REPORT

Transboundary oil spill response training and exercise between Namibia and Angola

Walvis Bay, Namibia
6th – 9th August 2019

Global Initiative for Western, Central and Southern Africa

Organised by:

The Ministry of Works and Transport of Namibia

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Transboundary oil spill response training and exercise between Namibia and Angola
Walvis Bay, Namibia, 6th – 9th August 2019.
71 Pages.

Executive summary

Title of the Workshop: Transboundary oil spill response training and exercise

Hosted by: Ministry of Works and Transport (MWT)

Venue and date: Directorate of Maritime Affairs, Walvis Bay, Namibia, 6th – 9th August 2019

Type of event: first 2 days: training (presentations followed by discussions on presented material) and last 2 days: transboundary tabletop exercise in conjunction with Angola.

Number of participants: The participants numbered around 39 and a list of delegates is attached in Annex 2 of this report.

Organized by: the Directorate of Maritime Affairs (DMA)

Supported by: the International Maritime Organization (IMO) and IPIECA, within the framework of the GI WACAF Project.

Objectives:

The objectives of this activity were to:

- Expose participants to the key issues related to trans-boundary spill incidents;
- Test the communication links between Angola and Namibia;
- Test mechanisms for requesting assistance and mobilization of international resources; and
- Test the National Plans of the two countries in the case of a trans-boundary oil spill incident.

Summary:

This workshop and table top exercise was held simultaneously in Luanda and Walvis Bay from 6th to 9th August 2019, with the intention to test key issues related to trans-boundary spill incidents such as communication between Angola and Namibia, assistance mechanisms, the mobilization of international resources and the provisions of respective national plans that would be activated in the case trans-boundary oil spill incidents. The presentations delivered during the first two days of the activity permitted to familiarize the participants with key elements of the spill response framework in the national context. The tabletop exercise in the second part of the workshop was based on a scenario involving a ship-source oil spill. It allowed the participants to put into practice the elements developed during the training, with a special emphasis on the implementation of cooperation mechanisms between both countries, from the initial notification of the incident to the development and implementation of a joint response strategy. Both the training and the exercise went well and generated numerous questions and discussions. Key take-aways and recommendations from the workshop and exercises were discussed with the participants and the experts at the end of the activity and presented in Section 7: Recommendations.

Contents

Presentation of the GI WACAF Project

Launched in 2006, the Global Initiative for West, Central and Southern Africa (GI WACAF) Project is a collaboration between the International Maritime Organization (IMO) and IPIECA, the global oil and gas industry association for advancing environmental and social performance, to enhance the capacity of partner countries to prepare for and respond to marine oil spills.

The mission is to strengthen the national system for preparedness and response in case of an oil spill in 22 West, Central and Southern African Countries in accordance with the provisions set out in the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90).

To achieve its mission, the GI WACAF Project organizes and delivers workshops, seminars and exercises, that aim to communicate good practice in all aspect of spill preparedness and response, drawing on expertise and experience from within governments, industry and other organizations working in this specialized field. To prepare and implement these activities, the Project relies on the Project's network of dedicated government and industry focal points. Promoting cooperation amongst all relevant government agencies, oil industry business units and stakeholders both nationally, regionally and internationally is a major objective of the Project during these activities.

GI WACAF operates and delivers activities with contributions from both the IMO and seven oil company members of IPIECA, namely BP, Chevron, ExxonMobil, Eni, Shell, Total and Woodside.

More information is available on the Project's website.

1. Introduction

This document provides an overview of the training and transboundary exercise carried out in Walvis Bay, Namibia from 6th to 9th August 2019.

2. Objectives

The objectives of this activity were to:

- Expose participants to the key issues related to trans-boundary spill incidents;
- Test the communication links between Angola and Namibia;
- Test mechanisms for requesting assistance and mobilization of international resources; and
- Test the National Plans of the two countries in the case of a trans-boundary oil spill incident.

