at an early stage, and a scientific committee should be established to co-ordinate such studies.

5.2.4 Checklist for oil spill claims procedure

Item	Responsibility	Check
Identification of vessel owner/insurer	SAMSA	
Determine level and details of insurance	SAMSA	
Analysis of spilled oil. Crude oil / bunker oil?	SAMSA, DEA	
Owner/Insurer guarantee secured	SAMSA	
SA Treasury funding request (if no insurance cover)	SAMSA/DEA	
Owner/Insurer requested to attend JRC	SAMSA	
Response activities agreed at JRC	SAMSA, DEA, Owner/Insurer, Stakeholders (local authorities)	
Record of decision signed (template in Appendix V)	SAMSA, DEA (Insurer can be asked to sign, but not essential)	
Keep strict records of all activities undertaken. "Who? What? Where? When? Why?" (see Appendix I)	Each Claimant: SAMSA, DEA, Stakeholders (local authorities and individuals)	
Maintain file of all invoices and receipts	Each Claimant: SAMSA, DEA, Stakeholders (local authorities and individuals)	
Compile summary claim report	All Claimants: SAMSA, DEA, Stakeholders (local authorities and individuals)	
Submit claim to DEA for verification (to include summary report, record of activities and copies of invoices and receipts)	All claimants: Stakeholders (local authorities and individuals)	
Verification of all local authority and individual claims	DEA	
Compilation of summary claim report for environmental response.	DEA	
Approved claims submitted to SAMSA	DEA	
Claims submitted to Owner/Insurer or Treasury	SAMSA	
Negotiations and discussions of claims with Owner/Insurer or Treasury	SAMSA, DEA, Owner/Insurer, Treasury	
Payment of claims	Owner/Insurer, Treasury	

6. PREPARATORY ACTIVITIES

6.1 DEPARTMENT OF ENVIRONMENTAL AFFAIRS

The Deputy Director: Marine and Coastal Pollution Management and his delegated Marine Pollution Officers, marked with an (*) in Section 7.1.3, are responsible for the preparation, improvement and updating of the Local Coastal Plans on an ongoing basis. In addition, they must ensure that the departmental organisation is maintained at a sufficient state of readiness to cope with an incident, and also be available to assist the Local Authorities with training activities when so required. Concurrent powers are held by the Provincial Departments of Environmental Affairs.

6.2 MUNICIPALITIES / LOCAL AUTHORITIES

The Local Authorities in this area have nominated the Head: Disaster Risk Management Centre, City of Cape Town, to act as the Local Authority Co-ordinator, during an oil spill incident in this area (see Section 8.4.1 for job description). In addition to his/her duties during a spill, this officer will be responsible on an ongoing basis for ensuring that the Local Authorities in this Zone are fully prepared to respond to an oil spill incident. He/she therefore has to be fully conversant with this plan, and must ensure that information regarding equipment and material, telephone numbers etc, is kept up to date. His contacts within the Department of Environmental Affairs are the Marine Pollution Officers in Cape Town.

For each of the protection measures set out in Section 10, the relevant Municipality / Local Authority's Line Departments must each compile a plan detailing how the task can be completed in the shortest possible time. The authorisation for the release and allocation of emergency funds is an important factor to be considered during the planning process. Detailed plans are also required for clean-up operations if these are unique. The Department of Environmental Affairs (Marine Pollution Officers) will assess the viability of these proposed plans in relation to the availability, quantity and effectiveness of the materials, equipment and labour readily available, and make recommendations where necessary. The plans, once accepted, will then form part of this Oil Spill Contingency Plan.

6.3 TRAINING AND EXERCISES

The Department of Environmental Affairs is responsible for ensuring that training is undertaken by those bodies involved in carrying out this Contingency Plan. Without such training, the plan has little value. The Marine Pollution officers shall be trained to the relevant levels commensurate with their roles and responsibilities, as recommended in the table below.

Responsible officer	Role	Training
Deputy Director and Assistant Director: Marine and Coastal Pollution Management	On-Scene Co-ordinator	IMO Level 2 – Response to Marine Oil Spills: Course for On-Scene Commanders and Executive Commanders (having completed previous levels).
Pollution Officers	Shore Controller, Env. Liaison Officers	IMO Level 2 – Response to Marine Oil Spills: Course for On-Scene Commanders. Ability to control and put a specific contingency plan into action (having completed previous levels).
Pollution Officers, Pollution Technicians and Artisans	Logistics Officers, Beach supervisors,	IMO Level 1 – Ability to act as shoreline clean-up supervisor/beachmaster. IMO foundation level – Basic use of Tier 1 sorbents, booming and recovery techniques and understanding contingency plans.

Table showing level of training for DEA: Marine Pollution Officers

Local Authorities are required to ensure that persons appointed to the various tasks are familiar with their responsibilities, duties, powers and to whom they will be accountable during the incident. Enquiries regarding training should be addressed to the DEA (Marine Pollution Officers).

Simulated exercises are an excellent way to test the effectiveness of this Plan and train personnel in the emergency roles. In the absence of any large spill, DEA is committed to undertaking a desk-top exercise once a year to ensure that managers and responsible officers are aware of the procedures and response strategies incorporated in this Plan. Exercises will be arranged to test some or all of the following: call out procedures, contact details, equipment supply lists, setting up the response organisation and facilities, communications, media liaison and relationships with other authorities.

DEA will also commit to assist local authorities with training exercises in their respective zones. Bearing in mind that there are 25 Zones, it is prudent for DEA: Marine Pollution Officers to aim towards arranging or participating in training exercises every second year in each of the zones. These could take the form of desk-top exercises, video assisted training or clean-up/boom deployment exercises on the shoreline. By selecting one Zone and its neighbours for one trip, it may be a good idea to undertake a video training event in one Zone, a booming exercise in a neighbouring Zone and a desktop exercise in the other neighbouring Zone. By extending invitations to local authorities in all three zones, role players would have the opportunity to partake in various training events.

The proposed training exercise schedule is provided in the table below.

Time frame	Type of exercise	Participants
Every Year	Desk Top Exercise	DEA:O&C and invited partners
Year 1	Desk Top Exercise or Video Training or Beach cleanup or booming	Local authorities and associates in the following zones: West Coast, Swartland, Cape, Caledon (Overstrand); Humansdorp, Dias, Amathole (including Ciskei), Scottburgh, Amanzimtoti, Durban and Ballito.
Year 2	Desk Top Exercise or Video Training or Beach cleanup or booming	Local authorities and associates in the following zones: Agulhas, Langeberg, Mossel Bay, Knysna, Transkei, Port Edward, Margate, Port Shepstone Pennington, Lower Tugela, Tugela, Richards Bay and St Lucia.
Every 5 years	National exercise in one of the Zones to tie in with major revision of the Contingency Plans.	DEA:O&C, SAMSA, TNPA; and relevant local authorities

Table showing schedule for proposed training exercises.

Full debriefing sessions following the exercises should be undertaken in order to highlight deficiencies, improve or update this Contingency Plan. Lessons learnt should be shared with other local authorities.

An exercise and training template is provided in Appendix III and should be completed accordingly.

7. INITIAL REPORTING AND ACTIVATION OF THE PLAN

The initial procedures during an oil spill incident are of the utmost importance, since they can determine the success or failure of the response operation. It is essential that accurate information is obtained and that key personnel are notified accordingly.

All oil spills at sea are to be reported to SAMSA and DEA Marine and Coastal Pollution Management (MCPM). Oil spills on the shoreline, or oiled penguins must be reported to DEA: MCPM, who in turn will notify SAMSA. If the coastline or seabirds are likely to be effected, MCPM will notify the Local Authorities and SANCCOB accordingly. The notification regime is illustrated in figure 2 below.

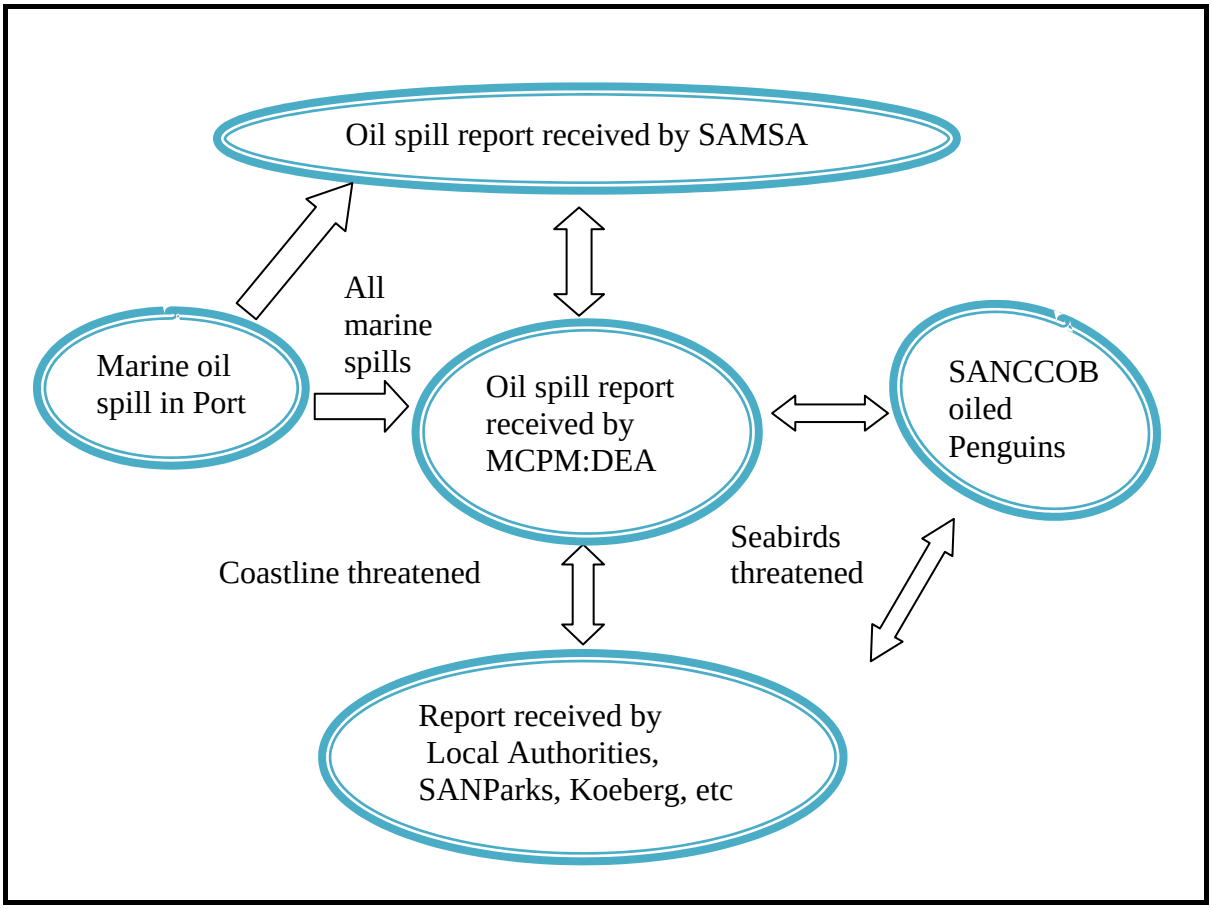


Figure 2: Requirements for initial reporting of oil spills.

7.1 REPORTING OF OIL SPILLS

The first indication of an oil spill may come either from a report from a vessel or the sighting of an oil slick at sea, or from an observation of stranding or stranded oil. Often, the first warning of an oil spill is through the observation of oiled penguins on the colonies, and subsequent reporting through island staff or SANCCOB.

7.1.1 Initial Reports by Local Authorities

Stranding or stranded oil and in some cases a sighting of oil at sea may be reported directly to Local Authorities. On receipt of such a report, the Local Authority should make an immediate investigation to obtain as much information as possible. Having assessed the validity of the report, the Local Authority is to inform the DEA Pollution Officers listed in Section 7.1.3. An incident report form to be used by the local authority is provided below

If contact cannot be made with any of the DEA Pollution Officers, then the Local Authority must make contact with one of the SAMSA Officers following the sequence listed. Failing this the **City of Cape Town's Disaster Operations Centre (DOC)** should be contacted.

LOCAL AUTHORITY OIL SPILL INCIDENT REPORT FORM

Date and Time of Spill, or Spill Sighting.....…….....……...……

Reported by: NAME:…...……..... TEL: .....……

Reported to: NAME……..... TEL: .....

Officer Responding: NAME:……..... TEL: .....…..

Precise location of where oil was seen: (e.g. name of beach or geographic co-ordinates)

.....

Description of location: (e.g. sandy beach/rocky shore, amenity value, environmental sensitivity etc)

.....

Extent and nature of oiling: (e.g. length, breadth, thickness, % area covered, tar balls, fresh liquid oil, penetration into the sand, colour etc)

.....

Estimated wind speed and direction: .....

Estimated quantity of oil spill.

less that 50 litres	50 to 100 litres	100 to 1000 litres	1 to 7 tonnes	7t to 70 t	more than 70 t

Cause of spill (if known): …….....…….....

Response required: | sorbents | booms | skimmers | manpower | beach clean-up, other..... |

Comments:

7.1.2 Initial Reports by Department of Environmental Affairs

In the event of SAMSA or the Department of Environmental Affairs receiving a report from a vessel or a report of a sighting of an oil slick at sea, they will assess the probability of the shoreline being impacted by oil. If such a threat exists the Department of Environmental Affairs will endeavour to determine:

- the stretch of coastline likely to be impacted,
- the probable time of the initial impact,
- the anticipated magnitude of the impact.

In the event of a major spill, the Department of Environmental Affairs will alert the Disaster Operations Centre: City of Cape Town, who in turn will alert all the relevant role-players.. The DEA Pollution Officers should follow up the notification process to ensure that all relevant local authorities have been advised.

The threat situation will be under constant review and the Local Authorities will be advised of each revision, by the DEA Deputy Director: Marine and Coastal Pollution Management, or his delegated officer.

Should the Department of Environmental Affairs receive the initial report of stranded oil, it will either send one of its own officers, or, when there is no such officer in the vicinity, request the appropriate Local Authority to verify such report before proceeding further. If necessary, aerial surveillance will be initiated by the DEA OSC. The initial response actions are illustrated in the diagram below.
(See Figure 3).

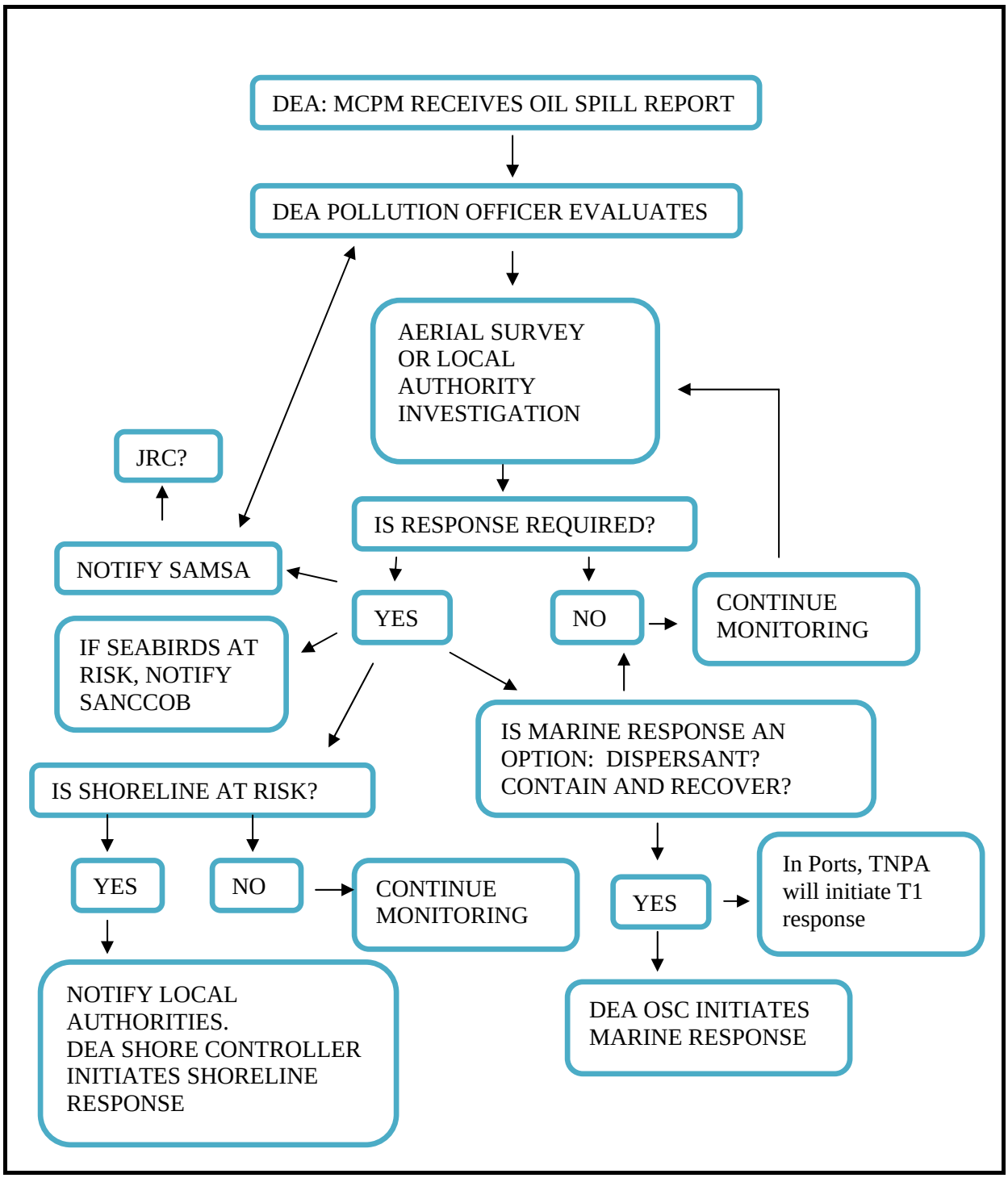


Figure 3: Diagram illustrating initial DEA response actions.

7.1.3 Initial Report Call Numbers

TELEPHONE LIST FOR REPORTING OIL SPILLS

Organisation	Office Tel	Fax	Cell
DEPARTMENT OF ENVIRONMENTAL AFFAIRS: MCPM			
* Marine Pollution Officers: Dr Yazeed Petersen (DD) Feroza Albertus-Stanley (AD) Marine Pollution Officer	 021 819 2450 021 819 2457	 021 819 2445 021 819 2445	 083 530 3127 072 173 6234
SAMSA			
WESTERN REGION Capt Dave Colly	 021 421 6170	 021 419 0730	 082 812 2997
Cape Town: Capt G Louw	 021 421 6170	021 419 0730 086 696 9074	083 227 0721
Saldanha Bay Mr. Martin Slabber	 022 714 1612	 022 714 3635	 082 789 6764
Southern Region Capt N. Campbell	 041 582 2138	 041 582 2130	 083 309 6053
Port Elizabeth: Mr B Colenutt (PO)	 041 585 0051	086 616 3205 041 582 1213	 082 445 3167
East London Capt P Kroon (PO)	 043 722 4120	086 615 8659 043 722 2264	 082 445 3166
Mossel Bay Mr. Dave Manley	 044 690 4201	086 616 3370 044 691 1206	 082 477 1813
EASTERN REGION. Capt. Saroor Ali	 031 307 1501	086 616 3205 031 306 4983	 071 686 9593
Durban: Mr. Grant Conway	 031 307 1501	086 615 7055 031 306 4983	 082 449 6350
SAMSA: Maritime Rescue Co-ordination Centre MRCC 24 Hours Operation 021 938–3300 24 Hours Operation 021 938 -3309 Fax			
Mr A Botes	021 - 938 3310	086 616 4415 021 938 3319	083 254 2944
Head: Centre of Sea Watch Mr. Karl Otto	 021 938 3317	086 654 4742 021 938 3319	 082 812 2991
Duty Controller (all hours)	021 938 3300	021 938 3309	
City of Cape Town: Disaster Operations Centre (DOC):			
Duty Officer (all hours) Alternate: 107 PEC	0800 911 4357 0800 112 4357 107 (from Telkom line) 021 480 7700(from cell)	021 597 5025	

7.2 LEVELS OF RESPONSE AND ACTIVATION

In this Plan, the combating response shall be organised according to the following levels of response as described in the National Plan and illustrated in the diagram below:

a) A **Tier 1** response is where the containment, clean-up and rescue of contaminated fauna can be dealt with within the boundaries of the vessel, berth or a small geographical area where the incident has no impact outside the operational area but poses a potential emergency condition. Such an incident covers a small spill that can be contained and cleaned-up by the ship, terminal, port, or local authority staff using their own resources. The most common type of Tier 1 response deals with an incident occasioned during a ship bunkering operation or a small quantity of oil from an unknown source impacting the shoreline.

b) A **Tier 2** response is where the nature of the incident puts it beyond the containment, clean-up and rescue of contaminated fauna capabilities of the ship, terminal operator or the Local Authority. The containment or clean-up requires the use of some of or all the government and industry resources. It could be near or some distance from operational centres. The incident is usually associated with shipping activities in ports or harbours, coastal waters, pipelines, tank failures or near shore explorations and production operations.

c) A **Tier 3** response is where the nature of the incident puts it beyond containment, clean-up and rescue of contaminated fauna capabilities of a national or regional response. It is usually a large spill which has the probability of causing severe environmental and human health problems. The response will require assistance from outside the country. Such an incident becomes a major international affair involving a number of aspects of government. When responding to an incident of this nature, strategies outlined in the National Plan should be engaged.

The Tiered Response *(from IPIECA)*

Large spill			TIER 3
Medium spill		TIER 2	
Small spill	TIER 1		
Response required	Local	Regional/ National	National/International

In reality, spills do not fall into convenient categories. It is therefore important to be prepared to initiate at the higher tier as soon as possible, as it is easier to stand down an alerted system than to try to escalate a response at the last moment.