3. Programme

The programme of this activity was split in 2 parts. The first part (6th – 7th August) consisted in a training to prepare the participants on the elements that have been tested in the exercise in the second part of the programme (8th-9th August). The original programme provided in Annex 1 was slightly amended during the activity. The summary of the material presented in Part 1 and the outcome of the exercise are provided in Sections 5 and 6 respectively.

4. Location, dates, and participants

Both the training and the exercise took place at the Directorate of Maritime Affairs, Walvis Bay from 6th to 9th August. The list of participants is provided in Annex 2. Most of the participants are coming from Ministries and national agencies involved in oil spill preparedness and response operations, including:

- Ministry of Works and Transport
- Namibian ports authority
- Ministry of Fisheries and Marine Resources
- University of Namibia
- Ministry of Defense (Navy)
- Luderitz Town Council
- Ministry of Safety and Security
- Ministry of Information and Communication Technology
- Orangemund Town Council
- Walvis Bay Municipality
- Municipality of Swakopmund
- Ministry of Environment and Tourism
- Office of the President

3 delegates from South Africa and 1 representative of the Benguela Current Commission also attended this activity.

5 Training material (6th-7th August)

DAY 1: *6th August 2019*

Opening ceremony

Introductory remarks

Pinehas Auene, Deputy Director, Marine pollution control and SAR, Ministry of Works and Transport

Mr Auene introduced the speakers, Emilie Canova, GI WACAF Project Coordinator and Mr Robert Kalomoh, Acting Director, Maritime Affairs as well as the two consultants, Mr Alex Hunt from ITOPF and Mr Romain Chancerel from OTRA.

GI WACAF welcome speech

Emilie Canova, GI WACAF coordinator

In her welcome speech, the representative of the GI WACAF Project welcomed the participants to this activity on behalf of the International Maritime Organization (IMO) and IPIECA and expressed appreciation to the Government of Namibia and particularly to the Ministry of Works and Transports for hosting and supporting this event.

Opening remarks by host agency

Mr Robert Kalomoh, Acting Director, Maritime Affairs

In his opening remarks, Mr Kalomoh also expressed his appreciation for the long standing partnership between Namibia and the GI WACAF project and welcomed the members of the National Plan Operations Team to this activity. He shared the ambition of Namibia to having in place sustainable funding mechanisms for exercising the provisions of the national plan and insisted on the importance of cooperation in the region to response efficiently to major marine oil spill incidents.

Proceedings of the workshop

GI WACAF Project update

Emilie Canova, GI WACAF coordinator

Emilie Canova presented the general objectives of the GIWACAF Project and the respective roles of IMO and IPIECA. Emilie then presented the achievements and the progress made in the region measured against GI WACAF project indicators for more than 10 years as welle as the challenges faced by countries in the region and the targets set-out for the 2018-19 cycle. Emilie then introduced the present activity, its objectives and expected outputs.

Regulatory and Institutional Aspects of Oil Spill Contingency Planning

Emilie Canova, GI WACAF coordinator

Emilie Canova presented the role of the International Maritime Organization (IMO) in regulating the shipping industry since its inception in 1948. She reminded the main provisions of the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC 90) which was

developped following the Exxon Valdez incident in 1989 with the intention to provide a framework for oil spill preparedness, response and cooperation worldwide. A particular attention was drawn to the importance of transposing of the provisions of the OPRC 90 in the national law and the development of cooperation mechanisms at all levels of the response continuum.

Role of ITOPF

Alex Hunt, ITOPF

Alex Hunt gave a brief presentation of ITOPF, its history since its creation in 1968, membership and the technical services provided. Through recent case studies (e. g. SANCHI (major tanker incident), SOLOMON TRADER (remote bunker oil spill), and MSC SUSANNA (spill of plastic nurdles from a container over a wide area), its role during shipping incidents was provided such as the provision of technical advice and the assessment of claims.

Overview of the NOSCP

Pinehas Auene, Deputy Director, Marine pollution control and SAR, Ministry of Works and Transport

Mr Pinehas Auene presented the Namibian preparedness and response system including its framework (International instruments, national legislation and contingency plans developped at national and sectoriel levels), governance aspects, the key elements of the national incident management system (IMS, Tiered response, Incident Action Plans) and oil spill equipment available in Namibia. The presentation generated discussions with the participants on waste treatment facilities in Namibia, the need of having guidelines appended to the Plan for the implementation IMS and the role of Operations Team members.

Oil spill risks associated with marine activities in Namibia

Pinehas Auene, Deputy Director, Marine pollution control and SAR, Ministry of Works and Transport

Mr Pinehas Auene provided an overview of changing risk profile associated with maritime activities in Namibia including the increase of marine traffic, new pollutants (HNS) and upcoming offshore oil and gas exploration. The main resources at risk were presented such as national parks, sea bird (i.e. Walvis Bay) and seal colonies (i.e. Cape Cross), and socio-economic resources in Walvis Bay (Port activities) and Swakopmund (tourism). Recent oil spill incidents in Namibia were presented including URSU (2019, 25MT IFO), the 2018 mystery spill, FROTAMERICA (2013) and CHAMAREL (2012) to illustrate these risks and mitigating measures that have been put in place by national authorities.

Environmental sensitivity mapping

Romain Chancerel, OTRA

Mr Romain Chancerel presented coastal sensitivity maps developed by Namibia using the ESI methodology set out in international guidelines (i.e. the 2012 IMO-IPIECA guideline) which identifies coastal sensitivities based on the type of shoreline (ESI index), vulnerable biological resources, activities and human-use resources. Improvements to the maps developed in Namibia were suggested including the review of baseline data to confirm the location of sensitive resources along the shoreline, the seasonality of biological resources and the development of operational maps for the protection of the most sensitive sites in Namibia.

Command and control of Spill Response

Alex Hunt, ITOPF

Alex Hunt presented the key elements of effective management of oil spill response operations. He addressed the main challenges, including the communication amongst various stakeholders that would be involved throughout the response, the importance of scaling the operations and resources through a tiered response approach and efficient organisational structure using function- and/or team-based systems. The steps of response progression from an initial chaotic/reactive phase and the transition to a management, objective-driven phase were presented including notification, evaluation, mobilisation, the development of response strategies, resource management, downsizing, termination, review and cost recovery.

DAY 2: *7th August 2019*

At-sea response

Romain Chancerel, OTRA

Romain Chancerel started the presentation with a reminder of the different types of oil, their characteristics and behaviour at sea. The importance of setting-up a comprehensive monitoring plan with regular aerial surveillance carried out throughout the response was emphasized in order to assess the extent and quantity of oil and guide response operations at sea. The main response techniques including chemical dispersion, containment and recovery an in-situ burning were then presented with their respective advantages and limitations depending on oil characteristics (especially viscosity) and metocean conditions. Finally, shoreline protection, including the identification of priority sites using sensitivity maps and protection techniques was addressed for various shoreline types.

Shoreline response

Alex Hunt, ITOPF

Alex Hunt first reminded the importance of assessing the situation by gathering information from the field through aerial surveillance and joint shoreline surveys. The different stages from primary clean-up techniques to remove the bulk oil to secondary, more refined techniques such as flushing and surfwashing were presented with an emphasis on their respective merits in terms of effectiveness, selectivity and impact to the environment. Finally, the termination of shoreline clean-up operations was presented showcasing the importance of agreeing on measurable termination criteria through the organisation of joint surveys involving all the response stakeholders and the authorities.