7.2.1 Department of Environmental Affairs Response

Once the Department of Environmental Affairs has assessed the initial report, and found it necessary to initiate a response, the organisational structure outlined in Fig. 4 (Section 8.1) will come into effect. The functions of the officers concerned are described in Section 8.2.

7.2.2 Local Authorities Response

If, during the evaluation of the spill by the Department of Environmental Affairs, it is established that there is a threat to the coastline, the Department will inform the relevant Local Authorities accordingly. The sequence of steps that will take place and activities required of Local Authority Officers are described below and in Section 8.4. Their relationship to the Department of Environmental Affairs is described in Section 8.3.

ALERT - If a threat is present, but not imminent, the Department of Environmental Affairs will request the Local Authorities to inform their key personnel (i.e. those who may be involved) who are to remain contactable. SAMSA, in consultation with DEA will decide whether it is appropriate to assemble a Joint Response Committee

MOBILISATION - As the threat draws closer, the Local Authorities will be requested to begin moving equipment, materials and labour onto site.

IMPLEMENTATION - As the impact of oil becomes imminent, the Department of Environmental Affairs will authorise the deployment of equipment, labour and materials.

If the Local Authority feels the implementation of specific protection measures cannot be delayed, authority to proceed can be obtained from the Dept. of Environmental Affairs by telephone. It must then be confirmed later by fax or email to the Dept of Environmental Affairs, quoting date, time, person contacted, and action implemented. If difficulty is encountered in contacting the Dept. of Environmental Affairs such requests may be channelled through SAMSA or the Disaster Operations Centre of the City of Cape Town.

REVIEW - Local Authorities are to review the clean-up operations continually, to ensure that the operations being carried out are cost effective. The Department of Environmental Affairs or the Joint Response Committee, will continually review the overall threat situation, re-evaluate the response decisions, and advise the Local Authorities accordingly.

TERMINATION - Once the threat has passed, the Department of Environmental Affairs will decide, through the Joint Response Committee, at what stage the clean-up operations will cease and the protective works that were installed can be removed.

8. ORGANISATION

8.1 DEA and SAMSA ORGANISATION

The DEA Oil Spill Response Organisation and its linkage to SAMSA are presented schematically in Figure 4 below. This organisation is only effective for the duration of an oil spill. Depending on the spill scenario, individual personnel will undertake each of the following functions:

- DEA On-Scene Co-ordinator
- DEA Shore Controller
- DEA Logistics Officer
- DEA Environmental Liaison Officer
- DEA Media Officer
- SAMSA Operations Manager
- SAMSA Administration Officer

For limited spills, the functions above may be combined and undertaken by a smaller number of Departmental Officers. During a spill, this team will meet regularly through the JRC for the purpose of planning, reviewing and managing the operation.

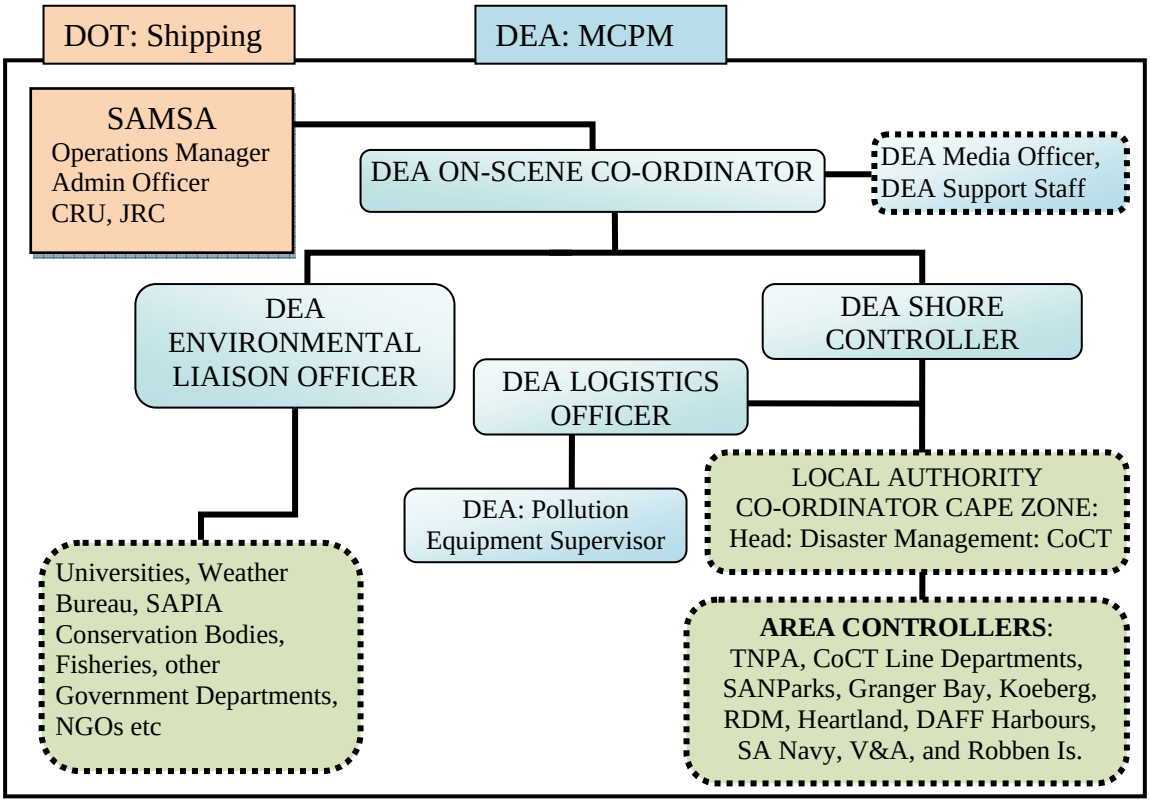


Figure 4: Diagram showing the DEA Response Team and Associated Links

8.1.1 Joint Response Committee (JRC)

The Joint Response Committee is convened on the instruction of the SAMSA Operations Manager, usually for Tier 2 or Tier 3 incidents, after consultation with DEA and other major role players. The JRC is chaired by SAMSA's Operations Manager or, the DEA OSC if no shipping casualty is involved. The role of the JRC is to:

- bring together all major role players to discuss and agree to plans for prevention and combating of oil pollution during the incident;
- co-ordinate all operations and approve expenditure to ensure prompt payment by insurers;
- meet regularly, usually daily, but will decrease as the urgency abates;
- provide a co-ordinated and factual response to the media and arrange press conferences with major stakeholders.

The convening of the JRC and establishing the JOC with communications and facilities will be undertaken by the Casualty Response Unit (CRU) if a shipping incident is involved. Where a CRU is not involved the DEA OSC and/or the SAMSA Operations Manager will establish the JOC.

The protocol for the management of the JRC is provided in the National Plan. A record of decisions taken at the JRC should be provided after each meeting. (See example in Appendix V)

The following representatives will make up the JRC, as relevant:

- SAMSA Operations Manager or delegated Officer (Chair)
- Ships Owner / Insurer
- Independent Auditor
- DEA On Scene Co-ordinator (Alternate Chair)
- DEA Environmental Officer
- SAMSA Admin Officer
- Local Authority Co-ordinator
- TNPA
- Area Controllers
- Media Officers
- SANCCOB representative

8.1.2 Casualty Response Unit (CRU)

In the event of there being a significant maritime involvement resulting from a shipping incident, such as salvage of stricken vessels, SAMSA will establish a Casualty Response Unit. This could either be set up in conjunction with JOC or at another convenient location such as the Port Control Centre located at the Port of Cape Town. This unit will be equipped with the necessary telephones, radios, maps, charts, state boards etc., and will serve as the operational headquarters for the following persons:

- SAMSA Operations Officer
- Senior ship surveyors
- Naval architect
- SAMSA legal officer
- SAMSA administration officer
- TNPA representative (if a Port is involved)

The SAMSA CRU team shall undertake the following actions:

- Determine the name and contact details of the vessel's owner;
- Establish the insurance status of the vessel and the name of the P&I Club, if any;
- Request details of the fuel oils and other harmful substances on board;
- Evaluate the specific threat of the pollution posed by the vessel in respect of her bunkers and/or cargo on board;
- Obtain any additional particulars, calculations or considerations required by the Operations Manager;
- Convene a JRC and establish a JOC with communications and facilities;
- Obtain a cargo manifest for the ship;
- Prepare press releases;
- Inform affected authorities and parties; and
- Where appropriate, represent SAMSA as part of any active intervention aboard the ship casualty.

8.2 JOB DESCRIPTIONS OF DEA AND RELEVANT SAMSA OFFICIALS

For convenience, the following are called Job Descriptions, but are solely to inform Authorities of the pertinent tasks that will be undertaken by the officers assigned these functions for the duration of the incident. For reasons of brevity and clarity, the responsibilities and tasks that fall outside the direct activities for preventing and combating pollution of the shoreline by oil are omitted.

8.2.1 DEA On-Scene Co-ordinator

- Determine whether the shoreline is at risk of being impacted by oil.
- Having established that the shoreline is at risk, determine:
  - the probable time and site of the initial impact;
  - the anticipated magnitude of the impact;
  - the probability of a fire hazard;
  - the level of response required: Tier 1, 2 or 3 and the response required by each local authority (ALERT, MOBILISATION or IMPLEMENTATION).
- Inform SAMSA and decide on the requirements of a Joint Response Committee. In light of the above, establish the departmental Response Team and decide on the location for the control centre as set out in Section 8.5.
- Agree on response actions required, with other stakeholders and monitor these activities.
- Decide on deployment of DEA equipment and resources: aerial surveillance, booms, skimmers etc., as required.
- Co-ordinate the subsequent activities of the Response Team, including setting up daily meetings, and representing DEA at the JRC.
- Activate the systems for receipt of air surveillance observations, weather forecasts, satellite imagery and other day-to-day information at the control centre.
- Continually gather facts for re-evaluating the situation, and inform other members of the Response Team and Local Authorities of any changes in the level or approach of response measures.
- Obtain approval for steps where financial implications are involved.
- Ensure that accurate records of events are being kept.
- Arrange for the disposal of collected oil and oily debris after consultation with the relevant authorities.
- Keep Shore Controller informed of all developments at the JRC.

8.2.2 DEA Shore Controller

- Advise the Local Authorities of the levels of response required.
- When necessary, establish a Shore Control Centre.
- Ensure, where possible, that the recommended priority protective measures are implemented timeously. Advise on boom deployment.
- Ensure that the protection and clean-up of the shoreline is commensurate with the minimum of environmental damage.
- Control the shoreline clean-up to achieve maximum cost effectiveness with the resources available.
- Ensure that the Area Controllers (See Section 8.4.2) keep proper and accurate records.
- Keep the DEA OSC and Environmental Liaison Officer informed of all shore-based response operations.

8.2.3 DEA Logistics Officer

- Immediately upon appointment, ascertain the availability of the equipment listed in Section 12 from the Local Authority Co-ordinator for this zone as well as for the adjoining zones and establish requirements for DEA equipment.
- Bring into operation and maintain the communications network at the extent authorised.
- Continually maintain an up-to-date data bank on the availability and deployment of equipment and materials in the zones under threat of impact of oil as well as in the adjoining zones.
- Arrange for procurement of additional materials and equipment as may be required by DEA Shore Controller.
- Within the framework of government policy make all the required arrangements for the transport and accommodation of Departmental Officers.

8.2.4 DEA Environmental Liaison Officer

- Co-ordinate collection of information regarding environmental matters e.g. ecological sensitivity of areas, weather predictions etc and ensure that the JRC remains informed.
- Supply DEA On-Scene Co-ordinator with all relevant information.
- Liaise with environmental experts, NGO’s and I&AP’s.

8.2.5 DEA Pollution Equipment Supervisor

The DEA pollution equipment is held at the DEA Pollution Store in Paarden Island in Cape Town. The store is manned by one supervisor and two artisans. The supervisor is responsible for:

- Maintaining a register of all equipment;
- Ensuring equipment is well maintained and ready for deployment;
- Adhering to maintenance schedules for all equipment;
- Loading and dispatching equipment when required;
- Assisting with deployment of equipment when required;
- Ensuring staff are adequately trained to handle equipment;
- Keeping records of where and when equipment is deployed;
- Ensuring equipment is cleaned or replaced after each incident.

8.2.6 DEA Media Officer

- Liaise with other organisations in terms of media response.
- Provide press releases, press meetings and photographic opportunities, working through JRC where appropriate.
- Participate in daily operational meetings.
- Ensure Website is maintained and updated.
- Co-ordinate VIP visits.
- Maintain archive of media response for permanent record.

8.2.7 SAMSA Operations Manager

- Where appropriate will set up a Casualty Response Unit.
- Convene a JRC and establish a JOC with all communications and facilities.
- Co-ordinate and supervise all technical activities relating to a shipping casualty.
- Supervise any oil transhipments.
- Co-ordinate legal and financial aspects relating to an incident, in collaboration with Legal Adviser and SAMSA Administration Officer.
- Consult with DEA On-Scene Co-ordinator in matters relating to environmental considerations connected to a potential or actual oil spill.

8.2.8 SAMSA Administration Officer

- When required, with the assistance of the DEA On-Scene Co-ordinator and the SAMSA Operations Manager, negotiate and arrange for guarantees/undertakings to be obtained from owner / agents / insurance representatives.
- Undertake the task of minute's secretary for meetings called by JRC.
- Maintain separate, complete and up to date records of all technical and environmental activities pertaining to the spill incident and of expenditure incurred by all parties involved.
- Attend to the purchase of consumables and capital equipment required by both the SAMSA and Department of Environmental Affairs after having obtained the necessary authorisation.
- Receive and authenticate all claims for loss or damage as envisaged either in Section 9(1)(a) or Section 9(1)(c) of Act No.6 of 1981 and process for payment.
- Receive and authenticate all statements of account for protection measures taken and clean-up costs incurred by Local Authorities and parties contracted to SAMSA or Department of Environmental Affairs and process for payment. (Claims relating to coastal protection and clean-up are to be channelled through the Department of Environmental Affairs before processing.)

8.3 LOCAL AUTHORITIES ORGANISATION

In the event of an oil spill, Local Authorities are required to take certain actions and nominate certain persons in order to be able to respond effectively to the spill.

In this Zone, the Head: Disaster Management Centre of the City of Cape Town will be the Local Authority Co-ordinator (See Section 6.2 and 8.4.1). In addition, when alerted, all Local Authorities concerned must nominate officers from within their organisations to become Area Controllers, Response Officers and Administration Officers for the duration of an incident. The inter-relationships of these officers, whose efforts will be supervised by the DEA Shore Controller, are depicted in the organogram in Figure 5. The Area Controllers (for areas A-H as indicated in Section 10) will co-ordinate the activities of the Site Officers.

In terms of response actions, the Local Authorities will be required to provide assistance in the form of supervision, labour, transport and equipment for the protection and clean-up of their beaches and estuaries as set out in Section 10. They will also be responsible for making arrangements with local Traffic and Police Officers to ensure traffic and crowd control in the vicinity of the impacted area.

8.4 JOB DESCRIPTIONS OF LOCAL AUTHORITY OFFICERS

As in Section 8.2, the Job Descriptions prescribed here include only those tasks to be undertaken by the appointed officers in the event of an oil spill incident.

8.4.1 Local Authority Co-ordinator

- Establish and maintain the communications network between DEA Shore Controller and Area Controllers.
- Provide the DEA Logistics Officer with information on the present deployment of equipment in the Zone and the availability of other equipment within the Zone.
- Represent local authorities at JRC if necessary.
- Co-ordinate the supply of equipment between Local Authorities.
- Ensure adequate traffic and crowd control.
- Issue permits to DEA personnel and scientific advisers to allow free access to shoreline.
- Undertake preparatory activities as listed in Section 6.2.

8.4.2 Area Controller

- Supervise shoreline protection and clean-up measures and ensure effective control of work parties on site.
- Obtain approval for purchase of capital equipment.
- Procure consumables, labour and machinery hire.
- Ensure that time sheets for charge hands, labour and machinery are kept on an hourly basis.

8.4.3 Site Officer

- Supervise clean-up teams.
- Keep log of manpower and equipment used.
- Collect samples.
- Keep Area Controller informed of progress and areas requiring special attention.

8.4.4 Area Administration Officer

- Maintain time sheets for charge hands, labour and machinery on an hourly basis and the tasks performed against these time sheets.
- At the end of the incident, provide a full report on the operations undertaken and detailed costing of each operation.

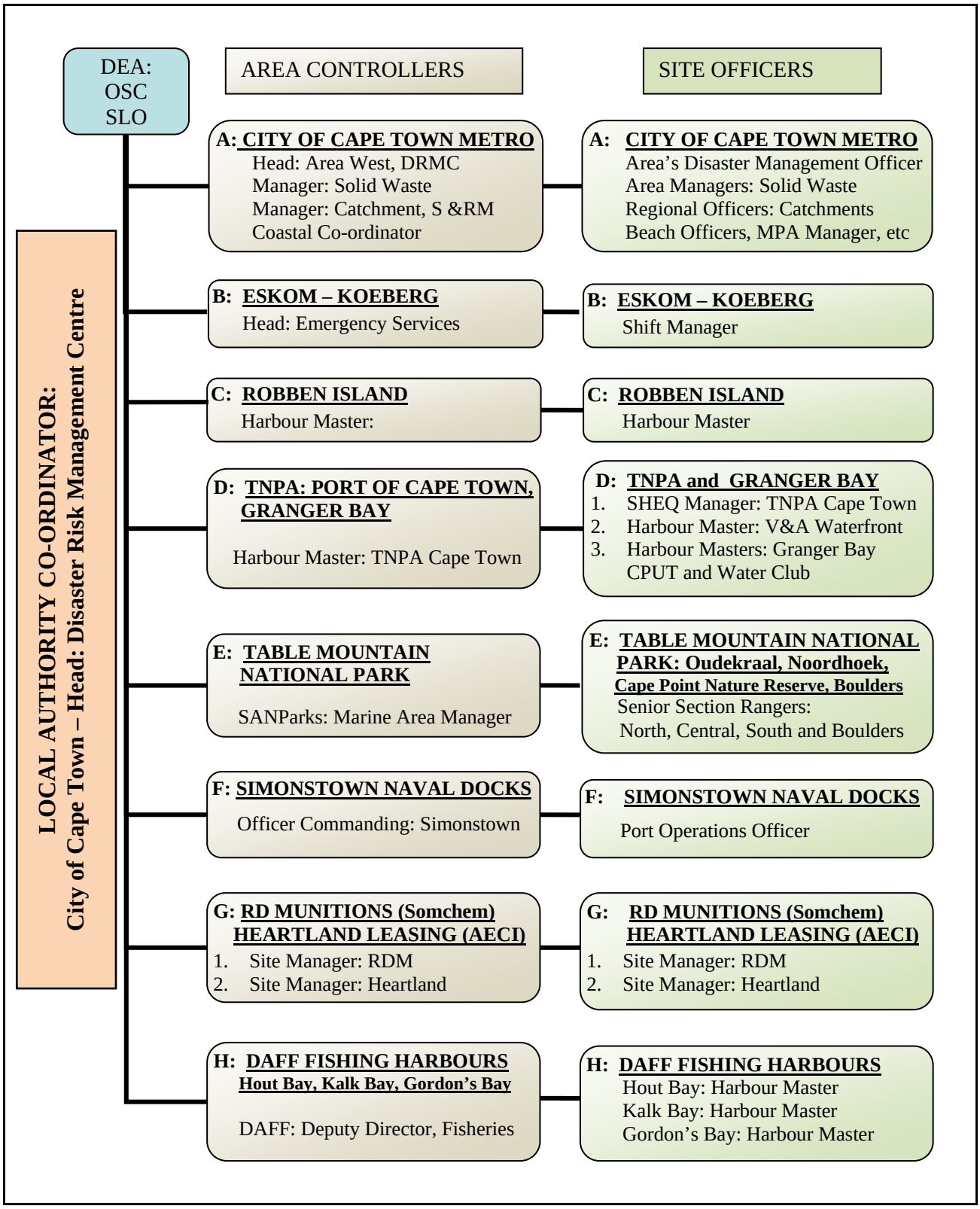


Figure 5. Diagram showing the Local Authority Organisation for Areas A-H (in Section 10)

8.5 FACILITIES

8.5.1 Joint Operations Centre (JOC)

The Joint Response Committee (JRC) which is described in Section 8.1.1 will operate from the Joint Operations Centre (JOC). The JOC will be established at a suitable venue as close as possible to the response operation, to deal with Tier 2 or Tier 3 spills. In the Cape Zone this would usually be the City of Cape Town's Disaster Operations Centre which is located in Goodwood.

The co-ordination of all shoreline protection and clean-up activities will take place from this Centre. The Centre comprises a sophisticated communications room and operations room from where the co-ordination of manpower and resources will be undertaken during a major oil spill situation. In terms of the CoCT Disaster Risk Management Plan, it acts as the centralised link between all Municipal Departments and Local Authorities involved with this plan, as well as numerous other bodies including the SAPS, SANDF, SABC, EMS / METRO etc.

For smaller incidents, other facilities could be used, such as the local municipality offices.

The JOC will provide the communications and facilities required for the Joint Response Committee. This facility will need to be equipped with telephones, fax machines, photocopier, white boards, computer and email facilities, and all conveniences to run meetings. It would also be useful to have a digital projector and screen for relaying photographic information.

8.5.2 Shore Control Centre (SCC)

In the event of large quantities of oil (Tier 2 or Tier 3 spills) impacting, or threatening to impact the shoreline, a Shore Control Centre will be established at a convenient location. Depending on the circumstances and extent of the operation, this Shore Control Centre may either be established in conjunction with the JOC or as a separate entity. Local Disaster Management Centres or Mobile JOC's or even offices or hotels could accommodate this centre. The co-ordination of all shoreline protection and clean-up activities will take place from this Centre. The same facilities as described for the JOC are required.