Oiled wildlife

Romain Chancerel, OTRA

The effect of oil on the main categories of species that are vulnerable to oil spills including marine birds, turtles and mammals was presented. As well as at-sea and shoreline response strategies, Romain Chancerel highlighted the importance of the assessment phase to gather baseline information on the wildlife present on the shoreline and, once the oil as reached the shoreline, the extent of wildlife that has been contaminated. Oiled wildlife response techniques were then presented including prevention measures (deterrence and pre-emptive capture), capture and rehabilitation (stabilization, decontamination, conditionning and release). The presentation finally insisted on the importance of the integration of oiled wildlife strategy, including euthanasia within the overall response plan to ensure an efficient use of resources.

Waste management

Alex Hunt, ITOPF

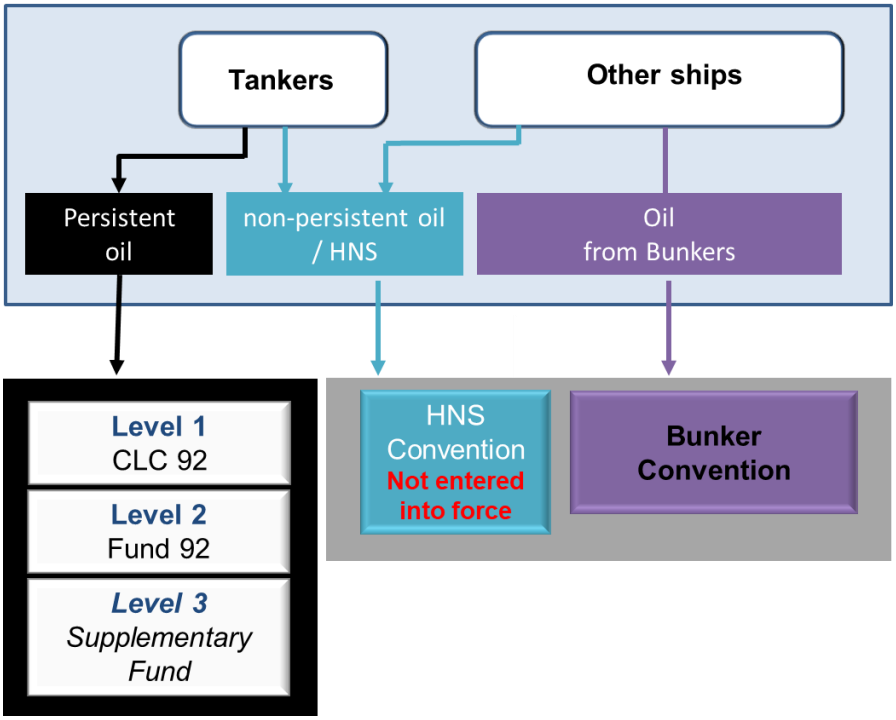
The ITOPF short video on waste management was showed on the screen. It addresses the challenges of waste management, the importance of waste segregation throughout response operations at sea and on the shoreline as well as the different waste streams from the collect on clean-up sites, treatment and final disposal destination. Following the video, a quiz (MCQ) was proposed to the audience to test their understanding of the material presented and further discuss the different aspects of waste management.

Introduction to the international Oil Spill Compensation Conventions

Emilie Canova, GI WACAF coordinator

Emilie Canova presented the international liability and compensation framework and their respective scope and limitations. The presentation highlighted the underlying principles of these Conventions, especially the concepts of limitation of liability and strict liability. A special attention was drawn to the Conventions associated to spills of persistent oil from tankers, namely the 1992 Civil and Liability Convention (CLC 92), the 1992 Fund Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (both ratified by Namibia) and the Protocol to the 1992 Fund Convention (Supplementary Fund Protocol) which was adopted in 2003. The Bunker Convention (not ratified by Namibia) was also presented as it provides the international framework for non-tanker ships with a single level compensation system based on the CLC 92 model for spill or risk of a persistent oil spill from any non-tanker ship in the EEZ of a Member State. However it does not set limits of

liability, which is why the Convention on Limitation of Liability for Maritime Claims 1976 (LLMC 1996) is complementary. Alternatively, a national limitation can be implemented.