The following persons will operate from this facility:

- DEA Shore Controller
- DEA Logistics Officer
- Local Authority Co-ordinator (alternatively at JRC)
- Local Authority Area Controllers (alternatively at JRC)
- DEA On-Scene Co-ordinator (alternatively at JRC)
- DEA Environmental Liaison Officer (alternatively at JRC)

8.5.3 Local Shore Control Centres

In the event of lesser spill situations, where oil has impacted or is threatening to impact the shoreline in restricted localised areas, protection and clean-up operations may be co-ordinated from the Local Shore Control Centre to be established at the time. These Centres are in direct contact with the JOC. The number of officers operating from these centres will depend on the size and range of the spill.
The City of Cape Town Disaster Management is able to provide these detachment units, as needed, through their logistics department.

8.5.4 Mobile Control Units

The City of Cape Town's Disaster Management has mobile units which can be used for on- site co-ordination. These self-contained vehicles are well equipped with radio and conference facilities, and have access to the computer systems of the traffic control and fire departments. They could accommodate the Shore Logistics Officer, Area Controllers, and Area Administration Officers, depending on the circumstances. One of the vehicles has off road capabilities.

8.6 COMMUNICATIONS

8.6.1 Telephone and Cell Phone

This will be the main form of off-site communications between the control centres and other outside agencies or bodies. During high profile incidents, cell phone networks may become jammed due to extensive use by media and response personnel, and other forms of communications may have to be utilised.

8.6.2 E-mail and Website

E-mails are an effective way of distributing information such as press releases, weather reports and photographic accounts from on-site locations. Distribution groups can be set up in the address list at the beginning of the incident to facilitate circulation. Often, personnel are working remote from their normal offices, and hence receipt of emails should not be taken for granted. It is recommended that receipt of emails be confirmed either through follow up phone calls for urgent matters, or by requesting a "read receipt" option.

A website, managed by DEA, with all the relevant information pertaining to the incident is a useful tool for ensuring that the factual information is relayed correctly to the other stakeholders, the press and members of the public. This could be a website dedicated to oil spill response and contingency planning and could include all the oil spill contingency plans. Such a site would be invaluable in keeping local authorities informed of amendments to their plans and for sharing lessons learned.

8.6.3 Radio

Radio facilities may be utilised for communications among the various agencies involved in the oil spill response:

- DEA Officers may communicate between themselves and with the pollution vessels and aircraft by means of their own VHF sets, using the marine frequencies.
- The City of Cape Town Metro has an extensive radio network and, amongst others, is in communication with all the Local Authorities and neighbouring District Municipalities, the NSRI and skiboats via the Harbour Master. The Mobile JOCs are equipped with similar communication facilities.
- SANParks has a limited number of VHF two-way radios which can be used for communication.

8.6.4 Media Response and VIP Visits

A major oil spill is of immediate interest to the local and international media. It is in the public interest, and the interest of all concerned, to keep the media informed as fully and regularly as possible. Failure to consider the media response at an early stage may have serious implications for the management of the whole incident.

A designated DEA media officer (refer to Section 8.2.6) will arrange press conferences and issue regular news bulletins. Information provided should be consistent with other organisations and as accurate as possible. Good co-operation between all press officers is essential, and combined press conferences will be arranged through the JRC. The media must not be allowed to interfere with the operational activity of the emergency operation.

A strategy for interacting with the media should be developed pro-actively, and daily press conferences and news bulletins should be arranged. A media information pack should be prepared prior to any incident. This will facilitate good media relations during an event. An initial pro-forma press holding statement should be prepared by the media officer. A press release/sitrep template is provided in Appendix VI. A dedicated website will provide a reliable source of information, and should be updated regularly.

Whilst staff cannot be prevented from talking to the media, they should be advised to refer all queries to the media officer. If they are hounded by reporters, they should limit their comments to exactly what they are doing and not be tricked into making assumptions or discussing issues on which they are not fully informed. The media officer should be pro-active in facilitating opportunities for the press to interview response personnel.

It is inevitable that, in the case of a major incident, Ministers or other VIP's will wish to visit the site or response centres. The Media Officer should ensure that these visitors are properly escorted and informed, and should advise management and staff of these visits during the daily meetings.

9. RISK ASSESSMENT AND COASTAL SENSITIVITIES

9.1 IDENTIFICATION OF RISKS

The National Contingency Plan describes the risks associated with high volumes of shipping traffic passing around the South African Coast. All maritime traffic, calling at South African Ports or in transit around the coast, presents a risk of marine pollution resulting from collisions, groundings, oil cargo and bunker transfers, structural failure or other operational spills. Various types of oil from light crude to heavy bunker fuels can be released from these types of casualties.

The table below summarises a few of the major incidents which have occurred in or close to the Cape Zone.

Table 9.1 Some major incidents impacting the South African Coast

YEAR	INCIDENT	OIL SPILLED	ENVIRONMENTAL IMPACT
1968	*ESSO ESSEN*	15 000 tons crude oil	3 000 oiled penguins 500 oiled gannets Coastline impacted
1971	*WAFFRA*	15 000 tons crude oil	1 200 oiled penguins Coastline badly impacted
1972	Unidentified vessel	unknown	1 700 oiled penguins
1983	*CASTILLO DE BELLVER*	190 000 tons crude oil	1 800 oiled gannets No coastline impacted
1994	*APOLLO SEA*	2 400 tons heavy fuel oil	Major beach clean-up operation 10 000 oiled penguins
2000	*TREASURE*	1 300 tons heavy fuel oil	Major beach clean-up operation 19 000 oiled penguins 19 500 penguins relocated

Casualties involving bulk cargo carriers have resulted in significant spills of heavy fuel oil (Apollo Sea and Treasure) in the Cape Zone. Although such quantities are low by comparison to potential tanker spills, the heavy fuel oil is more persistent than crude oil and has resulted in major impacts on coastal areas and seabird populations. The length of time the oil has been at sea and the types of weathering it has been subjected to, will change its characteristics, and hence the level of response required.

9.2 HEALTH AND SAFETY

The health and safety of the people involved in the response operation is of paramount importance. All personnel should be made aware of the hazards associated with their activities. Often people will be working in unfamiliar surroundings and, where conditions are particularly hazardous, each participating organisation may need its own safety officer. Protective clothing should be provided. Training and exercises can be used to identify health and safety issues.

The following key risks are associated with oil spill response:

- toxic fumes in confined spaces;
- general stress and fatigue of personnel;
- risks associated with equipment handling;
- falling into the sea (hypothermia or drowning);
- slipping on oily decks or oily rocks;
- risks associated with handling oiled wild life;
- sunstroke;
- back injuries from lifting heavy items.

Stakeholders should identify all the health and safety risks associated with their operations and put suitable mitigatory measures in place.

9.3 VULNERABILITY OF THE CAPE COASTLINE

The stretch of coastline covered by this plan falls within a high-risk area in terms of oil pollution. The Cape is a focal point for all ships trading between the Indian and Atlantic Ocean ports and represents a hazardous area for strandings and collisions. The weather is often hazy and, particularly in winter, characterised by rough seas, mist, rain and fog.

The area falls within a “Special Area” as designated under MARPOL Annex 1. The designation was motivated on the basis that the area is “oceanographically unique and hosts a large number of endemic species. Some of these and other species are classified as threatened under the IUCN ‘Red List’ criteria. Significantly this includes the African penguin (now endangered), Cape gannet, and three cormorant species. Operational oil discharges and spills from international and domestic shipping constitute risks to these species and the environment sustaining them.”

Once oil has been spilled at sea, it drifts under the influence of winds, currents and waves. Since most of the surface and inshore currents around the coast of South Africa are themselves strongly influenced by wind direction and speed, a simplistic prediction of oil movement can be based purely on wind data. Oil tends to move at between 2 and 3% of the wind speed, and at a slight angle to the left of the wind direction.

Southerly to south-easterly winds predominate in summer and north to north-westerly winds in winter. South-east winds will cause oil to enter False Bay if the release of oil takes place to the South East of the Zone.

Conversely north-west winds will cause oil to impact the Atlantic seaboard if the release of oil takes place to the north-west of the Zone.

Flotsam at sea is subject to the same influences as oil. Beaches where such material tends to be deposited will therefore also be those where oil is most likely to come ashore.

The coast is known to be treacherous at times. Severe weather conditions, especially in winter when most incidents occur, can severely impede collection and transport of oiled seabirds, from coastal and island habitats. High seas and high energy surf zones increase the risks associated with oiled seabird response. Accessibility to some areas is often limited and this will determine the type of response required.

9.4 COASTAL SENSITIVITY

Detailed information on the environmental sensitivity of the coast to oil pollution can be found in the Coastal Sensitivity Atlas of Southern Africa. This includes:

- Robben Island and Boulders Penguin Colonies, which are breeding sites for endangered and threatened species such as penguins, gannets, cormorants and other sea birds;
- A number of estuaries and lagoons which are important for bait organisms, fish, water birds and recreational amenities;
- Marine reserves and sanctuaries;
- Spawning areas for species such as anchovy and sole;
- False Bay is a calving area for the southern right whales, and otters are common along certain parts of the coast;
- Recreational amenities such as popular beaches, tidal pools, surfing and sailing areas;
- Commercial considerations such as shellfish and seaweed collection, rock lobster catches, demersal and linefish landings.

The whole peninsula area from Green Point to Muizenberg falls within the Table Mountain National Park Marine Protected Area (MPA). The objectives of the declaration of this protected area are to:

1) “Protect and conserve marine ecosystems and populations of marine species;
2) Protect the reproductive capacity of commercially important species of fish, including abalone, rock lobster and traditional linefish and to allow their populations to recover;
3) Promote eco-tourism within the Marine Protected Area.”

Included within this MPA are the following restricted zones where no fishing or harvesting of marine resources is permitted:

- Karbonkelberg
- Cape of Good Hope
- Paulsberg
- Castle Rock
- Boulders
- Kalk Bay

The area between the Lourens River and the Eerste River has also been declared as an MPA. All these protected areas are indicated on the map in Section 10.

9.5 PRIORITIES FOR PROTECTION AND CLEAN-UP

The designation as a "Special Area" will create a larger buffer zone where operational releases of oil from tankers should be kept further offshore to protect sensitive resources. Tankers engaged in coastal trade would be required to retain their slops on board for discharge ashore at established Port reception facilities.

In the event of a major oil spill, large stretches of the coastline may be threatened and, ultimately, impacted by oil. The response to such a spill can be divided into two aspects:

a) Protection
b) Clean-up

In both cases, the resources available for the operation are generally limited. Thus, areas meriting priority attention will have been identified ahead of time. A list of the top priorities is given in Section 9.6, while priority ratings for all sites are given in Section 10.

Priorities are established on the grounds of vulnerability, environmental sensitivity and socio-economic importance.

9.6 LISTING OF PRIORITIES

Two of the priorities in the Cape Zone are the bathing beaches and the rock lobster sanctuary. These can only be adequately protected by the dispersal of oil at sea. Should the oil enter the near-shore zone before it can be dispersed, these two priorities will come into conflict, as the use of dispersants in shallow water is likely to have adverse effects on the rock lobster population. In these circumstances therefore, it might be necessary to allow the oil to come ashore.

A similar situation might arise in False Bay, which is a spawning ground for various fish and squid. Squid in particular are highly sensitive, and it might not be possible to use chemical dispersants during spawning periods.

Threatened species of seabirds such as penguins, gannets and cormorants are also a priority in this area.

Priorities in the Cape Zone are identified as follows:

9.6.1 Protection Priorities

1.	Intakes:	Koeberg Power Station
2.	Estuaries:	Milnerton Lagoon
3.	Seabirds:	Robben Island
		Boulders Penguin Colony
		Noordhoek Tidal Lagoon
4.	Harbours:	Port of Cape Town / V&A Waterfront
		Oceana Boat Club
		Granger Bay Harbour
		Kalk Bay Harbour
		Simonstown Harbour
		Royal Cape Yacht Club
		Hout Bay Yacht Club
		Cape Marlin and Tuna Club
		False Bay Yacht Club
		Gordons Bay Harbour, Yacht Club, Aquatic Club and the
		Harbour Island Marina
		Murrays Bay (Robben Island)

9.6.2 Clean-up Priorities

Should the protection measures have failed, then:

1. Seabird rescue and rehabilitation
2. Estuaries
3. Amenity beaches (some of which have “Blue Flag" and tidal pools.

9.7 STRATEGY FOR PROTECTION AND CLEAN-UP

In managing the response operation, the aims are prioritised as follows:

- first, to prevent pollution occurring;
- second, to minimise the extent of any pollution that occurs;
- third, to mitigate the effects of that pollution.

The DEA On-Scene Co-ordinator, in consultation with SAMSA and the JRC, will decide on the actions required to mitigate the extent of pollution. Initially the DEA surveillance aircraft will be requested to investigate the situation. Decisions will be made regarding the following methods of response:

- Assessing and monitoring;
- Dispersant spraying operations according to strict policy guidelines;
- Mechanical recovery operations;
- Cargo transfer operations;
- Protection of coastal resources;
- Shoreline clean-up techniques.

The aim of the operation is to minimise the damage (environmental, ecological, amenity or financial). The decisions will be based on the following considerations:

- the severe limitations on the effectiveness of at sea recovery techniques;
- the distance from shore of the casualty;
- the type of oil spilled;
- weather conditions and currents;
- the time needed to deploy equipment and resources to the scene;
- environmental sensitivities in relation to clean-up methods.

Oceanographic conditions off the South African coast are not generally conducive to containment and recovery of oil at sea. International experience has shown that it is unlikely that more than 20% of spilled oil can be recovered at sea. Booms and skimmers should therefore only be used in sheltered ports and coastal areas, unless particularly calm conditions prevail offshore.

Booms and barriers will be used to protect sensitive coastal features such as estuaries, harbours and marinas. Where insufficient booms are available, barriers can be constructed from other materials such as straw. Where resources allow, DEA will assist with the deployment of booms in estuaries.

Manual clean-up measures are generally preferred for sandy beaches, to minimise the amount of sand removed. Mechanical equipment, such as bulldozers may be used in situations where the oil is very thick.

Seabirds are particularly vulnerable to oil pollution. Some species such as penguins and gannets can be successfully rehabilitated. One of the preferred strategies is to contain clean penguins within their colonies until the oil is cleared from the area, or to remove breeding pairs to prevent them from becoming oiled. This may separate them from their young, and so chicks may need to be collected for captive rearing.

Further discussion regarding the use of dispersants needs to be initiated by DEA with the other stakeholders. There may be a pertinent case for the early use of dispersants to protect seabird populations. On the other hand, dispersant should not be used close to the seawater intake basin of the Koeberg Nuclear Power Station as this will increase the chance of the oil being taken up with the cooling water. This is a strategic decision that should be made ahead of time, and is in line with the DEA dispersant policy. Criteria need to be established for the Cape Zone, which will facilitate a prompt resolution during an incident.

9.8 SITE SPECIFIC INSTRUCTIONS FOR PROTECTION AND CLEAN-UP

Specific instructions for protection and clean-up of the coastal features of this Zone are given in geographical sequence predominantly from west to east in Section 10. It should be noted that the use of oil spill dispersants is NOT PERMITTED for treating oil that has impacted the shoreline (see Addendum B). In terms of the "Policy on the use of oil spill dispersants in South African waters", the use of dispersants can only be undertaken with approval through DEA (see Addendum F). In short, the policy prohibits the use of dispersants in water depths less than 30 metres and within 5 nautical miles of the coast.

Priorities for both protection and clean-up are indicated in Section 10 by means of the words "high", "medium" and "low" priority ratings.

It will be noticed that in certain areas no clean-up actions are recommended. Exposure to heavy surf action in some areas promotes natural cleansing of both sandy beaches and rocky shores. In addition, there are stretches of the coast which are more or less inaccessible, and clean-up will therefore only be attempted in the event of heavy deposits of oil, from where oil may be refloated and move to estuaries or identified amenity beaches. There may be certain times when it will be necessary to clean beaches which have been assigned a medium or low rating, even if they are only lightly oiled; for example, if an event is to be staged there, or if the beach is used for walking dogs etc.

In some instances, clean-up operations could be more damaging than the oil, and in these instances it might be best to "do nothing."

A map of the whole Zone appears at the beginning of Section 10. Each stretch of coastline on the map is marked with a letter of the alphabet and is apportioned to the responsible local authority for clean-up. In certain cases, abutting Responsible Authorities may be required to undertake clean-up measures for the neighbouring Local Authority, even though these areas do not fall under their jurisdiction. This may be the case where small stretches of coastline are bordered by large stretches or where certain Local Authorities do not have sufficient resources to undertake the required tasks. These areas are marked with a (+) sign in the margin of Section 10.

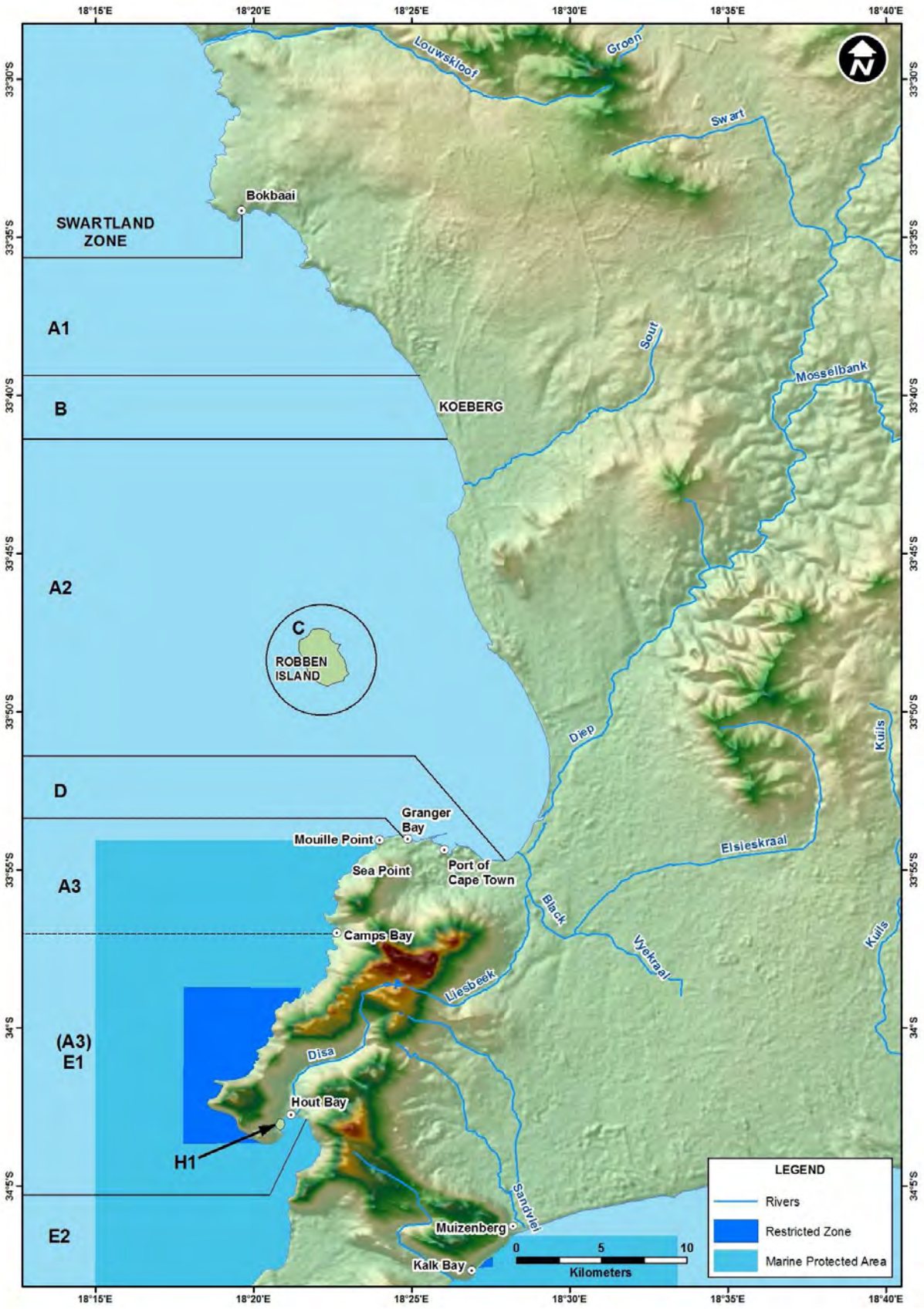
Maps of estuaries, and more detailed instructions referred to under protective action can be found at the end of Section 10. It should be noted that these are the current, recommended procedures and that the linear scales indicated on the estuary maps are approximations only. Should the river mouth conditions have changed, or should the suggested materials not be available, a different approach might have to be adopted.

The Catchment, Stormwater and River Management Branch of the City of Cape Town, must be contacted for advice/input in all cases when river mouths/estuaries, within the Cape Zone, are to be closed to prevent movement of oil into these systems. This is to ensure that there will be no un-intended consequences such as a backup of water which could cause over-bank flooding and possible damage to private properties or City infrastructure. Systems that receive treated sewage effluent generally flow fairly well throughout the year, with marked increases in flow during winter. The dynamic nature of the mouths of some of these systems could result in a new outlet point forming, thus essentially circumventing temporary installed barriers such as sand berms or hay bales. Floating booms may be a better option in some cases.

A range of possible alternatives can be found in the document titled "Emergency Barriers from Materials of Opportunity" (EBMO), but it might be necessary to fall back on individual ingenuity and initiative. General details of methods for protection and clean-up can be found in Addendum B.

Section 10 sets out the protection measures that are to be put into immediate effect when requested by the DEA Shore Controller as well as the clean-up measures that are to take place if the coastline is impacted by an oil spill.

10. MAPS AND SITE SPECIFIC RESPONSES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Mosselbank
A2
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Diep
Kuils
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Mouille Point
Sea Point
Port of Cape Town
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A3
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LEGEND
Rivers
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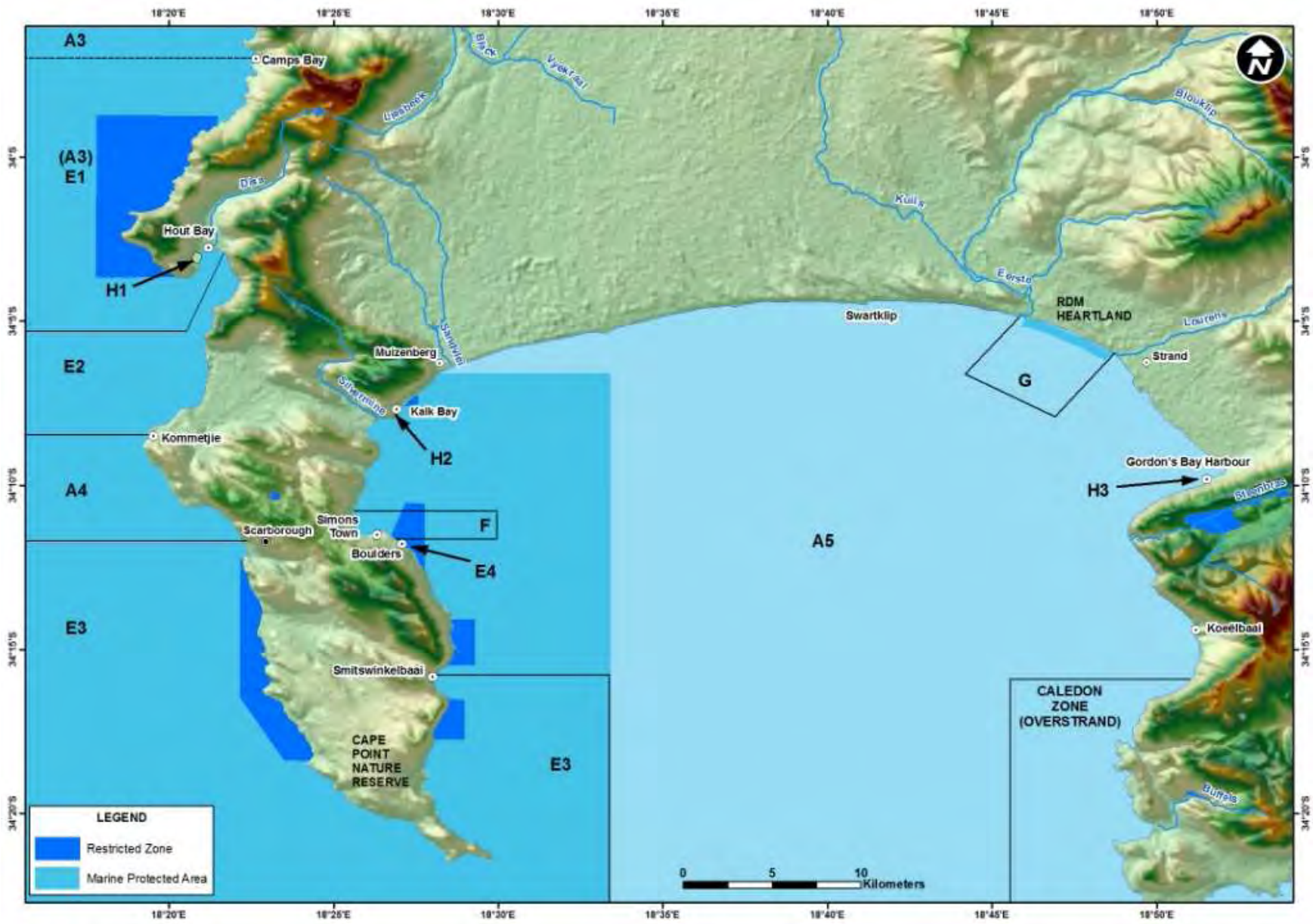

A3
Camps Bay
(A3)
E1
Hout Bay
H1
E2
A4
Kommetjie
Scarborough
Simons Town
Boulders
F
E4
E3
Smitswinkelbaai
CAPE POINT NATURE RESERVE
E3
Muizenberg
Kalk Bay
H2
Swartklip
RDM HEARTLAND
G
Strand
Gordon's Bay Harbour
H3
A5
Koeelbaai
CALEDON ZONE (OVERSTRAND)
LEGEND
Restricted Zone
Marine Protected Area
0 5 10 Kilometers
18°20'E
18°25'E
18°30'E
18°35'E
18°40'E
18°45'E
18°50'E
34°0'S
34°5'S
34°10'S
34°15'S
34°20'S

10. SITE SPECIFIC RESPONSES

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
A to H DEA: OCEANS AND COAST Rock lobster sanctuary (Melkbosstrand to Die Josie) The whole peninsula area from Green Point to Muizenberg is a Marine Protected Area, with the following restricted (no-take) zones: - Karbonkelberg - Cape of Good Hope - Paulsberg - Castle Rock - Boulders - Kalk Bay **SANParks** manages these MPA's on behalf of DEA. The Helderberg MPA between the Eerste River and Lourens River is managed by the City of Cape Town. Shellfish collection.	High High	Attempts will be made to disperse oil if it is far out at sea, but once inshore, dispersant will not be used as this will result in increased exposure of oil to the rock lobster population. Inform public of hazard with respect to consumption of shellfish.	High	Coastal cleanup to be carried out, taking various environmental sensitivities into account. DEA, SANParks, CapeNature and City of Cape Town environmental advisors to be consulted.
A1: BOKBAAI TO KOEBERG **City of Cape Town Metro** Amenity beach at Silverstroomstrand. Remaining beaches accessible by four-wheel drive vehicles only.			High Medium	Clean amenity beaches all year round. Rocky areas to be cleaned of heavy deposits only. Clean medium to heavy deposits only.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
B: KOEBERG NUCLEAR POWER STATION **Eskom** Intake basin for cooling water. Beaches on either side of intake basin. Security restricted area along beach which extends 2 km out to sea.	High	Eskom: Koeberg to be alerted immediately. Eskom Oil Spill Contingency Plan for intake basin to come into operation. See Map 3A. Security clearance required.	Medium	Beaches on either side of intake basin to be cleaned of oil at all times to prevent the oil from refloating and entering the intake basin.
A2: KOEBERG TO BLACK RIVER MOUTH **City of Cape Town Metro** Sout River at Melkbos: mouth normally closed but may open after heavy rains. Amenity beaches between Melkbosstrand and at Blouberg, Big Bay and Little Bay and Milnerton. Long sandy beaches between Blouberg and Milnerton, popular walking area. Milnerton Lagoon: mouth usually open. High recreational usage and productive mud flats. Black River: canalized with limited tidal penetration, and polluted.	Medium High Low	If mouth is open, close as in Map 3B. Inform CSRM Branch: CoCT. Mouth to be closed or boomed, as shown in Map 3C. Inform CSRM Branch: CoCT. If resources are available, a floating barrier can be used to prevent oil entering the canal. See Map 3D. Inform CSRM Branch: CoCT.	High High High Low	Should oil enter the lagoon, the DEA Shore Controller must be advised immediately and clean-up should only be undertaken under supervision Beaches to be cleaned all year round. Should oil enter the lagoon, the DEA Shore Controller must be advised immediately and clean-up should only be undertaken under supervision in conjunction with the Cape Town Metro Coastal Co-ordinator. Clean up should be undertaken to prevent oil being refloated.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
C: ROBBEN ISLAND **Robben Island Museum**		SANCCOB and MCPM must be contacted. Implement Island Bird Contingency Plan (not yet available). Where possible penguins to be contained on Island to prevent them from becoming oiled.		
Penguins and other seabirds	High			
Rocky shoreline with small sandy beaches.			High	Where possible, shoreline to be cleaned of oil at all times, especially on penguin access "highways".
Popular tourist destination with harbour for ferry passenger access.	High	Harbour to be protected using a floating boom or bubble barrier. These are not currently available on the Island and will need to be sourced from DEA. The Harbour should have its own Contingency Plan which would need to be implemented. See Map 3E.	High	Oil to be contained and removed using skimmers or sorbent materials. Jetties to be cleaned using high pressure seawater jets.
D: PORT OF CAPE TOWN and GRANGER BAY **Transnet National Ports Authority**				Contain oil by means of booms and remove using skimmers or sorbent materials. If oil enters yacht basin remove floating oil as quickly as possible.
Table Bay Harbour, including northern coastal stretch to Black River mouth canal. Includes Royal Cape Yacht Club.	High	Implement Port Oil Spill Contingency Plan. Yacht basin entrance to be protected by a bubble barrier. See Map 3F.	High	Rocky area between NE corner of harbour wall and City boundary to be cleaned of medium to heavy deposits of oil by City of Cape Town.
Oceana Boat Club			High	Clean slipway using high pressure seawater jets, and recover released oil.
+V&A Waterfront Development				
Victoria and Alfred Waterfront Basins, with marina development. Popular tourist destination.	High	Liaise with Port of Cape Town and Waterfront Harbour Master regarding protection of basins.	High	Contain oil by means of booms and remove using skimmers or sorbent materials. Harbour walls and jetties to be cleaned using high pressure seawater jets and released oil to be recovered.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
GRANGER BAY HARBOUR **+Cape Peninsula University of** **+Technology and Water Club** Slipway and Marina development with yacht moorings.	High	Implement Harbour Oil Spill Contingency Plan (not currently available). Prevent oil from entering the harbour by means of floating boom or bubble barrier (not available on site). See Map 3G.	High	Contain oil by means of booms and remove using skimmers or sorbent materials. Harbour walls and jetties to be cleaned using high pressure seawater jets, and released oil to be recovered.
A3: MOUILLE POINT TO HOUT BAY (Excluding TMNP see E1) **City of Cape Town Metro** Amenity beaches at: -Mouille Point beach and tidal pool. -Three Anchor Bay beach and tidal pool. -Rockland's Beach -Milton Road Pool -Broken Baths Beach -Sea Point Pavilion -Sunset Beach and Tidal Pool -Queen's Beach -Saunders Rocks Beach and Tidal Pool			 High High High High High High High High High	 Amenity beaches to be cleaned all year round. Tidal pools to be cleaned under all circumstances using high pressure seawater jets. Amenity beaches to be cleaned all year round. Tidal pools to be cleaned under all circumstances using high pressure seawater jets. Rocky areas to be cleaned of medium to heavy deposits of oil.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
High amenity beaches and popular tourist areas at: -Clifton: 1st Beach, 2nd Beach, 3rd Beach 4th Beach -Moses Beach -Bachelors Cove -Maidens Cove Tidal Pool -Glen Beach -Camps Bay Beach andTidal Pool -Llandudno -Sandy Bay -Hout Bay			 High High High High High High High High	 Amenity beaches to be cleaned all year round. Tidal pools to be cleaned under all circumstances using high pressure seawater jets, and recovered oil to be contained and removed. Rocky areas to be cleaned of medium to heavy deposits of oil. Amenity beaches to be cleaned all year round. Rocky areas to be cleaned of medium to heavy deposits of oil.
Disa River (Hout Bay), mouth generally closed, but opens during winter months.	High	In the event of high spring tide build barrier at mouth as shown in Map 3H. If open, bulldoze closed. Inform CSRM Branch.	High	Should oil enter the river the DEA Shore Controller must be advised and clean-up should be undertaken under supervision.
E1: CAMPS BAY TO HOUT BAY PART OF TABLE MOUNTAIN NATIONAL PARK **SANParks (and City of Cape Town Metro, see A3)** Rocky coastline with recreational area at Oudekraal. Includes Karbonkelberg Marine Restricted Zone.			 High Medium	 Clean amenity areas all year round. Accessible rocky areas to be cleaned of medium to heavy deposits of oil. Inaccessible rocky areas to be left to natural cleaning.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
H1: HOUT BAY HARBOUR **DAFF** Fishing boats and yachts. Fish Factories Duikereiland supports seal and seabird colonies.	 High High High	 Place bubble barrier or floating boom (not available on site) across mouth of harbour as shown in Map 3I. Implement Harbour Oil Spill Contingency Plan (not yet available). Alert fish factory personnel to stop pumping from intakes both inside and outside the harbour. SANCCOB and DEA: O&C must be contacted.	 High	 Contain oil by means of booms and remove using skimmers or sorbent materials.
E2: HOUT BAY TO KOMMETJIE **PART OF TMNP** **SANParks** Amenity beach at Noordhoek. Rocky coastline. Wildevoelvlei opens at southern end of Noordhoek beach. Tidal lagoons at back of Noordhoek beach.	 High	 In the event of high spring tide build barrier as shown in Map 3J. Inform CSRM Branch: CoCT.	 High Medium High	 Amenity beaches to be cleaned all year round. Accessible rocky areas to be cleaned of medium to heavy deposits of oil. Inaccessible rocky areas to be left to natural cleaning. Should oil enter the lagoons the DEA Shore Controller must be advised and clean-up should be times undertaken under supervision.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
A: KOMMETJIE TO SCARBOROUGH **City of Cape Town Metro** Amenity beaches at: Kommetjie, Witsands and Scarborough. Rocky coastline.			High	Clean amenity beaches all year round. Accessible rocky areas to be cleaned of medium to heavy deposits of oil. Inaccessible rocky areas to be left to natural cleaning.
Rock lobster processing plant at Witsands.	High	Alert plant personnel.		
Shusters River (Scarborough), pristine; lagoon popular recreational area.	High	In the event of high spring tide build barrier at mouth as in Map 3K. Inform CSRM Branch: CoCT.	High	Should oil enter the river the DEA Shore Controller must be advised and clean up should only be undertaken under supervision.
E3: TMNP: SCARBOROUGH TO SMITSWINKEL BAAI **CAPE OF GOOD HOPE SECTION** **SANParks** Includes Cape of Good Hope and Paulsberg Marine Restricted Zones.				
Popular tourist destination.			High	Clean amenity beaches all year round.
Amenity beaches at Olifantsbos and Buffelsbaai. Rocky coastline, inaccessible in places.			Medium	Accessible rocky areas to be cleaned of medium to heavy deposits of oil. Inaccessible rocky areas to be left to natural cleaning.
E4: TMNP: BOULDERS **SANParks** Penguin Colony: popular tourist site. Sandy amenity beach with boulders and rocky areas.	High	Implement Penguin Oil Spill Contingency Plan. Where possible penguins to be contained on land to prevent them from becoming oiled. SANCCOB and MCPM should be notified.	High Medium	Clean amenity beach all year round. Rocky areas to be cleaned of all deposits of oil, to prevent further oiling of penguins.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
F: SA NAVY, SIMONSTOWN **SANDF** The following areas fall under the jurisdiction of the SA Navy and are to be cleaned by them: Admirals Beach Cole Point Oil Coast Makrielbaai Offshore rocks; between Seaforth Beach and Boulders; between Hiller Rd and Bellevue Rd (Boulders) and between Windmill Beach and Rocklands Point. Naval docks	 High	 Navy to place boom across mouth of dockyard according to their standard operating procedure. (See Map 3L).	 High High High High Medium Medium	 Amenity beaches to be cleaned all year round. Rocky areas to be cleaned of medium to heavy deposits of oil. Navy to contain oil by means of booms and remove oil using skimmers or sorbent material.
H2: KALK BAY HARBOUR **DAFF** Fishing Harbour	 High	 Place bubble barrier or boom (not available on site) across mouth of harbour as shown on Map 3M. Implement Harbour Oil Spill Contingency Plan (not yet available).	 High	 Contain oil by means of booms and remove using skimmers or sorbent material.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
A5: FALSE BAY COASTLINE: SMITSWINKELBAAI TO MUIZENBERG **City of Cape Town Metro**				
Amenity beaches at:				
-Froggy Pond			High	Clean amenity beaches all year round.
-Boulders			High	
-Seaforth			High	
-Jubilee Beach/Promenade			High	
-Long Beach			High	
-Glencairn			High	
Tidal pools at:				Tidal pools to be cleaned all year round. Remove
-Shelley Pool, Glencairn Pool and Water			High	oil by means of skimmers and sorbent materials.
Edge			High	Clean walls using high pressure seawater jets, and recover released oil.
-Windmill Beach			High	
-Fisherman's Beach			High	Clean amenity beaches all year round.
Elsies River, mouth closed but may overtop at high spring tide.	Medium	Build sand barrier to prevent overtopping. Inform CSRM Branch: CoCT.		
NSRI Slipway			High	Clean slipway using high pressure water jets.
Naval, Cape Marlin and Tuna Club and False Bay Yacht Club anchorage in bay west of Naval docks, Simonstown. See Map 3L.	High	Impossible to protect. Where possible remove boats from water.	High	In the event of major oil spill, the cleaning of boats must be organised through individual clubs in conjunction with the DEA Shore Controller.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
Amenity beach at: Fish Hoek Rocky coast south of beach. Silvermine River: tidal penetration blocked by weir under road bridge. Flat rocky platforms between Clovelly and Muizenberg. Tidal pools at St. James, Dalebrook, Kalk Bay and Willy's Pool.			High Medium Medium High High	Clean amenity beach all year round. Rocky areas to be cleaned of medium to heavy oil deposits. Lagoon below weir should be cleaned under supervision. Rocky areas to be cleaned of medium to heavy oil deposits. Oily water collecting in pools to be pumped out and separated. Remove oil from tidal pools by means of skimmers and sorbent materials. Clean walls using high pressure seawater jets.
A5: FALSE BAY COASTLINE (cont): MUIZENBERG TO MACASSAR **City of Cape Town Metro** Long sandy amenity beach between Muizenberg and Kapteinsklip, and from Swartklip to RDM (Somchem) security fence. Popular for walking and fishing. Zandvlei mouth: canalised above beach, sensitive estuarine system. Zeekoei mouth: canalised, outfall of Rondevlei, Zeekoevlei and Cape Flats WWTW.	 High Medium	 Mouth to be closed as shown in Map 3N. Inform CSRM Branch: CoCT. Mouth to be closed as shown in Map 3(O). Inform CSRM Branch: CoCT.	 High High High	 Beaches to be cleaned all year round. Should oil enter the river, the DEA Shore Controller must be advised immediately, and clean-up should be undertaken under supervision. Should oil enter the river, the DEA Shore Controller must be advised immediately, and clean-up should be undertaken under supervision.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
Tidal Pool at Strandfontein.	Medium	Place sandbags on tidal pool wall if it is likely that oil will be washed over wall.	High	Tidal pools to be cleaned all year round. Remove oil by means of skimmers and sorbent materials. Clean walls using high pressure seawater jets.
Mnandi amenity beach.			High	Amenity beach to be cleaned all year round.
Seagull sanctuary at Wolfgat.				
Beach resort at Macassar.			High	Clean amenity beaches all year round, other areas to be cleaned prior to and during holiday season or if there are medium to heavy deposits of oil.
Sandstone rocky cliffs at Swartklip			Medium	Rocky cliffs to be left to natural cleaning.
F: SECURITY AREA **RD Munitions and Heartland Leasing** (previously Somchem and AECI) (Helderberg Marine Protected Area)				
Sandy beach enclosed by security fence. Clearance required prior to entry. Recently designated as a Marine Protected Area managed by the City of Cape Town Metro.			Medium	Clean medium to heavy deposits of oil, under supervision of MPA manager.
Eerste River: mouth opens seasonally	Medium	Mouth to be closed as shown in Map 3P. Inform CSRM Branch: CoCT	Medium	Should oil enter the river, the DEA Shore Controller must be advised and clean-up should be undertaken under supervision.
Lourens River: mouth opens seasonally.	Medium	Mouth to be closed as in Map 3Q. Inform CSRM Branch: CoCT	Medium	Should oil enter the river, the DEA Shore Controller must be advised and clean-up should be undertaken under supervision.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
A5: FALSE BAY COASTLINE **(cont): STRAND / GORDONS BAY/ KOEELBAAI** **City of Cape Town Metro**				
Amenity beach between Lourens River mouth and Harmoniestrand with rocky outcrops in places. Popular amenity area at Strand.			High	Clean amenity beaches all year round, other areas to be cleaned prior to and during holiday season or if there are medium to heavy deposits of oil. Rocky cliffs to be left to natural cleaning
Harbour Island Marina: managed by Homeowners Association. Slipway managed by City of Cape Town.	High	Place bubble barrier or floating boom (not available on site) across mouth of harbour as shown in Map 3R. Implement Harbour Oil Spill Contingency Plan (not yet available).	High	Contain oil by means of booms and remove using skimmers or sorbent material.
Amenity beaches on either side of Gordons Bay Harbour with rocks in places on south side.			High	Clean amenity beaches all year round. Rocky areas to be cleaned of medium to heavy deposits of oil.
Inaccessible rocky coast between amenity beach and Platbank and Steenbras River Mouth			Low	Inaccessible rocky areas to be left to natural cleaning.
Steenbras River: mouth rocky, tidal, popular fishing area.	High	Mouth to be protected as shown in Map 3T. Inform CSRM Branch: CoCT	High	Should oil enter the river, the DEA Shore Controller should be advised immediately and clean-up should be undertaken under supervision.
Rocky coastline.			Medium	Rocky areas to be left to natural cleaning unless there is a medium to heavy deposit of oil.
Amenity sandy beaches at Boskloofpunt and Koëelbaai. Tidal pool.			High	Amenity beaches and tidal pool to be cleaned all year round.

SITE: Responsible Authority Pertinent Detail	PROTECTION Priority Rating	 Action	CLEAN-UP Priority Rating	 Action
H3: GORDONS BAY HARBOUR **DAFF** Gordons Bay harbour: contains fishing boats, yachts and Naval Academy	High	Harbour to be protected using bubble barrier or floating boom. (Not available on site, need to be sourced from DEA). See Map 3S. Harbour should have an Oil Spill Contingency Plan which would need to be implemented.	High	Contain oil by means of booms and remove using skimmers or sorbent materials.