ITOPF short video: oil spill compensation

Alex Hunt, ITOPF

ITOPF short video on oil spill compensation was shown to showcase the key principles of the international liability and compensation regimes presented in Emilie's presentation as well as existing procedures for the preparation and submission of claims by affected parties and their assessment by the P&I insurer.

Record keeping and Claim formulation

Alex Hunt, ITOPF

Following the projection of ITOPF video, Alex Hunt provided details on the concepts of admissibility and reasonability as defined in the IOPC Fund Claims Manual. Alex highlighted the importance of record keeping during the incident in order to provide as much evidence as possible and ensure a rapid processing of the claim by the insurer. Following the presentation, a short exercise was organised, where participants were requested to play the role of a P&I club expert reviewing a fictional claim, assessing its reasonability and identifying missing information.

International Cooperation in Spill Response

Alex Hunt, ITOPF

Alex Hunt presented two case studies showcasing the different aspects of international cooperation. First, the sinking of the Tanker PRESTIGE (2002) containing 77,000 MT of heavy fuel oil which impacted the shoreline of Northern Spain and France was a good example of integration of response resources at the regional level. The grounding at the entrance of the Port of Karachi, Pakistan, of Tanker TASMAN SPIRIT leading to the release of 30,000 MT of light crude oil was another exemple of international

cooperation with the rapid mobilisation of Tier 3 resources such as the OSRL Hercules aircraft for the large scale spraying of chemical dispersant.

International cooperation : role of the Benguela Current Commission (BCC)
Xolela Wellem, BCC
Mr. Xolela Wellem (BCC) gave a presentation on the organisational structure and work programme of BCC and presented a Project started in 2006/2007 leading to the development of a regional document summarizing national response policies in the 3 countries of the sub-region (South Africa, Namibia and Angola). The BCC is currently working towards securing sustainable funding mechanisms for the development of cooperation in the form of bilateral or multilateral agreements (rather than a regional contingency plan). He presented the 2 new taskforces in place, one for oil spill response and another for ballast water, with representatives from the 3 countries. He also mentioned the BCLME III Project that the BCC is implementing. It is funded by UNDP and aims at improving ocean and costal governance to protect the marine environment, especially through fostering regional cooperation.

Presentation of the exercise rules
Romain Chancerel, OTRA
Romain Chancerel presented the rules of the exercise including the objectives, the participants from Angola and Namibia, the Control Team, observers (representatives from South Africa) and external role players (OSRL and IMO), the timeline and the specific rules of the exercise ("EXERCISE EXERCISE, EXERCISE", pre-set metocean conditions, etc.).

6. Transboundary tabletop exercise (8TH -9TH AUGUST)

Exercise objectives

The specific objectives of the exercises were discussed between the authorities of Namibia and the GI WACAF Project and were formulated as follows:

- Expose participants to the key issues related to trans-boundary spill incidents
- Train the participants on the existing transboundary arrangements and on topics related to the exercise;
- Test the communication links between Angola and Namibia;
- Test assistance mechanisms and mobilization of international resources;
- Test the National Plans of the two countries in the case of a trans-boundary oil spill incident

Exercise scenario

The scenario developped for this exercise involved the collision of a fully laden oil tanker (MALAVITA) and a container ship (SUNWAYS) offshore Namibia at 70NM from the Angolan border, leading to the release of a significant amount (>1000 MT) of medium crude oil at sea. The metocean conditions set for the exercise would transport the oil to a North Easterly direction resulting in large segments of shoreline being affected in Namibia and in Angola.