MAP 3A **KOEBERG POWER STATION**

Cooling water for the Koeberg Nuclear Power Station is provided via the intake basin, and is essential for the safe and efficient operation of the power station. Should oil enter the basin, the power plant would have to be shut down.

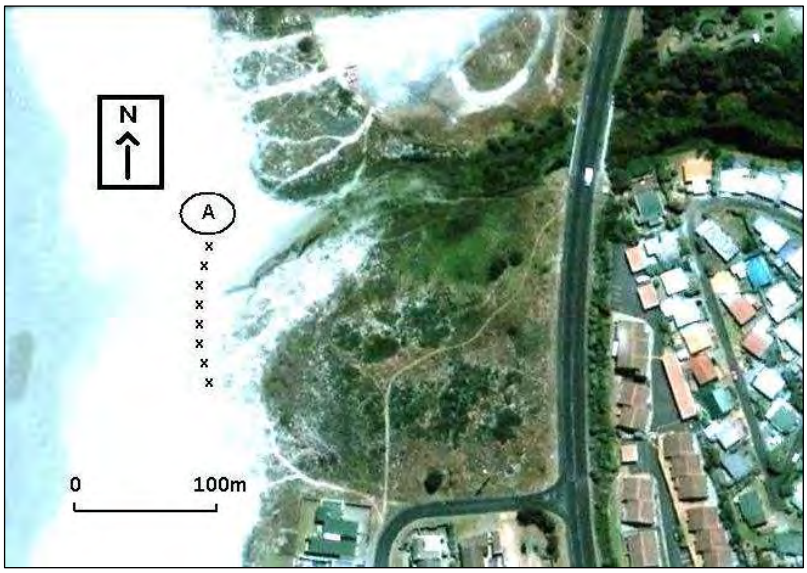
ESKOM will implement their Oil Spill Contingency Plan, which involves the placement of a floating boom as shown in the figure above. In the event of an oil spill, it is essential that the Power Station be alerted immediately of any threats of pollution.

The Koeberg Nuclear Power Station is a high security restricted area which extends along the beach as well as 2 km out to sea.

MAP 3B SOUT RIVER (MELKBOS)

MOUTH CONDITONS

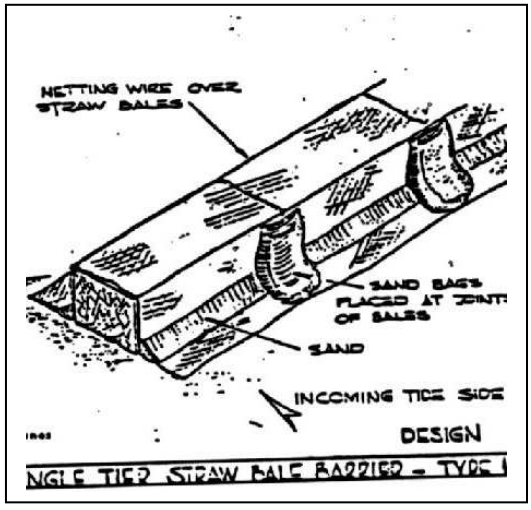
The mouth of this river is usually closed, but could open during heavy winter rains. The Ouskip Caravan Park is located just upstream of the mouth and the road also crosses just above the beach. If the mouth is closed, the height of the sand barrier may have to be raised to prevent overtopping by the sea during high spring tide conditions. In the event of the mouth being open, either of the following procedures will be required.



CONSTRUCTION OF SAND BARRIER

Sand should be moved, by means of a front end loader, into the position marked XXX, until a stable sand barrier has been created. Care should be taken not to disturb the vegetated sand dunes on either side of the river.

CONSTRUCTION OF STRAW BALE BARRIER



Lay straw bales tightly end to end, commencing at the middle of the barrier and working outwards. Starting at one end, unroll 1.8m wide 50mm mesh wire netting along the length of the barrier. If more than one roll of wire netting is required, provide a 1m overlap. Place wire netting around bales as in sketch. Place bags filled with sand on the wire netting, on either side of the barrier where the straw bales abut and as close to the bales as possible. The bags can be of plastic or hessian, and can be completely filled. The sand for filling them must not be obtained from vegetated sand dunes. The barrier should be laid in the position marked XXX. While either barrier is in position, it is to be inspected regularly, with any repairs being effected immediately. Alternatively, a shore sealing flotation boom could be deployed if available.

RESPONSE TIME

It is estimated that a front-end loader will take 3 hours to raise the sand mound by 0,5m. The straw bale barrier is estimated to take 18 man-hours to construct once all the materials are on site.

MAP 3C **DIEP RIVER (MILNERTON LAGOON)**

MOUTH CONDITIONS

The Milnerton Lagoon is tidal and experiences a strong flow at its mouth. It is permanently open to the sea, due to the increased and permanent treated effluent from the Potsdam Waste Water Treatment Works as well as from the storm water drainage infrastructure in Milnerton. The Woodbridge Island residential development is located in the lagoon area.

BOOM DEPLOYMENT

A possible boom site has been identified between the old and the new road bridge at points AB on the map, where the currents, under normal conditions, are weak enough. This will effectively prevent an oil spill from entering the sensitive upper reaches of the lagoon.

The river is approximately 100 meters wide at this point and has a mudflat bank on its eastern side which extends approximately midway across the river. Both sides of the river banks have suitable slopes to seal contained oil using shore booms.

The use of three 25m sea/port booms and two 10m shore booms will be adequate to span this section of the river. Monitor the tidal conditions so that the booms are deployed on a rising tide or when the tide is high enough to float the boom sections across the river. The mudflats are exposed at low tide and it is impossible to pull the booms across if the tidal conditions are too low.

The river may flow strongly at times during the winter season. In this case it is not advisable to deploy booms until the flooding has subsided. The continuous downstream flow will prevent any oil from penetrating the lagoon mouth. Monitor these conditions closely as it may be necessary to deploy the equipment once the flow has subsided. There is adequate space on both sides of the lagoon to set up skimming and storage facilities if required.

MAP 3D **BLACK RIVER**

MOUTH CONDITIONS

This river is canalised and the mouth is usually open as a result of urban stormwater and final effluent from the Athlone WWTW. The river is polluted and protection measures are not a high priority.

PROTECTION MEASURES

If resources are available, it is suggested that a floating barrier be placed across the canal in the vicinity of the road bridge.

MAP 3E **ROBBEN ISLAND HARBOUR**

A floating boom or bubble barrier should be deployed across the entrance to the harbour. These are not currently available on the Island and will need to be sourced from DEA. The Harbour should have its own Contingency Plan which would need to be implemented.

Oil should be contained using booms, and removed using skimmers or sorbent materials. Harbour walls and jetties to be cleaned using high pressure seawater jets, and the released oil to be recovered.

MAP 3F **TABLE BAY HARBOUR**

A Tier 1 oil spill occurring within the Port of Cape Town and approaches will be dealt with in accordance with the TNPA Oil Spill Contingency Plan for Port of Cape Town. The Port Plan lists the actions that are to be taken and the Port has equipment in the form of booms, skimmers etc to initiate clean-up. If the response is beyond the capability of the Port, a Tier 2 or Tier 3 response will be initiated through SAMSA and DEA. TNPA requires that all persons within a port must take all reasonable steps to prevent, minimise, mitigate and combat any oil pollution or damage to the environment.

A series of bubble barriers is permanently in place across the entrances to the various basins. Refer to the TNPA Oil Spill Contingency Plan for the Port of Cape Town.

MAP 3G **GRANGER BAY HARBOUR**

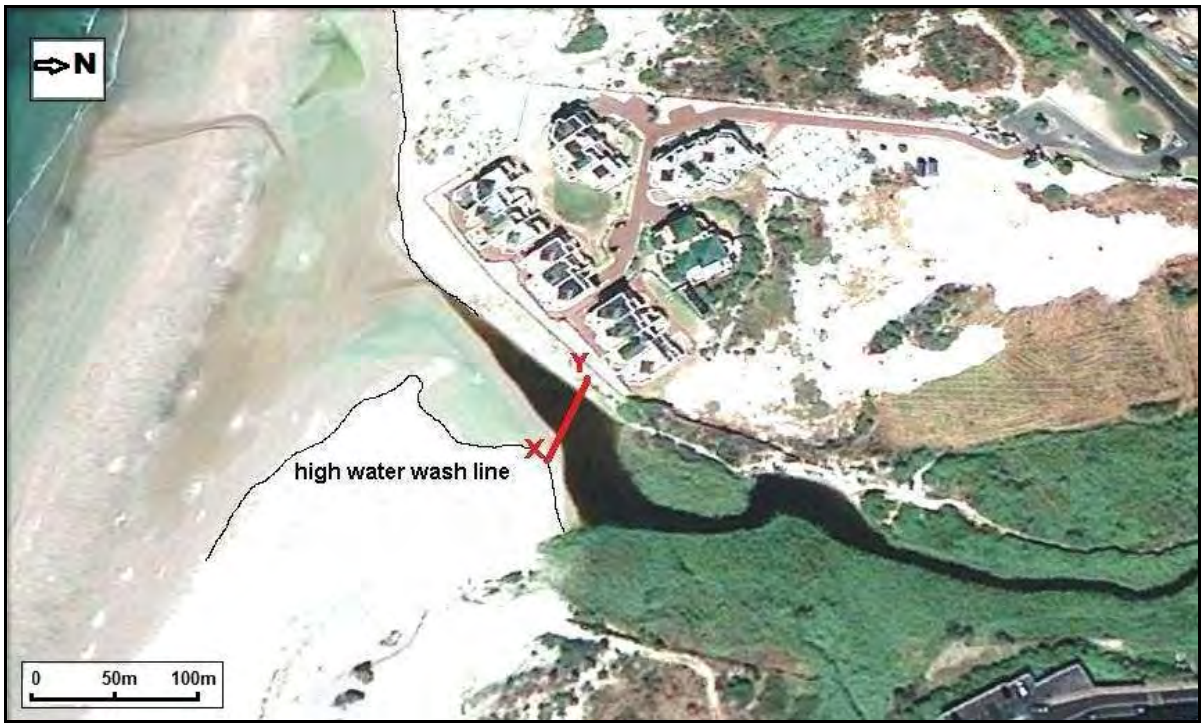
In the event of a threat of oil entering the harbour, a floating boom or bubble barrier is to be installed across the entrance. An air compressor(s) which will feed a perforated submarine air hose, is to be positioned at the end of the western breakwater. This air hose is to be secured in the position marked on the map.

At present, there is no boom or bubble barrier available on site. A boom will need to be sourced from DEA or another service provider.

A joint Oil Spill Contingency Plan for the Granger Bay Harbour should be compiled by the two operators within the Harbour, namely the Cape Peninsula University of Technology (CPUT) and the Marina Water Club.

CPUT has indicated that in the absence of any protection for the harbour, they would protect their basin and slipway with a boom positioned at XY marked on the map.

MAP 3H **DISA RIVER (HOUT BAY)**

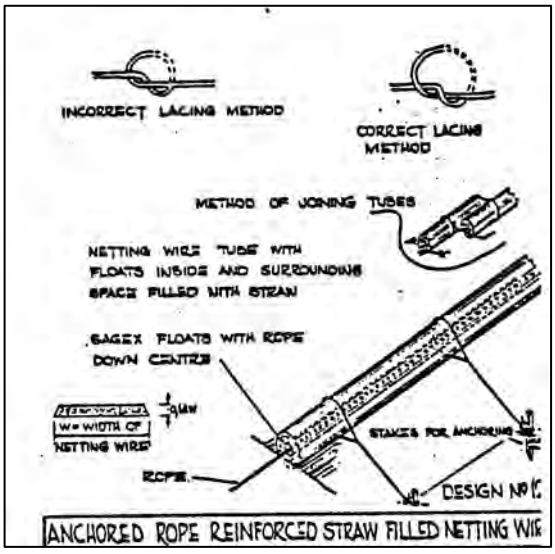


MOUTH CONDITIONS

The mouth of this river is usually open during winter and closed in the summer months, with overwash occurring during high spring tides. If available, a boom can be placed at position XY, or a straw bale barrier can be erected as illustrated below.

ASSEMBLY OF STRAW FILLED NETTING WIRE TUBE BARRIER

Roll out 50m of 1.8m wide 50mm mesh netting wire. Place bales of straw at 1.3m spacing on netting wire. Roll out 60m of 20mm diameter rope and thread purse seine net floats on rope for 40m. Starting at centre of barrier and working outwards, cut first bale of straw open and spread it to cover the full width of netting wire and 1.3m along its length. Similarly cut open a further two bales of straw on either side, and spread straw. Place rope with floatation attached on top of pile of straw. At centre bring edges of netting wire together, ensuring that the floatation is in the centre of the tube and lace with 2mm cordage using the correct lacing method.



A netting needle (tatting shuttle) made from a piece of box wood will make lacing easier. Continue as before and

when ends are reached, lace them closed. If correctly packed, barrier will be about 40m long. The sequence of operations is suggested to limit the amount of straw that may be blown away by the wind, if present.

ERECTION OF BARRIER

Select end anchor points for the barrier and drive in a stake until really firm, on or above the high water overwash line at the location shown by XY in on the map, and make each end of the anchor rope of the barrier fast to these stakes, allowing a small amount of slack (to limit excessive tension). If barrier does not span the distance between the high water overwash lines on each bank, a mound of sand can be shovelled into position to prevent water washing around the ends of the barrier.

The barrier is to be continually inspected and any repairs needed, to be effected immediately.

RESPONSE TIME

With all materials on site the barrier will take 6 man-hours to assemble. Once assembled, the barrier can be deployed within minutes. Actual deployment should be delayed until the last hours. This is recommended as the straw becomes saturated with water in time, thus losing its oil absorption capability.

MAP 3I **HOUT BAY HARBOUR**

In the event of a threat of oil entering the harbour, a bubble barrier is to be installed across the entrance. An air compressor(s), which will feed a perforated submarine air hose, is to be positioned at the end of the northern breakwater, at point C. This air hose is to be secured in the position marked on the map. The harbour is to implement their Oil Spill Contingency Plan, which has yet to be compiled.

At present, there is no bubble barrier available on site. An alternative option is to place a floating boom across the entrance to the harbour. This will need to be sourced from DEA or another service provider.

MAP 3J **NOORDHOEK/WILDEVOELVLEI**

MOUTH CONDITIONS

This system receives moderate daily volumes of final treated effluent from the Wildevoelvlei WWTW, so the mouth is frequently open to the sea. Shallow backshore tidal lagoons occur along the Noordhoek Beach. These are generally inundated during spring tides and winter storms and possibly from groundwater seepage entering the lagoons from the landward end of the beach. Due to their sensitivity, it is important that mitigation measures do not result in the flow from the Wildevoelvlei outlet entering these lagoons.

BARRIER LOCATION

The objective is to build a single, tier, straw bale barrier at the position marked XY to prevent the possibility of oil being washed into the tidal lagoons at the back of the beach.

CONSTRUCTION OF SINGLE TIER STRAW BALE BARRIER

Lay straw bales tightly end to end, approximately along the average spring tide high water line denoted by the XXX's in the sketch. Unroll lengths of 1.8m wide 50mm mesh wire netting, allowing 1m overlap at the start of each new roll. Place wire netting around bales as in sketch (pg 69). Place bags filled with sand on the wire netting on either side of the barrier where the straw bales abut and as close to the bales as possible. These bags should be plastic or hessian and can be filled with sand taken from the sea side of the barrier location. While the barrier is in position it is to be continually inspected and repairs needed, are to be effected immediately.

RESPONSE TIME

The recommended barrier is 3350m in length and is likely to take 400 man-hours to erect, once all materials are on site.

MAP 3K **SHUSTER RIVER (SCARBOROUGH)**

MOUTH CONDTIONS

This is a virtually pristine stream which must be protected from oil spill impacts. It dries out for virtually 6 months of the year (summer), but overwash may take place into the lagoon. The lagoon area is used by beachgoers.

BARRIER LOCATION

The objective is to build a straw bale barrier in position XY, to prevent the possibility of oil being washed into less dynamic sections of the estuary.

CONSTRUCTION OF STRAW BALE BARRIERS

Lay straw bales tightly end to end, commencing at the middle of the barrier and working outwards. Starting at one end, unroll 1.8m wide 50mm mesh wire netting along the length of the barrier. If more than one roll of wire netting is required provide a 1m overlap. Place wire netting around bales as in sketch (pg 69). Place bags filled with sand on the wire netting on either side of the barrier where the straw bales abut and as close to the bales as possible. The bags can be of plastic or hessian, and can be completely filled. The sand for filling them must not be obtained from vegetated sand dunes.

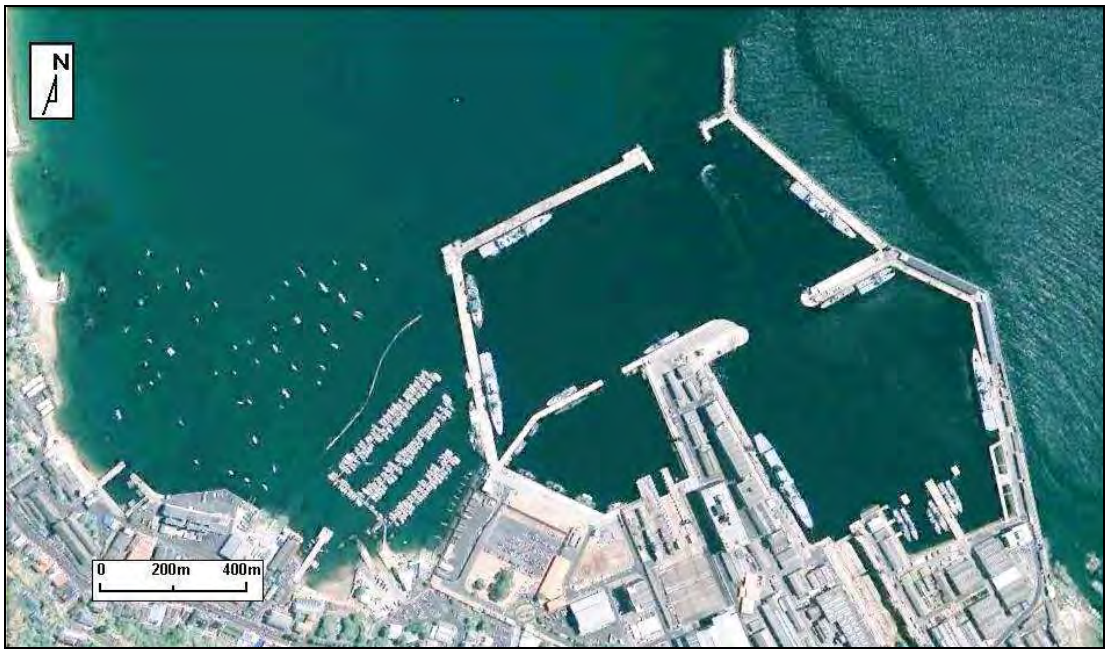
OUTFLOW PIPES

No outflow pipes will be required. Should the river level rise, the excess water can be allowed to escape, preferably around the south-west end of the barrier to prevent erosion of the vegetated sand dune at the north-east end. The barrier is to be continually inspected and any repairs to be effected immediately.

RESPONSE TIME

The recommended barrier is 60m in length and is likely to take 10 man-hours to erect, once all materials are on site.

MAP 3L **SIMONSTOWN NAVAL DOCKS**



In order to prevent large quantities of oil entering the Docks, the South African Navy will deploy their boom across the entrance. Any oil spill occurring within the harbour will be contained and removed using skimmers or sorbent material. These actions will be undertaken according to their standard operating procedures.

The Naval, Cape Marlin and Tuna Club and False Bay Yacht Club anchorage in the bay west of the Naval Docks will be impossible to protect under normal prevailing sea conditions. Where possible, remove boats from water. Under calm conditions, it may be possible to deploy deflection booms.

MAP 3M **KALK BAY HARBOUR**

In the event of a threat of oil entering the harbour, a bubble barrier is to be installed across the entrance. An air compressor(s), which will feed a perforated submarine air hose, is to be positioned at the end of the northern breakwater. This air hose is to be secured in the position marked on the map. The harbour is to implement their Oil Spill Contingency Plan, which has yet to be compiled.

At present, there is no bubble barrier available on site. An alternative option is to place a floating boom across the entrance to the harbour. This will need to be sourced from DEA or another service provider.

MAP 3N **ZANDVLEI CANAL**

MOUTH CONDITIONS

This estuarine system is ecologically sensitive and is also used for recreation purposes. The mouth is manipulated by the City (Roads and Stormwater operational staff under the guidance of the Catchment, Stormwater and River Management Branch) by creating/removing a large sand barrier in front of the mouth. In this way water levels are balanced to ensure saline intrusion into the estuary, to provide adequate depth for recreational users (e.g. sailors) and to prevent flooding of shoreline properties in the Marina da Gama area.

Strong winter flows from three major rivers feeding the estuary necessitate careful management of this mouth. When the mouth is open, spring tides wash strongly into the system, and this could easily carry oil into the estuary. While a berm in front of the mouth would certainly be effective in preventing this pollution, it would require careful management to avoid flooding of the low-lying properties.

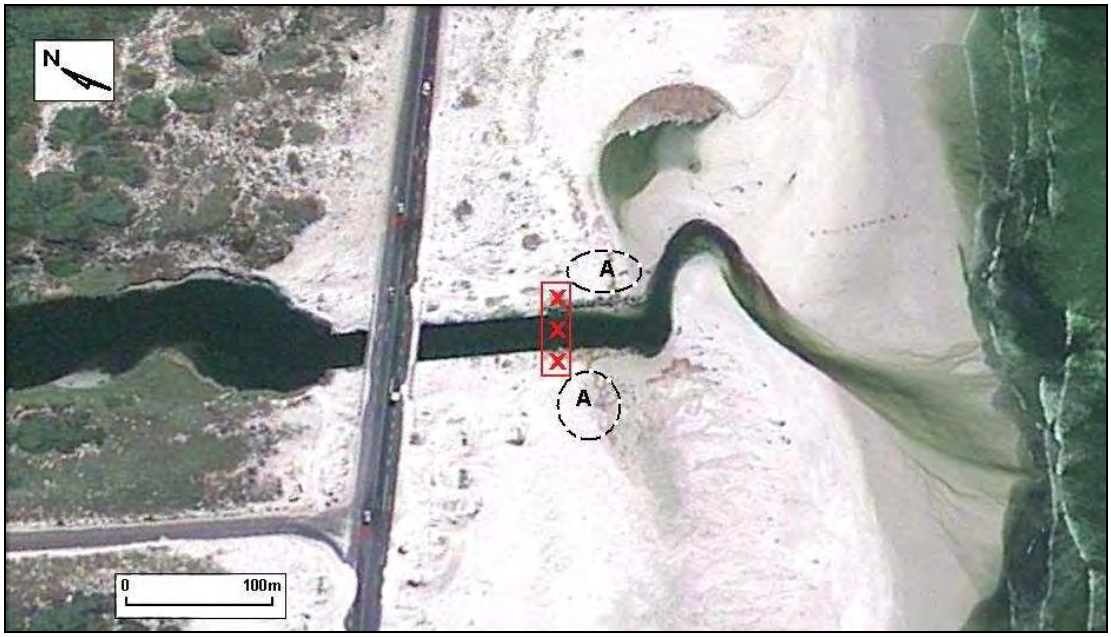
CONSTRUCTION OF SAND BARRIER

Using a front-end loader, move sand from position A into the position marked XXX, until a stable barrier has been created. Care should be taken not to disturb the vegetated sand dune to the east of the mouth. If, during high flow conditions, the water level rises to unacceptable levels in the vlei area, overflow pipes must be positioned in the barrier in order to release some of this water. While the barrier is in position, it is to be inspected regularly, with any repairs being effected immediately. At certain times of the year, there may not be enough sand available, in which case a floating barrier should be deployed.

RESPONSE TIME

It is estimated that a front-end loader will take 2 1/2 hours to raise the sand barrier by 1m.

MAP 3(O) **ZEEKOEIVLEI CANAL**



MOUTH CONDITIONS

The canal mouth is usually open due to large daily volumes of final treated effluent from Cape Flats WWTW. Outlet to the sea has shown considerable westerly migration, and Baden Powell Drive, which is located very close to the outlet, is critical infrastructure that could be impacted. If it is apparent that the tide is likely to penetrate beyond the bridge, the following procedure will be required.

CONSTRUCTION OF SAND BARRIER

Using a front-end loader or bulldozer, move sand from position A into the position marked XXX, until a stable barrier has been created. Care should be taken not to disturb the sand dunes in the surrounding area. It will be necessary to install overflow pipes above the high water mark on the sand barrier in order to maintain the flow from the sewage works. While the barrier is in position, it is to be inspected regularly, with any repairs needed, to be effected immediately.

RESPONSE TIME

It is estimated that a front-end loader will take 3 hours to raise the sand barrier to 1 m.

MAP 3P **EERSTE RIVER**

MOUTH CONDITIONS

This river receives large daily volumes of final treated effluent from Macassar WWTW, and forms an elongated backshore lagoon during the summer months. The outlet to sea has shown considerable westerly migration. Seawater washes over the sandspit into the lagoon during high spring tides. During these periods, a straw bale barrier should be laid where the sandspit is low. The mouth usually breaches the sandspit in a variable position wherever the sandspit is lowest, after the first winter rains, or is sometimes artificially breached by management. During this period a sand barrier should be constructed.

CONSTRUCTION OF STRAW BALE BARRIERS

See page 69 for details on construction of straw bale barrier.

CONSTRUCTION OF SAND BARRIER

Using a front-end loader, sand is to be removed from position A and placed in the river mouth so as to form a stable sand barrier. Care should be taken not to remove sand from the sandspit or surrounding dunes.

RESPONSE TIME

The time required to construct a sand barrier will be dependent on the width and position of the mouth. Six man-hours will be required for each 50 metres of straw bale barrier.

MAP 3Q **LOURENS RIVER**

MOUTH CONDITIONS

The mouth is generally closed during the summer months with the sandbar being breached at its lowest point during winter months. In the event of the mouth being open, the following procedure will be required.

CONSTRUCTION OF SAND BARRIER

Using a front end loader or bulldozer, sand should be moved from position A, into a position across the mouth, until a stable barrier is formed. Care should be taken not to disturb the sand dunes in the area. While the barrier is in position, it is to be inspected regularly with any repairs needed, to be effected immediately. At certain times of the year, there may not be enough sand available, in which case a barrier will need to be constructed using straw bales. Shore sealing booms could also be used if available.

HEARTLAND (AECI) MAIN DRAIN

This drain flows across the beach to the west of the river mouth. During high spring tides, straw bales must be placed on the seaward edge of the road bridge to prevent oil entering the vegetated area above the bridge.

MAP 3R **HARBOUR ISLAND MARINA (Gordon's Bay)**

This Marina is a residential property development managed by the Home Owners Association. There is a slipway within the harbour, which falls under the jurisdiction of the City of Cape Town Metro. There is no Oil Spill Contingency Plan in place for the harbour development, and there are no booms on site.

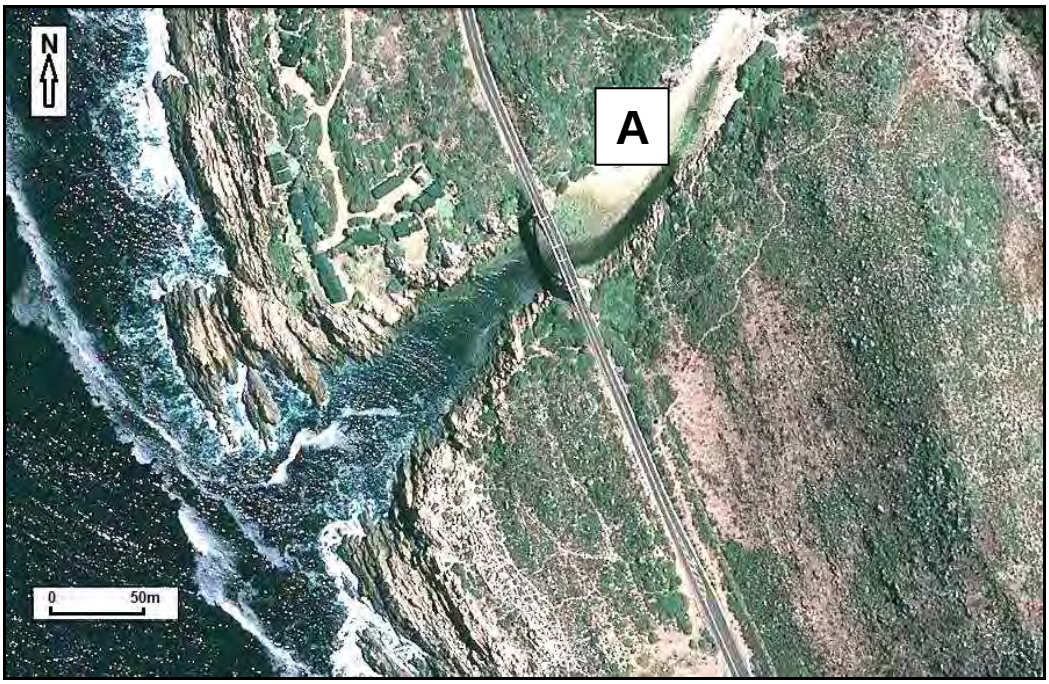
In order to protect the Marina, it is suggested that a floating barrier be placed across the entrance to the harbour. Booms will have to be sourced from DEA or other service providers. Failing this, individual basins could be protected using floating barriers or sorbent booms.

MAP 3S **GORDONS BAY HARBOUR**

In the event of a threat of oil entering the harbour, a bubble barrier is to be installed across the entrance. An air compressor(s), which will feed a perforated submarine air hose, is to be positioned at the end of the eastern breakwater. This air hose is to be secured in the position marked on the map. As the breakwater falls under the jurisdiction of the Naval College, clearance will need to be obtained for this course of action. The harbour is to implement their Oil Spill Contingency Plan, which has yet to be compiled.

At present, there is no bubble barrier available on site. An alternative option is to place a floating boom across the entrance to the harbour. This will need to be sourced from DEA or another service provider.

MAP 3T **STEENBRAS RIVER**



MOUTH CONDITIONS

The mouth is a rocky tidal inlet and is permanently open. Closure of the mouth is not possible. Tidal penetration does not extend beyond point A.

PROTECTION MEASURES

During calm conditions, a floating barrier could be deployed in the vicinity of the road bridge. If this is not possible, the pebble beaches should be protected using straw bale barriers.

11. WASTE MANAGEMENT

During the clean-up process, large amounts of oily waste will be generated. Methods for the collection, transportation and temporary storage of this oil can be found in Addendum C. Decisions regarding the final disposal of this oil will be made by the Department of Environmental Affairs: Pollution and Waste Management, and the DEA Shore Controller.

Waste management will need to take into account various streams of oily water and solid waste. Waste contractors will be required to deal with waste requiring special disposal. Arrangements need to be made ahead of time with contractors, to establish their suitability and capabilities for removing oily waste in an environmentally acceptable manner. Response teams need to be fully briefed on how to deal with different types of oily waste. Specially marked, separate containers/skips for oily waste separation and removal need to be provided.

The only suitable disposal site for significant quantities of oil and oily waste is situated at Vissershok, as the Swartklip site has been closed. The Vissershok site is preferred as it is an old established site, with a capacity for volumes that may normally be encountered. The Swartklip site may be available as a temporary storage and transfer station for oil spills occurring in False Bay. These sites fall under the jurisdiction of the City of Cape Town and any intention of disposal of oil should be directed to the Director: Solid Waste.

Fuel Firing Services is involved in the recycling of liquid waste oil, with a depot at the Port of Cape Town and their plant at Vissershok. Their oil storage tanks may be available for storing collected oil. The ROSE Foundation can assist with the co-ordination of recycling of waste oil. Their contact details are provided at the end of Section 13.

The oil refinery in Milnerton can be approached for disposal of liquid waste oil that is not contaminated with sand or debris. They do however have strict limitations on what type of oils they can accept.

12. EQUIPMENT - MATERIAL – MANPOWER

12.1 DEPARTMENTAL EQUIPMENT

The Department of Environmental Affairs manages the national equipment stocks for the combating of oil pollution. This equipment consists of:

- K9 surveillance aircraft on contract
- inshore patrol vessels fitted with dispersant spraying equipment and breaker boards (managed by DAFF)
- an offshore patrol vessel equipped with dispersant tanks (managed by DAFF)
- Seaguardian and Shoreguardian booms, a Portboom and Riverboom
- Skimmers
- Floating tank and fast tanks
- Inflatable boat
- Drum vacuum unit
- High pressure water washer

This equipment is held at Paarden Island in Cape Town but can be mobilised at short notice.
A full list of equipment is provided in Appendix IV.

12.2 TRANSNET NATIONAL PORTS AUTHORITY EQUIPMENT

The TNPA has oil pollution equipment stocks at all the major ports. This includes booms, skimmers, storage tanks etc. This equipment can be commissioned during emergency situations. The nearest Harbour should be contacted to establish availability of equipment. A full list of this equipment is provided in the National Plan.

12.3 SOUTH AFRICAN PETROLEUM INDUSTRY

The Oil Industry has various booms, skimmers and other equipment stored at various locations around the country. SAPIA should be contacted to establish the availability of this equipment. (See contact details in Section 13.) A full list of the equipment held by SAPIA is provided in the National Plan.

12.4 COMMERCIAL CONTRACTORS

Various contractors such as Smit Amandla Marine, OPCSA, Drizit, ABZorbit, have equipment available at various locations. This equipment can be hired on contract, and skilled staff are available for deployment. The contact numbers for these organisations are provided at the end of Section 13.

12.5 LOCAL AUTHORITY EQUIPMENT AND MANPOWER

The equipment and materials required for beach clean-up operations by local authorities are for the most part not specifically for oil spills.

The following plant and machinery is likely to be required:
Bulldozers
Front-end loaders
Low bed transporters
Excavator and tractor loader backhoes
Self loading trucks / self elevating scrapers
Articulated dump trucks
Tractors 2x4
Tractors 4x4
Platform truck and crane
Tip trucks
Water trucks
Open trucks
LDV's 4x4
LDV's 2x4
Vacuum tankers

Materials and equipment as listed below will also be useful:
Portable Centrifugal pumps
Sludge pumps
Straw bales
Petrol generator and lighting sets
200 litre drums and bins
Wire mesh - diamond
Plastic and hessian bags
PVC sheeting
Spades

In terms of manpower, supervisors, operators and labourers will also be required.

Where requirements for these resources exceed in-house availability, private local contractors can be approached. Local authorities should ensure that they know where these resources can be supplied.

13. TELEPHONE NUMBERS

13.1 PRIORITY NUMBERS

Organisation	Office Tel	Fax	Cell	Email
DEPARTMENT OF ENVIRONMENTAL AFFAIRS: MCPM				
Pollution Officers: Dr Yazeed Petersen (DD) Ms Albertus-Stanley (AD) Pollution Officer Equipment (Paarden Is.): Teboho Ntje	 021 819 2450 021 819 2457 021 510 3957	 021 819 2445 021 819 2445 021 510 3957	 083 530 3127 072 173 6234 078 200 8442	 ypeterson@environment.gov.za feroza@environment.gov.za tntje@environment.gov.za
SAMSA				
SAMSA: WESTERN REGION **Regional Manager:** Capt Dave Colly	 021 421 6170	021 419 0730 086 616 4104	 083 412 8861	 dcolly@samsa.org.za
Cape Town: Capt G Louw (PO) Mr. Barry Jubber (DPO)	021 421 6170	021 419 0730 086 696 9074	083 227 0721 082 6776630	glouw@samsa.org.za bjubber@samsa.org.za
Saldanha Bay: Mr. Martin Slabber	 022 714 1612	022 714 3635 086 693 7084	 082 789 6764	 mslabber@samsa.org.za
Port Nolloth: Mr. Justin Coraizen	027 851 7695	027 851 7699	082 386 2141	jcoraizen@samsa.org.za
Centre of Sea Watch: Maritime Rescue Co-ordination Centre MRCC				
Head: Mr. Karl Otto	021 938 3317	021 938 3319 086 654 4742	082 812 2991	kotto@samsa.org.za
Capt Ravi Naicker	021 938 3310	021 938 3319	082 768 8401	rnaicker@samsa.org.za
Duty Controller: all hours	021 938 3300	021 938 3309		

Organisation	Office Tel	Fax	Cell	Email
SAMSA: Head Office: Head: Centre of Ships. Mr. Sobantu Tilayi Mr. Francis Chilalika (Operations Manager)	012 366 2600	012 366 2601 086 590 9056 086 615 0886	 071 608 6480 082 789 6802	 stilayi@samsa.org.za fchilalika@samsa.org.za
SAMSA Head Office CEO –	 012 366 2600	 012 366 2601		
SAMSA: SOUTHERN REGION **Regional Manager:** Capt N. Campbell	 041 582 2138	041 582 2130 0866 157489	 083 309 6053	 ncampbell@samsa.org.za
Port Elizabeth:Mr B Colenutt (PO) Capt Daron Burgess (DPO)	041 585 0051	041 582 1213 0866 942707	082 445 3167 082 374 7942	bcolenutt@samsa.org.za dburgess@samsa.org.za
East London: Capt P Kroon (PO)	043 722 4120	043 722 2264 0866 158659	082 445 3166	pkroon@samsa.org.za
Mossel Bay: Mr. Dave Manley	044 690 4201	044 691 1206 0866163370	082 477 1813	dmanley@samsa.org.za
SAMSA: EASTERN REGION. **Regional Manager:** Capt. Saroor Ali	 031 307 1501	031 306 4983 0866 153417	 071 686 9593	 sali@samsa.org.za
Durban: Mr. Grant Conway	031 307 1501	031 306 4983 0866 157055	082 449 6350	gconway@samsa.org.za
Richard's Bay: Mr. Thandi Mehlo	035 788 0068	035 788 0067	082 492 4404	tmehlo@samsa.org.za
CITY OF CAPE TOWN: Disaster Operations Centre: Cape Town				
Duty Officer: All hours Alternate: 107 PECC	0800 911 4357 0800 112 4357 107 (from Telkom line) 021 480 7700 (from Cell)	021 597 5025	DisasterOperations.Centre@capetown.gov.za	

13.2 RESPONSIBLE LOCAL AUTHORITIES

Organisation	Office Tel	Fax	Cell	Email
CITY OF CAPE TOWN METRO MUNICIPALITY: 021 400 1111 (switchboard)				
Greg Pillay: Head Disaster Management Secretary	021 597 5012 021 597 5007	021 597 5010	084 711 7723	greg.pillay@capetown.gov.za
Franz Schlaphoff: Disaster Management	021 597 5019	021 597 5010	084 462 2013	franz.schlaphoff@capetown.gov.za
Chris Konings: Disaster Management	021 597 5015	021 597 5010	084 711 7756	Chris.Konings@capetown.gov.za
Koos Retief: Biodiversity Management	021 550 1086	021 550 1003	082 788 6987	koos.retief@capetown.gov.za
Darryl Colenbrander: Coastal Management	021 487 2355	021 487 2255	0823123443	darryl.colenbrander@capetown.gov.za
Barry Wood: Catchment, Stormwater and River Management Branch.	021 400 1204/5	021 400 4554	084 900 0916	barry.wood@capetown.gov.za
Jaco Uys: MPA Manager	021 851 6982	021 851 2148	084 645 8810	Jacobus.Uys@capetown.gov.za
Sakhile Tsotsobe: Sport and Recreation	021 400 4638	086 537 7418	072 626 3669	sakhile.tsotsobe@capetown.gov.za
Claire McKinnon: Manager Solid Waste Eddie Abrahams: Solid Waste	021 400 2822 021 514 3478	021 400 2620 021 514 3491	082 600 6648 084 220 0049	claire.mckinnon@capetown.gov.za EdmundC.Abrahams@capetown.gov.za
KOEBERG NUCLEAR POWER STATION: ESKOM				
Emergency Control (24 hours) Shift Manager: Gary Thomson Martin Saaymans: Emergency Manager	021 550 4100 / 5840 021 950 6111 021 950 6111/6	 021 950 6150 021 950 6150	 083 450 4574 072 148 9958	 Gary.Thomson@eskom.co.za martin.saaymans@eskom.co.za

Organisation	Office Tel	Fax	Cell	Email
TRANSNET NATIONAL PORTS AUTHORITY **Port Control: (all hours)** **021 449 2805**				
Lyndon Metcalf: SHEQ	021 449 2156	021 449 2085	082 405 2811	Lyndon.Metcalf@transnet.net
Henry Kemp: Pollution	021 449 2484	021 449 2085	073 148 1421	Henry.Kemp@transnet.net
Dennis Mqadi: Harbour Master	021 449 5763	021 449 2091	084 444 8758	Dennis.Mqadi@transnet.net
Michael Melato: Pollution	021 449 2152	021 449 2085	082 517 5561	Michael.Melato@transnet.net

V & A WATERFRONT				
Steven Bentley: Harbour Master	021 408 7500	086 679 3142	083 293 4616	sbentley@waterfront.co.za
GRANGER BAY				
Wilfred Prince: CPUT Faried Sylvester: Water Club	021 440 5766 021 425 4256	021 419 8050 086 660 2482	072 138 1034 082 569 0362	princew@cput.ac.za admin@mywaterclub.co.za
ROBBEN ISLAND MUSEUM				
Anthony Thomas: Harbour Master	021 409 5128		083 642 1546	anthonyt@robbenisland.org
S A NAVY Port Control (all hours)	021 787 3728			
WO Haywood (Port Operations)	021 787 3728	021 787 4063	083 523 8597	haywoodGuy@yahoo.com debbie.loubser@sanavy.co.za
DAFF FISHING HARBOURS				
Hout Bay: H. Stevens	021 790 1440	021 790 1792	082 771 8892	HendrikS@daff.gov.za
Kalk Bay: Pat Stacey	021 788 8313	021 788 1038	082 829 3010	PatricS@daff.gov.za
Gordon's Bay: H Stevens	021 856 1482	021 856 5222	082 771 8892	HendrikS@daff.gov.za

Organisation	Office Tel	Fax	Cell	Email
SANPARKS	**All hours**			
Justin Buchmann: Senior Ranger, TMNP	021 780 9100	021 780 9525	086 110 6417	justinbu@sanparks.org
Paul Sieben: Marine Area Manager, TMNP Danielle Bowen: Marine Ranger Bernacia Andreas: Marine Ranger	021 786 5656 021 786 5656 021 786 5656	021 786 4507 021 786 4507 021 786 4507	082 905 4661 082 674 3578 076 541 4117	pauls@sanparks.org danielb@sanparks.org Bernacia@sanparks.org
Boulders Monique Ruthenberg: Simonstown	021 786 2329 021 786 5787	021 786 5786	 All hours	 moniquer@sanparks.org
Amos Lombo: Cape Point	021 780 9100	086 525 2781	All hours	amosl@sanparks.org
Mathabatha Matjila: Cape Point	021 780 9100	086 5252 763	All hours	mathabatham@sanparks.org
Hilton Blumerus: Senior Ranger, Oudekraal	021 422 1601	021 4233 106	083 785 4773	hiltonb@sanparks.org
Jannie du Plessis	021 689 4441	021 689 4461	082 346 7191	jannied@saparks.org
Leighan Mossop: Noordhoek, Kommetjie	021 789 2457	021 789 2455		leighanm@sanparks.org
HEARTLAND LEASING (previously AECI)				
Johan Truter (All hours)	021 852 1111	021 852 1901	083 641 1642	johantr@heartland.co.za
RHEIN-METALL DENEL MUNITIONS (previously Somchem)				
Stephen Mitchell	021 850 2911	021 850 2487	083 676 5434	smitchell@nashuaisp.co.za
HARBOUR ISLAND DEVELOPMENT (Gordons Bay) and GORDON'S BAY BOAT ANGLING CLUB				
Harbour Master: Louis Siewertsen Chairman: Paul Dobson	021 856 1683 021 856 5125	021 856 1683 021 856 5125	082 874 1424 082 451 3064	club@gbbac.co.za paulmarion@telkomsa.net