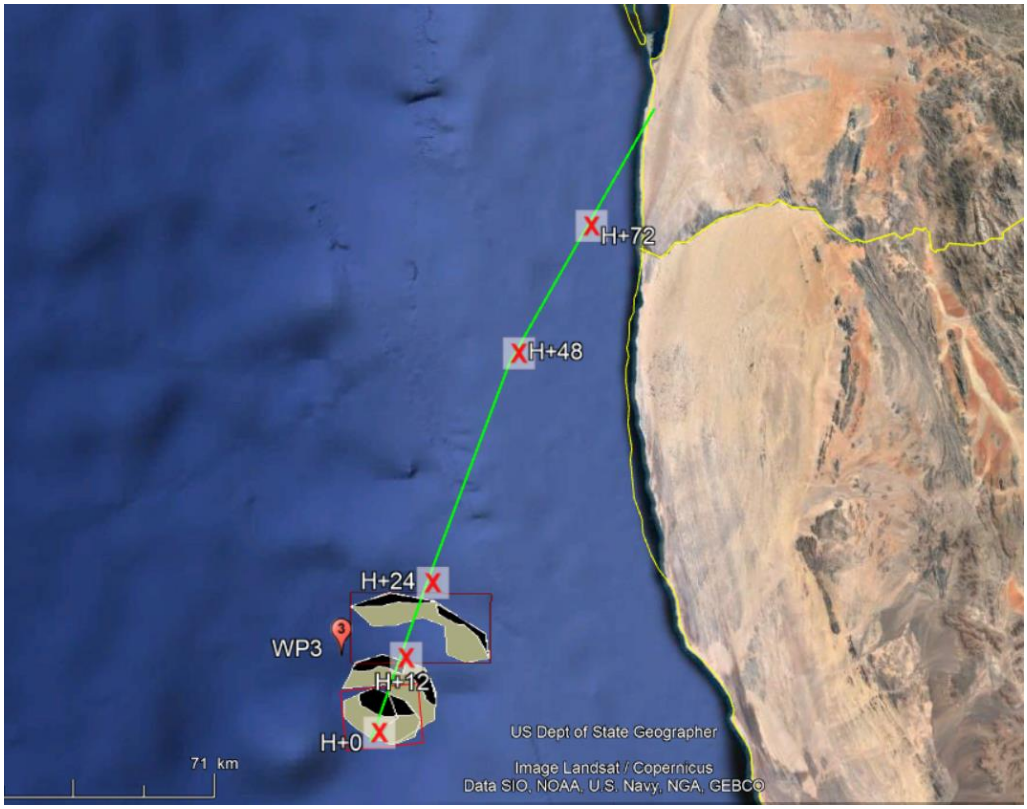


Figure: oil trajectory (green line and time markers) according to the metocean conditions provided for the exercise and results of aerial surveillance provided to the participants in injects 4, 7 and 9.

Exercise timeline

The exercise started in Namibia on 8th August, 08:30 am local time with INJECT 1 (email) from the Tanker's ship agent based in Walvis Bay, to the Ministry of Works and Transport (MWT) with a pollution Report (POLREP) providing provisional information on the incident and pollution at sea. The provisional timeline was proposed as follows:

- INJECT 1: Namibia, 08:30am BST+1, 08/08/2019
- Notification of Angolan authorities expected between 9:30 – 11:00 BST+1
- Lunch break expected 12:00 – 13-00 pm on day one
- End of day one expected at 16:30pm
- Day 2 - Exercise resume at 9:30
- Last inject : 11:00 am BST+1, 09/08/2019
- End of the exercise: expected 12 pm on 09/08/2019
- Hot wash after lunch

All injects were sent by email by the Ship Agent of tanker MALAVITA (based in Walvis Bay) to Mr Pinehas Auene (Namibia) and Mr Manuel Xavier (Angola) using a mail box created for the purpose of the exercise (malavita.agent@gmail.com). The list of injects is provided in the following table (actual injects are available in Annex 6). Adjustment in the timing of the injects was done during the exercise as reflected in the proceeding of the exercise (Annex 5).