13.3 RELEVANT GOVERNMENT DEPARTMENTS

Organisation	Office Tel	Fax	Cell	Email
WEATHER FORECAST OFFICE: Cape Town 082 231 1640 or 082 231 1645 all hours				
DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES (DAFF) Monitoring, Compliance and Surveillance Unit				
Keith Govender Pollution Combating Vessels	021 402 3079	021 402 3113	084 597 1147	KeithG@daff.gov.za
Fisheries Control Officers (DAFF) Mqondisi Ngadlela (Director)	021 402 3439	021 402 3433	082 379 3429	MqondisiN@daff.gov.za
Hout Bay Kommetjie Kalk Bay Gordon's Bay	021 790 2530 021 783 2295 021 788 8313 021 856 1482	021 790 1792 021 783 5853 021 788 1038 021 856 5222		
Fishing Harbours: Technical Manager Desmond Marinus	021 402 3337	021 402 3690	084 488 8844	DesmondM@daff.gov.za
W. CAPE PROVINCIAL GOVERNMENT				
Jackson Rikhotso (Disaster Management) Lavenia Nichols (Disaster Management) Zain Jumat (DEA&DP: Coastal Environment)	021 937 0806 021 937 0806 021 483 2889	021 931 9031 021 931 9031 021 483 8326	083 277 4221 074 262 5151 079 523 3715	jrikhot@pgwc.gov.za lnichols@pgwc.gov.za zjumat@pgwc.gov.za
CAPE NATURE				
Kas Hamann	021 659 3466		082 572 7205	khamman@capenature.co.za
Fanie Bekker	021 659 3468	021 659 3467	082 553 3476	fbekker@capenature.co.za
Pierre de Villiers (Estuaries)	021 866 8023	021 866 1523 086 529 4983	083 236 2924	estuaries@capenature.co.za
Terence Coller: (Betty's Bay MPA)	028 272 9829	086 605 8517	082 453 0835	terence@capenature.co.za

Johan Visagie : (Dassen Island)			082 745 9421	dassenisland@gmail.com

13.4 SCIENTIFIC ADVISORY PERSONNEL AND I&AP'S

SAPIA: Anton Moldan	021 671 8460	086 668 8054	082 801 6215	anton@sapia.co.za
SEA BIRD and MAMMAL RESCUE				
SANCCOB (Seabirds) Venessa Strauss Nola Parsons	 021 557 6155 021 557 6155	 021 557 8804 021 557 8804	 082 325 4638 084 822 0189	 venessa@sanccob.co.za vet@sanccob.co.za
Dr Rob Crawford: Seabirds, DEA	021 402 3140	021 402 3330	082 578 1533	rcrawford@environment.gov.za
Bruce Dyer: Seabirds, DEA	021 402 3138	021 402 3330	082 953 3153	bdyer@environment.gov.za
Mike Meyer: Marine Mammals DEA	021 402 3173	021 402 3330	082 5787617	mmeyer@environment.gov.za
ROYAL CAPE YACHT CLUB	021 421 1354	021 421 6028		info@rcyc.co.za
FALSE BAY YACHT CLUB	021 786 1703	021 786 3925		admin@fbyc.co.za
HOUT BAY YACHT CLUB	021 790 3110	021 790 2585		hbye@africa.com
GORDONS BAY YACHT CLUB	021 856 3263			

13.5 CONTRACTORS AND SERVICE PROVIDERS

Organisation	Office Tel	Fax	Cell	Email
SMIT AMANDLA MARINE				
Clare Gomes	021 507 5777	021 507 5885	079 699 4406	c.gomes@smit.com
Paul Maclons	021 507 5777	021 507 5885	082 909 2013	p.maclons@smit.com
Dave Murray	021 507 5777	021 507 5885	082 909 9948	d.murray@smit.com
SHELTAM AVIATION:				
Surveillance aircraft				
Peter Roux (Cape Town office)	021 510 3341	021 510 3432	082 800 4560	peterroux@sheltam.com
Peter Woods (Port Elizabeth office)	041 581 4194	041 581 3413	083 452 7007	pwoods@sheltam.com
Donovan Jordaan (Pilot) / Thys du Toit (Pilot)			083 651 4863	sacoastguard@hotmail.co.za
To contact pilots in the air – emergency only				
Phone Air Traffic Control:				
Cape Town	021 937 1116	021 934 0964		
Overberg	028 425 4111	028 425 4068		
George	044 801 8809	044 801 8810		
Port Elizabeth	041 501 5948	041 501 5959		
East London	043 736 6161	043 7366 014		
Durban	032 436 5001	032 436 3811		
ENVIROSERV	0800 192 783			info.ct@enviroserv.co.za
Stephen van Zyl	021 951 8420	021 951 8440	082 447 4447	
DRIZIT	021 425 5187	021 425 3932	0800 202 202 all hours	
OIL RECYCLING				
Fuel Firing Services: Depot Manager	021 557 5301	021 557 0667	083 652 6113	
The ROSE Foundation: Raj Lochan	021 448 7492	021 448 7563	083 378 8556	usedoil@iafrica.com
NORA-SA	086 066 7272	086 652 7384		
OPCSA				
Piet Coetzee	021 912 1600	021 912 1613	082 566 0525	pcoetzee@opcsa.co.za

ADDENDUM A

OIL RECOGNITION

ADDENDUM A

OIL RECOGNITION

Guidelines for the recognition of some of the common types of oil that could impact the shore.

TYPICAL APPEARANCE OF OIL ON SHORE	POSSIBLE CONDITION AND TYPE OF OIL AND PROBABLE SOURCE
A dark brown or nearly black layer of oil up to 10mm thick, stretching from the high water mark to the water's edge and into the sea, accompanied by a strong smell.	Fresh crude oil escaping from a stranded laden tanker within a few kilometers. If very fresh, this oil can present a fire hazard.
A brown or reddish brown carpet of pasty material 5 – 100mm thick, deposited on the shore from the high water mark to the water's edge, turning dark brown or black in the heat of the sun. A malodour will be present.	Weathered and emulsified crude oil (chocolate mousse) that has escaped from a laden tanker that has suffered hull damage either due to collision, hull failure or grounding. Thicker layers will be encountered nearer to the source, and thinner layers further away.
Black pasty material in the form of individual pats not more than 5mm thick, strewn on the beach from the high water mark to the water's edge. The concentration of these pats can vary from nearly touching each other to pea size pellets 100 – 200 mm apart.	Such an appearance could originate from different types of oil or source. In all cases the oil will be weathered and emulsified with sea water. The source could be from a stranded, laden oil tanker many kilometers away or from a stranded ship or tanker in ballast or even tanker washings from a passing tanker in ballast.
Brown staining of the sand particles of white sandy beaches, with a slight malodour of diesel oil.	Light bunker oil (diesel) from a stranded fishing boat or coasting vessel nearby. Although larger vessels usually carry some light bunker oil, it would usually be incorporated with other spilled oil should it be released during an incident.

NOTE: HEAVY BUNKER OIL

Although the colour of Heavy Bunker Oil on the shore will invariably be black, its appearance will vary considerably, depending on the physical properties of the oil (viscosity, pour point) and the ambient temperature of the sea, energy in the breaker zone it passes through and temperature reached by the oil on the shore.

ADDENDUM B

METHODS FOR COASTAL PROTECTION AND CLEAN-UP

ADDENDUM B

METHODS FOR COASTAL PROTECTION AND CLEAN-UP

INTRODUCTION

Past experience has shown that in many instances, clean-up efforts have only contributed to the environmental damage of an oil spill, and that it is often better to leave it to natural clean-up processes. In situations where some clean-up must be attempted, it is important that the methods selected are those which are least damaging to the environment. Decisions over clean-up will depend on the type of oil, the degree of contamination, and the type of habitat affected. These guidelines are general in nature. Where specific instructions in Section 10 differ from these, the specific instructions will take precedence.

ESTUARIES

On the basis of ecological considerations, estuaries are the most sensitive of the various coastal environments. These considerations include:

- estuaries are utilised by numerous birds, both resident and migrant species;
- they serve as nursery and spawning grounds for a number of fish species;
- they are often rich in bait organisms such as worms, prawns, mussels etc.;
- they have aesthetic and amenity value;
- they provide shelter for boats, launch sites etc.

Furthermore, oil entering estuaries tends to be deposited in the sediments - either by stranding on sand/mudflats, or by actually sinking in deeper water – where it has a minimum residence time of 10 years, but may persist for up to 70 years. Clean-up measures, unless adequately controlled, only tend to add to the damage.

Protection

The first step should be to prevent oil from entering the estuary. The methods by which this may be achieved are dependent on the mouth conditions, of which there are three basic types:

i. Rivers terminating in lagoons which are only occasionally open to the sea:

   Even when lagoons are closed, oil may enter with waves overtopping the barrier dune. To prevent overtopping, the height of the barrier dune should be increased by means of straw bales, sand bags, boards, or additional loose sand. This barrier should then be monitored for the duration of the spill.

ii. Estuaries with mouths which open on a seasonal basis:

If closed, treat as above. If open, the mouth should be closed by building a dyke using sandbags, loose sand etc. Details of materials and equipment needed must be assessed for each river individually. If sufficient sand is not available close to the mouths of gently flowing rivers, it may be possible to close them using barriers made of timber or similar materials.

During construction of a dyke, it may be necessary to include outflow pipes, to prevent flooding of land upstream. Pipe diameter, slope and number to be used are dependent on the volume of flow, and various designs are calculated at the time of preparing the contingency plan. The choice of which design to use is made at the time of construction of the dyke.

Once dykes have been constructed they must be continually maintained for the durations of the incident, as they are subject to the erosion processes of the encroaching sea.

In some cases, it may be possible to release water from dams upstream to maintain flow at the river mouth, and thus prevent entry of the oil. Similarly, if the river is in flood the water flow may prevent entry of oil.

iii. Permanently open estuaries

This group includes those which could not be artificially closed. Some protection may be possible by the use of floating booms, in areas of reduced flow (providing such booms are available). The oil can then be contained, or diverted to less sensitive areas. Details on site deployment of booms are assessed individually for each permanently open estuary. In addition, sensitive areas seaward of the deployed boom may be protected using barriers made of materials of opportunity, such as anchored straw bales.

<u>IMPORTANT</u>

Prevention activities should not disturb the environment.

Materials such as sediment and brushwood should not be obtained from within the estuary, or from stable, vegetated dunes.

Dispersants should never be used in an estuary.

Clean-up

All clean-up operations in an estuary should be undertaken using manual labour – not machinery – and must be done under strict supervision of the DEA Shore Controller (See section 8.2). It is virtually impossible to remove all oil from mudflats, saltmarshes and other estuarine environments without causing extensive damage. Therefore, the minimum amount of labour is to be used, and tracks, once established should be adhered to. No heavy machinery should be utilised. Oil entering the estuary is to be contained within booms or straw barriers, or diverted to corners from where it can be collected. Contained oil can be skimmed and transferred to temporary storage on shore. Oil may be removed by flushing the marsh with estuarine water under low pressure, and directing the oil so removed to a collecting pond. Large pockets of oil may be removed by pumping, preferably using hypocycloidal pumps, or vacuum tankers. Temporary storage sites must be carefully selected so as to avoid further damage.

Heavy oiled reed and grass may be cut, and the contaminated stems removed, but only on the advice of the DEA Shore Controller (See Section 8.2).

Oil stranded on sand or mudflats is to be lifted off using flat spades – taking care not to trample oil into the sediment.

Oil that has sunk to the estuary bottom should be removed by diver operated suction pumps.

DO NOT – Attempt clean-up with inadequate supervision.
DO NOT – Spray dispersants.
DO NOT – Use heavy machinery or trample sand and mudflats.
DO NOT – Disturb the sediments in the estuary.

MARINAS AND HARBOURS / INDUSTRIAL INTAKES

With some exceptions, spill damage in these areas will be socio-economic rather than biological.

Protection

Entry of oil should be prevented by the use of floating booms or air barriers (bubble curtains). Boats should be removed from the water where possible. Similar protection should be given to industrial seawater intakes, or, alternatively, the industrial plant should be shut down while the threat persists.

Clean-up

Oil entering the area should be contained, skimmed and removed. Recovered oil should be deposited into containers such as 200 litre drums, and the oil allowed to rise to the surface. For emulsified oil (chocolate mousse), emulsion breakers may be used to facilitate this separation. The clean, underlying water can then be drained off through an oleophilic (oil absorbent) filter.

Slipways should be cleaned using high pressure water jets. Contaminated jetties should be cleaned by hand.

COASTLINE / SHORELINE

The coastline can be divided into 3 types – rocky, sandy and pebble beaches – each having a different degree of sensitivity to oil contamination.

Rocky areas are the least sensitive. Around cliffs, oil is generally prevented from coming ashore by wave reflection, while in other areas the heavy surf action tends to promote natural cleansing.

Sandy beaches have a medium sensitivity. Fine grain beaches especially, have limited oil penetration, and can be relatively easily cleaned.

Pebble beaches are more sensitive than sandy beaches, as oil penetrates them readily. Clean-up is difficult, and can lead to destabilisation of the beach.

Protection

The only way in which oil can be prevented from coming ashore over a long stretch of coastline, is by the use of dispersants when the oil is still at sea. However, more local protective actions may be warranted in particular areas. For example, straw bales or other absorbents may be used to protect pebble beaches, sandy beaches with overwash pools in the backbeach area, or bird nesting areas. These will both limit penetration of oil, and facilitate clean-up.

Clean-up

Rocky Shores:

WHEN TO CLEAN

Clean-up should only be attempted in amenity area and other areas that have been subject to heavy oiling.

HOW TO CLEAN

Partial removal of oil may be achieved by washing down rocks with seawater pumped through pressure hoses. Where oil or oily water has collected in rock pools, it can be pumped or bailed out to temporary storage sites. Any remaining oil that is still somewhat mobile, can be removed by using straw or proprietary brands of sorbents. The straw or sorbents are rubbed or trampled into the oil, and then brushed or lifted off. Such sorbents, even if contaminated with oil, will float on the water surface, and can be lifted off. Skimmers can be used for large pools.

DO NOT – Use dispersants
DO NOT – Wash with fresh water
DO NOT – Sand blast

Sandy Beaches:

WHEN TO CLEAN

Amenity beaches must always be cleaned. Non-amenity beaches should be cleaned only where there is a heavy oiling, or in cases when the oil is likely to be refloated and transported to adjacent areas by longshore currents.

Inaccessible, unutilised beaches should be left to natural cleansing unless otherwise advised, in specific circumstances.

HOW TO CLEAN

Fresh Oil: On beaches with large volumes of fresh liquid oil coming ashore, trenches can be dug just above the high tide mark and lined with plastic sheeting. Oil coming ashore can be "swept" into these trenches using "flat rakes" – pieces of timber 0,5 to 1metre long, 75 to 100mm high and 10mm thick, secured to a broom pole, or transported there in buckets. The oil can then be pumped out and disposed of later. If necessary, emulsion breakers can be used to separate oil/water mixtures before final disposal.

Weathered Oil and Oily Debris: After a spill, oil may continue to wash ashore sporadically over several days. Once the oil has stopped coming ashore, the top contaminated layer of sand, together with any tarballs and oil debris, can be manually removed suing flat spades. It should be piled into heaps, above the high water mark, and then carted away to dump sites. On the wet parts of the beach, the oil can be gathered using flat rakes. During these processes, an absolute minimum of sand should be removed, and care should be taken to avoid churning oil into sand. The general principle is to work from a clean area towards a polluted area.

Removal: Trucks or tankers are obviously essential for the removal of oily waste from collection points on the beach. During this operation, access tracks to polluted beaches should be demarcated by stones or other markers, and drivers should not be permitted to depart from the assigned tracks.

DO NOT – Use conventional rakes.
DO NOT – Use heavy mechanical equipment to clean the beach (only for removal of oil from collection points).
DO NOT – Spray dispersants.

Pebble Beaches:

Pebble beaches are best left to natural cleansing processes if there has been no attempt at protection. Clean-up efforts generally result in forcing the oil deeper into the beach, or if pebbles are removed, in destabilising the beach.

If straw bales or other sorbents have been applied, they should be removed once saturated, or when the oil has stopped coming ashore.

ADDENDUM C

TEMPORARY STORAGE AND TRANSPORT OF OILY WASTE

ADDENDUM C

TEMPORARY STORAGE AND TRANSPORT OF COLLECTED OIL

INTRODUCTION

Oil deposited on the coast will vary in compositions and fluidity, depending on the time it has been exposed to the effects of weathering – sun, wind, waves etc. Fresh liquid oil only reaches the coast if the source is within a kilometer or so of the shore. A more common form is known as "chocolate mousse", which is a water-in-oil emulsion, containing up to 80% water. This is a stable semi-solid, which will cover the beaches in sheets or patches. Another form is "tarballs", somewhat like road tar, and varying in size from that of a pea, to larger than a football. Oily waste can also contain sand, seaweed, plastics, dead birds, and other beach debris.

TRANSPORTATION OF RECOVERED OIL

Any conventional vehicle used for conveying liquids, such as vacuum tankers, sludge gulpers, tank trailers or farm tank trucks, can be used for transporting liquid oil. Improvisation, however, may be necessary, and vehicles such as flat bed lorries carrying open drums, fitted with temporary covers, may have to be used instead. Care should always be taken to ensure that oil does not leak out to the conveying vehicle, spreading the pollution further afield.

Water-in-oil emulsions (chocolate mousse) tend to solidify or become very viscous with time, making removal from tanks very difficult. Deep bodied trucks are therefore best suited to the transportation of emulsions and other oily waste and debris. Oil seepage must be prevented, by lining the trucks with heavy duty plastic sheeting. For emulsions, chemical emulsion breakers may sometimes be used to separate the oil and water prior to transportation, thus lessening the volume that has to be transported.

Front-end loaders are most suitable for the transportation of weathered oil and oily debris, collected from the beaches, to the temporary storage areas, but use of heavy machinery on the beaches must be kept to a minimum.

TEMPORARY STORAGE

As a first stage, emergency storage should be provided in a position of easy access to the beach, but well clear of the tidal area. Relatively cheap and simple storage can be quickly provided by digging pits in the ground and lining them with heavy duty PVC polyethylene or oil resistant rubber sheeting. Long narrow pits are the most practical shape, as they are easy to dig, fill and empty with simple equipment. In situations where the digging of pits is precluded, storage can be provided by constructing retaining walls, using suitable quality soil. This is built up into sloping walls, usually having a flat top, with a wall angle ratio of 3:2 horizontal to vertical. The finished storage can be square or rectangular.

The choice of sites for these temporary storage pits must take the following points into consideration:

- damage to sand dunes should be avoided;
- sand blowing into the pits will reduce storage space and further contaminate oily waste;
- areas adjacent to the pits are likely to become contaminated, so sensitive sites should be avoided;
- sites chosen should be such that after final disposal, they are able to be restored to their original condition.

Liquid oil may be stored temporarily in 200 litre drums, porta pools, or any other convenient receptacle, depending on the quantity of oil present.

Oiled debris and sand may be stacked in heaps on plastic or other impervious material, to prevent drainage of oil into the ground beneath. If plastic bags are used for the collection of oily wastes, care should be taken to ensure that they are not exposed to hot sun for any length of time as the plastic may become brittle and split open.

FINAL DISPOSAL

There are a number of methods available for the final disposal of oil and oily waste. Although the choice of disposal method will be dependent on the circumstances prevailing at the time, a brief description of each method is given below.

Direct Disposal

One method of direct disposal is to transport the recovered oil to possible recipients such as oil refineries, recycling contractors or certain installations that can burn fuel oil. Oil refineries are unlikely to accept recovered oil except for certain crudes and further with a salt content of less that 0,1% and virtually free of solids. Fuel oils with a salt content up to 0,5% and low in solids could possibly be blended into other fuel oil.

The other method of direct disposal listed in the literature is that of dumping as landfill or burial above the high tide mark. This method is not generally acceptable in South Africa. The possible health implications, impact on the environment, possible contamination of water supplies, transportation costs and quantity of oil to be disposed of are to be assessed in relation to the other disposal options available. The contingency plan lists disposal sites and any limiting conditions of these sites.

Stabilisation

Oily sand which does not contain large amounts of other debris can be mixed with quicklime to produce a stabilised material which limits oil leaking from it. As such, it can possibly be disposed of under less stringent conditions, such as low load bearing road foundations and embankments, sports ground construction, land fill etc.

Burning

The direct, uncontrolled in situ burning of oil debris is usually not advised, as complete combustion is not attainable. However, it may be possible to use portable oil burner equipment or portable incinerators if the oil is not unduly contaminated. Purpose built incinerators, reaching high combustion efficiency, are available commercially. These may be an option in areas with limited accessibility.

Extraction

Extraction processes are not oil disposal methods in themselves, but employment of an extraction process might facilitate recovery of the oil in a form that may permit use of another disposal technique. A hot water fluidisation process for cleaning oil contaminated beach sand has been researched, but the effectiveness of the operation is dependent on the range of distribution of sand particle sizes.

If a high pressure water washing technique has been used to remove oil adhering to surfaces, the oily material can be extracted by a conventional oil/water separator.

The oil can in certain circumstances be extracted from water-in-oil emulsions by the use of emulsion breakers.

Biodegradation

Sludge farming is a process whereby the oily material is spread on the ground, fertilised and tilled. The process requires one hectare of land to dispose of 400 tonnes of oil. The choice of land would have to meet health, environmental and other requirements.

Composting oil, by addition to domestic waste tips has been used satisfactorily, provided certain conditions are met. The suitability of domestic waste tips for the disposal of oily waste is to be assessed during contingency planning.

ADDENDUM D

COLLECTION OF OILED SEABIRDS

ADDENDUM D

COLLECTION OF OILED SEABIRDS

1. INTRODUCTION

Seabirds, particularly those which spend a large portion of their time in the water, are vulnerable to contamination by oil. This affects them adversely, either by destroying the waterproofing of the plumage, or by direct toxicity of ingested oil.

The distribution of seabirds around the coast is patchy, being concentrated mainly on the offshore islands. Island breeding colonies are especially susceptible to oil pollution. The major risk areas are St Croix and Bird Islands in Algoa Bay; Dyer, Dassen and the Saldanha Bay Islands; and Bird Island in Lamberts Bay.

In the event of an oiled bird incident, it is the function of Marine Development to oversee the collection, temporary holding and transport of the oiled birds to rehabilitation centres; S.A. National Foundation for the Conservation of Coastal Birds (SANCCOB) in Cape Town, the Centre for the Rehabilitation of Wildlife (CROW) in Durban and possibly the Port Elizabeth Museum. At these centres the oiled birds are washed to remove the oil, rinsed and kept in captivity until the waterproofing of the feathers has been restored. This is a specialised procedure which should only be carried out by skilled personnel, and not attempted by novices in the field. It is stressed that inexperienced persons should not attempt to feed, clean or render medical aid to oiled birds, as this is likely to result in further harm to the birds.

During an oil spill incident, however, oiled birds may arrive on the shoreline, particularly in the vicinity of offshore breeding islands. In such cases, if Marine Development personnel are not immediately available, local authorities may be required to provide temporary holding facilities for the birds. Procedures for the capture, selection and holding of these birds are outlined below.

2. REPORTING

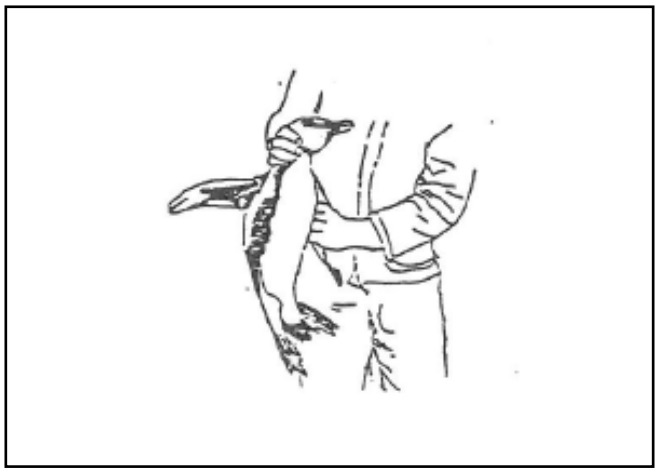
In the event of oiled birds being found on the shoreline, at least one of the persons from the Department of Environmental Affairs listed in Section 13 must be informed immediately.

3. CAPTURE

The aim is to capture and restrain birds with the least disturbance possible. Catchers should move slowly and carefully, avoiding rapid movement if possible. If oiled birds are chased too much, they become exhausted, and their chances of survival decreases.

Catchers should operate in teams of two or three, and should be protected against injury by birds with gloves and glasses. This is essential, as a person afraid of injury is unlikely to handle birds correctly. Catchers should position themselves between the bird and its escape route, usually the sea. If long-handled nets are available, these are most useful.

Catchers should not capture oiled birds if the operation disturbs nesting birds, especially those in the process of nest-building. The same applies to searching for oiled birds. For example, an oiled penguin in a nesting colony should not be caught at all as it will cause losses of eggs and chicks. The losses to gulls and nest desertion will probably far exceed the alternative loss of one oiled bird.



a) Jackass Penguin

Penguins may be caught with long-handled scoop nets, or by hand, suitably protected with gloves. Birds should be approached cautiously until the final lunge with net or hands. Penguins should be held by the base of the neck and base of a flipper, or by the base of both flippers (see Fig. A1.)

Figure A1

b) Cape Gannets

Gannets may be caught with a gannet pole (a long-handled crook) if available, or by a long-handled scoop net, or by hand, suitably protected by gloves. Catchers must be particularly careful of their eyes, as gannets can lunge forwards with their sharp beaks. Gannets should be held firmly around the base of the head, and with the wings pinned under the arm.
(See Fig. A2).

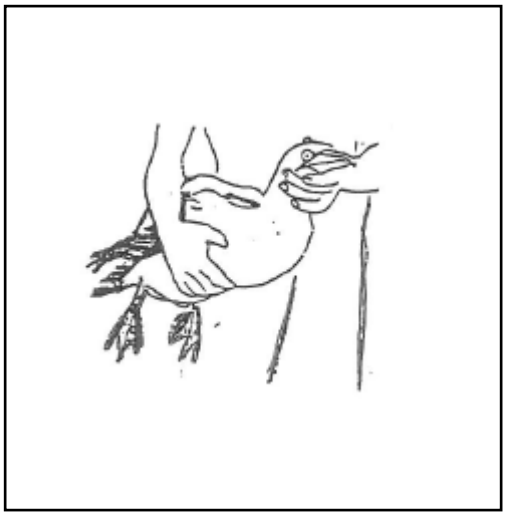
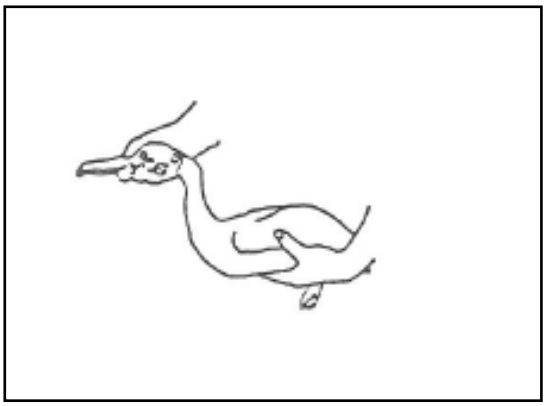


Figure A2

c) Cormorants and other species



Cormorants and other species should be caught with a long-handled scoop net or by hand, suitably protected by gloves. The method of holding birds is shown in Fig. A3.

The beak and wings should be firmly held, without squeezing the bird's body. The smaller the bird, the more vulnerable it is to injury and the less likely it is to survive rehabilitation.

Figure A3

4. SELECTION

Not all oiled birds need to be captured for rehabilitation, as natural weathering will remove the oil in time.

(a) Jackass Penguin

Oiled penguins should be captured and examined. If the oil has penetrated to the down, and has oiled an area of down larger than half the size of a closed fist, it should be kept for cleaning at the rehabilitation centre. Otherwise it should be released.

(b) Cape Gannet

Oil is very obvious on the white plumage. However, gannets need only be captured if the plumage is obviously heavily matted with oil, so that gaps in the surface layer are readily apparent. Unless the oil has penetrated to the down and oiled an area as large as a closed fist, the birds should not be collected. Gannets may show a distinct "high-water" mark of oil across the front and down the sides of the breast. Most of these birds do not require collecting.

(c) Cormorants and other species

These birds can only be captured when severely oiled. If it is possible to catch the bird, it is in need of cleaning.

5. CARE DURING TEMPORARY CAPTIVITY

Birds must be kept until transport is ready to deliver them from the collection point to the rehabilitation centre. Birds should be kept in comfort, with minimal disturbance, and out of sight of people. Ideally they should not be kept for longer than 48 hours from time of collection to the time of arrival at the rehabilitation centre.

Medical care and feeding should not be attempted at this stage. There is little point in attempting to prevent the birds from ingesting oil on their plumage, as they will already have done so. If the oil is toxic, the damage will already have been done.

(a) Jackass Penguin

Penguins should be kept in well-ventilated store-rooms, or enclosures with walls or wire sides. The floor should be cement, or rapidly draining sand. No more than 50 penguins should be kept in a 6m x 6m enclosure. The mesh should be 60mm or less diamond mesh, and the penguins should not be able to burrow underneath. The walls should be at least 1 m high. Protection against sun, wind and rain should be provided. Drinking water must be available. Under hot conditions, birds should be lightly sprayed with water. If birds gape their beaks wide and pant, spraying is essential as the birds are overheating.

(b) Cape Gannet

Follow procedures described for penguins, except that not more than 30 gannets should be confined to a 6 m x 6 m enclosure. The enclosure should be roofed, and if the enclosure is wire, the mesh should be 30mm or less.

(c) Cormorants and other species

Follow procedures described for penguins. Greater numbers of birds can be accommodated than gannets e.g. 50 Cape Cormorants in a 6m x 6m enclosure. Wire enclosures are not suitable unless the mesh is very fine. Enclosures should be roofed.

6. HELPERS

Helpers should be aware of the potential hazards to both their health, and that of the birds.

Helpers should be well protected against injury by birds, as fear of injury is likely to result in mishandling of birds. All cuts and scratches should be washed with soap, hot water and preferably antiseptic after handling birds.

Some avian diseases are potentially hazardous to humans. Birds suspected of disease should be handled with gloves, and isolated to prevent infection of others. Helpers should be immunised against tetanus. Some human diseases are harmful to birds, so helpers should be in good health.

7. TRANSPORT

Transportation of the oiled birds from the holding area to the rehabilitation centre should only be undertaken under the supervision of experienced personnel. It is vital that birds should have adequate ventilation otherwise deaths through overheating and asphyxiation could occur.

ADDENDUM E

OIL SAMPLING PROCEDURES

ADDENDUM E

OIL SAMPLING PROCEDURES

INTRODUCTION

Both in the case of prosecution for contravention of the Prevention and Combating of Pollution at Sea by Oil Act, (Act 6 of 1981) and in the case of the Government claiming recompense for the cost of clean-up of the beaches from an identifiable spill, it will be necessary to relate the offending oil to the cargo or fuel of a particular ship. Since only a relatively fresh sample of oil can be compared with a sample taken from the ship, it is essential that the samples be collected as soon as possible after the spillage. In the case of stranding oil, the Local Authorities are often the first persons to arrive on the scene, and it is therefore recommended that they collect samples of oil immediately.

SOURCES

Oil coming ashore may be deposited on rocks, in rock pools, or on the sand. The best and easiest way to obtain a sample for analysis is from the water surface (probably in a rock pool). Should there be no floating oil, samples must be taken of whatever is available.

- Water: Since oil tends to spread on water, the sample should be skimmed off the surface directly into the container so as to obtain as much oil and as little water as possible.

- Sand: Certain refined petroleum products, fresh light bunker oil and most crude oils tend to sink into a sandy beach. The sample should consist of sand with obvious signs of staining.

- After prolonged weathering at sea, oil tends to form blackish, rounded, almost solid lumps. These "tarballs" can vary in size from less than a pin head to over 300mm in diameter. Those larger than about 10mm can be collected and placed into sample containers.

- Rocks with more viscous oils, the deposited material can be scraped off rocks, concrete or other impervious surfaces, and placed directly into the sample container.

- Debris: Oil adhering to seaweed, small pieces of wood, vegetation or other debris may be collected by placing the complete specimen, comprising oil and support material, into the sample container. In the case of dead birds, a small sample of oil-matted feathers may be removed and placed into the sample container.

It may also be necessary to take samples for insurance purposes, from live birds which are being treated at SANCCOB. The number of samples which will need to be taken will depend on the number of birds being treated and the requirements of the insurers. This could range from between 5% and 20% of the birds. Great care should be taken when collecting oil samples from the feathers of live birds.

NOTE:
Ships and tankers carry various types of oil, both as cargo and as fuel. In the event of serious damage, therefore, several types of oil may be released from a single ship. For this reason, it is recommended that, during sampling of an oiled beach, a careful examination of the beach be made to determine the uniformity of the oil deposit. Should there appear to be two or more types of oil, samples of each type should be retained, and some idea of their extent be recorded as in Section 7.1.1(c).

CONTAINERS

When oil pollution of the beaches is anticipated, it is prudent to ensure that the proper containers for collecting the samples are available. The use of adventitious containers such as tins, bottles, plastic bags etc. picked up off the beach is not acceptable, as they may cause contamination of the sample. Ideally, clean glass jars should be used. Glass jars of about 1 litre capacity - usually used for the preservation of fruit and vegetables - are most suitable.

In most cases, the samples will be required either for prosecution or litigation purposes, and it is, therefore, necessary that, prior to use, the jars be certified clean of hydrocarbon contamination by a qualified chemist (jars can be cleaned by rinsing thoroughly with an organic solvent). Once the sample has been collected, the jars should be sealed - preferably in the presence of someone with authority e.g. a policeman. They should then be packed into a wooden box with suitable packing material (e.g. polystyrene foam), for transit to the laboratory, and the packing box sealed by the person taking the samples.

The correct storage and transport of samples is important. Before dispatch it is advisable to verify that sufficient space has been allowed for any expansion of the sample that might occur. It is also necessary to comply with any safety regulations that apply to the transport of hydrocarbon materials. If possible, air should be excluded from the filled sample containers by displacement with an inert gas (nitrogen or carbon dioxide).

Having obtained the sample, it should be sent to the SAMSA which is responsible for the analysis arrangements.

LABELLING

Clear labeling and identification of samples after collection are essential. All samples that are collected should be clearly identified with a label that is not likely to become readily separated from the sample jar. The label should give the following information:

i. Ownership of sample (e.g. Margate Municipality - Zone X).

ii. Description of sample (e.g. heavy, viscous oil, tarry residue).

iii. Location from which sample was taken (e.g. Durban South Beach, scraped from rocks or collected from water surface etc.).

iv. Date and time of sampling.

v. Date and time of stranding on beach.

vi. Reference to any written or photographic record taken at the time of sampling.

vii. Name, telephone number and address of person taking sample, and those of witnesses.

ANALYSIS

Samples taken for use as evidence in court proceedings to obtain prosecution in terms of the Prevention and Combating of Pollution of the Sea by Oil Act will be analysed immediately. Those for use in litigation may need to be stored for up to two years, in which case they should be refrigerated at not higher than 5^0C.

The South African Maritime Safety Authority will be responsible for the arrangements for analysis.

ADDENDUM F

POLICY ON THE USE OF OIL SPILL DISPERSANTS IN SOUTH AFRICAN WATERS

ADDENDUM F

POLICY ON THE USE OF OIL SPILL DISPERSANTS IN SOUTH AFRICAN WATERS

1. INTRODUCTION

Oil spills may have adverse effects on various marine and coastal resources both natural and socio-economic. The objective of countermeasures is to minimise such effects.

Oil spill dispersants have frequently been used as such a measure during response operations. Their use, however, is controversial, as it has both advantages and disadvantages. Disadvantages include the fact that application of dispersants results in increased concentrations of oil in the water column, and that oil/dispersant mixtures are generally more toxic than the oil itself. Moreover, dispersants are only effective on certain types of oil, and even then only within a limited time span after the spill. It is very important, therefore, that their use is properly controlled; that they are used only when physical containment and removal is not possible, and that their use results in a net environmental benefit.

The objective of the guidelines below is to set out the criteria necessary for making rational decisions on the use /non-use of dispersants. It should be pointed out, however, that in general the decision to use dispersants should only be taken by the governmental authority responsible for the co-ordination of oil spill response i.e. the Department of Environmental Affairs DEA). A list of DEA Pollution Officers to be contacted in this regard can be found in Appendix I.

2. CONDITIONS FOR USE

Oil spill dispersants should only be used when it has been decided by the authorities concerned (the DEA On-Scene Co-ordinator) - in consultation with the scientific advisors - during a spill incident) that such use will minimise the overall environmental impact.

Only oil spill dispersants bearing the SABS mark of approval and which have passed the SFRI approved toxicity/ efficiency tests may be used. The specifications for the SABS mark are contained in SABS 1234-1978 (Amendment No. 1:3 November, 1982). It does not include dispersants and detergents approved by SABS for purposes other than oil spill dispersion. Details of the SFRI tests, and a list of dispersants which have passed the test, can be obtained from the Pollution Officer.

All use of dispersants should be documented (see Appendix II), so that relevant information can be used to improve predictions of effectiveness in field situations.

3. RESTRICTIONS ON USE

In general terms, dispersants should only be used in waters more than 5 nautical miles offshore, and/or with a depth of more than 30 metres. Use within these limits must be approved by a Pollution Officer of DEA, except in circumstances of extreme emergency where dispersant use is specifically recommended (see Section 4), or where approval for dispersant use has been incorporated into the relevant contingency plan. The Pollution Officer must then be informed of such use without delay.

In situations where the use of dispersants is being considered, the following restrictions also apply:

A. Dispersants should **only** be utilised in circumstances where they are likely to prove **effective**.

(i) Type and state of the oil: Dispersants should **not** be used on:

- slicks $\geq$ 0,5 cm in thickness
- slicks that appear as sheen or colour bands
- diesel or light fuel oil heavy fuel oil
- viscous, weathered or emulsified oil oils with pour points at or above ambient temperature
- small offshore spills

Dispersants are most effective on fresh crude oils, but it is good practise to test the effectiveness of the dispersant on the particular oil in the laboratory before application at sea, where this is practical. Should the tests prove favourable, dispersants should **still only** be used when all other requirements are met.

(ii) Weather conditions: Dispersants require a certain amount of mixing energy to be effective, and are therefore not effective in flat calm conditions, unless energy is supplied during application. On the other hand, in turbulent sea conditions the oil will be dispersed naturally. For these purposes, turbulent conditions are considered to be sea states 4, or Beaufort No's 4-5. In winds greater than Beaufort No. 5, dispersant application will be impossible.

(iii) Time limitations: Immediately oil has spilled it begins to change as a result of processes such as evaporation, dissolution, biodegradation, photochemical breakdown etc. As stated above, dispersants are not effective on weathered oil. They should, therefore, only be used if they can be applied preferably within ~two hours, or, at a maximum, 24 hours after the oil's release. These time limitations may be modified either way should careful monitoring of the operation indicate so.

Ideally, oil should be sprayed as near to the source as is possible.

(iv) Application: There are a number of methods for the application of dispersants. Dispersants should not be used unless suitable equipment is available to apply it at the rate recommended by the manufacturers. Generally, the volume of dispersant used should never exceed 20 - 30% of the volume of oil treated.

B. Dispersants should only be utilised where their use will result in a **net environmental benefit.**

They should **not** be used in the following situations:

(i) in areas of low water volume and a limited rate of exchange e.g., bays, estuaries etc.
(ii) near shellfish resources
(iii) in fresh water
(iv) on established fish breeding grounds and in migratory areas
(v) in the vicinity of industrial water intakes
(vi) in areas far offshore where there is little ashore
(vii) on the shoreline.
(viii) where there is a likelihood of the oil coming ashore

4. USE IN EMERGENCIES

At the present time, dispersant use is recommended for use on fresh crude oil when:

i. the slick is approaching islands/rocks supporting large seabird colonies, especially if these colonies include species that are rare or endangered.
ii. the slick, although just beyond the 5 nautical mile offshore limit, is moving rapidly onshore (winds or currents onshore) into
    - an area with ecologically sensitive coastal features e.g. estuaries or bays which it would not be possible to close artificially (e.g. Langebaan).
    - an area with important socio-economic features, which could not be protected from impact, e.g. heavily utilised bathing beaches at the height of the holiday season.

As stipulated above, the DEA Pollution Officers must be informed of any such use of dispersants as soon as possible and by the quickest means available (preferably telephonically).

5. DECISION MAKING

As mentioned above, the decision to use/not use dispersants involves weighing up the advantages and disadvantages. This can be facilitated using the decision tree shown in Figure 1.

APPENDIX 1

DEA Pollution Officers

* Pollution Officers:	Tel:	Fax:	Email	Cell:
Dr Yazeed Petersen (DD)	021 819 2450	021 819 2445	ypeterson@environment.gov.za	083 530 3127
Feroza Albertus-Stanley (AD)	021 819 2457	021 819 2445	feroza@environment.gov.za	072 173 6234

APPENDIX II

SAMPLE FORM for report on the use of dispersants

(a) Details of the spill location
- Data and time of the spill
- Source and type of oil
- Estimated amount, slick area, and thickness
- Appearance of the oil

(b) Environmental conditions
- Air and water temperature
- Wind, waves, currents
- Water depth
- Shoreline under threat

(c) Dispersant applications
- Rationale
- Type of dispersant
- Amount used
- Application and mixing methods
- Application rate
- Date and time commenced and ceased
- Amount of oil treated

(d) Observations

- Visual, photographic, remote sensing, sampling
- Estimated amount of oil left on water surface
- Rate of dispersed oil
- Effects on birds, fish etc.
- Persistence of effects

(e) Were other countermeasures used?
Were they successful?

Reports should be sent to:

Deputy Director: Marine & Coastal Pollution Management, Department of Environmental Affairs, PO Box 52126, V&A Waterfront, Cape Town, 8002

Approved oil spill dispersants (passed SABS and SFRI tests)

Chemserve OSE 750
Chemserve OSE 760
Chemserve OSE 770
Shell 208/84
Shell 209/84
Shell 109/85
Shell 10/85
Shell 11/85
Shell VDC plus
INIPOL IP 80
INIPOL IP 90
Oil Technics Sc-500
Slickgone LT2
Chemrite OSD
Drew Ameroid Marine OSD / LT
Planisol NT4
Veclean 1:20
Veclean 1:40
HSC 8 630
Marinekleen 2
ASC 7