Injects	BST +1	From	To	What	Status

Inject 1	**08:30**	Agent	MWT	POLREP	OK
Inject 2	**10:00**	Agent	MWT	ITOPF assessment	OK
Inject 3	**11:00**	Agent	MWT	Inspection report	OK
Inject 4	**13:00**	Agent	MWT	Aerial 1	OK
Inject 5	**14:00**	Agent	MWT / MIREMPET	OSRL logistics	OK
Inject 6	**15:00**	Agent	MWT / MIREMPET	Radar satellite	OK

End of day 1

Inject 7	**09:30**	Agent	MWT/MIREMPET	Aerial 2	OK
Inject 8	**10:00**	Agent	MWT / MIREMPET	Angry fishermen	OK
Inject 9	**10:30**	Agent	MWT / MIREMPET	Aerial 3	OK
Inject 10	**11:00**	Agent	MWT / MIREMPET	Minister request details for press Conference	OK

End of exercise

Exercise rules

The rules of the exercise were the following:

Metocean conditions

Wind and current conditions were provided in the exercise inject by the control team (Angola: communicated by Namibia during the exercise)

Time-outs

Exercise control team to call a time-out if/when required.

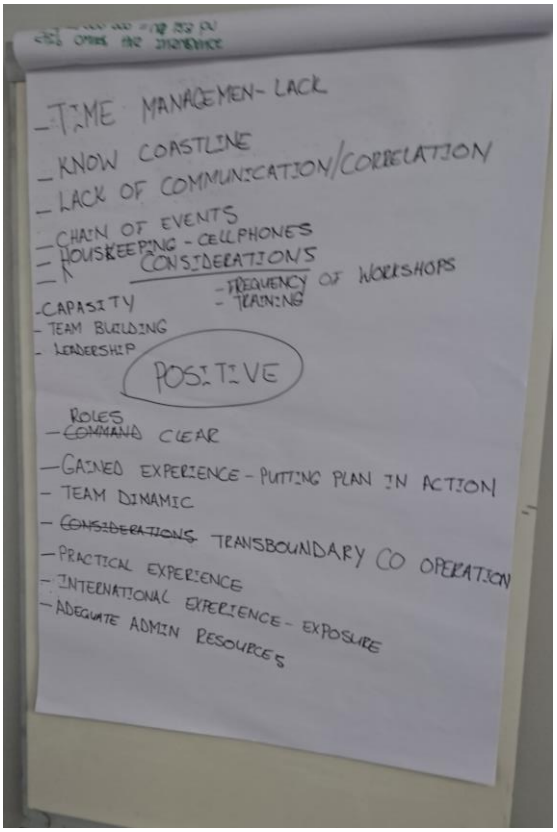
External communication

Any communication (written or oral) should start by EXERCISE – EXERCISE – EXERCISE

- Angola: played as real
- South Africa : use SAMSA delegates present in the room
- OSRL : Tel : +44 (0)23 8033 1551, ask for duty Manager
- IMO : Contact details : Clément chazot cchazot@imo.org, Tel : +44 (0) 20 7463 4002
- Communication with ship representatives (vessel captain, ship owner, cargo owner, P&I Club) will be done through the ship agent in Walvis Bay (played by exercise control team) using the provided contact details:
    - Email : malavita.agent@gmail.com
    - Tel: +264 (0) 816470919

Exercise debriefing

A debriefing was organised with the participants at the end of the exercise which allowed to assess the positive points and what could be improved. The following picture captures the points discussed with the participants following the exercise during the debrief.



Positives:

- *Roles were clearly defined*
- *Gained experience*
- *Putting plan in action*
- *Team dynamic*
- *Transboundary cooperation*
- *Practical experience*
- *International experience exposure*
- *Adequate admin resources*

Negatives:

- *Lack of time management*
- *Knowledge of coastline*
- *Lack of communication/correlation*
- *Chain of events (?)*[1]
- *Housekeeping (use of cellphones)*

Considerations for improvements

- *Capacity building*
- *Leadership*
- *Frequency of workshop*
- *Training*

Taking into considerations the above and discussions with participants during the debriefing sessions the positive points and those that may need improvement according to the control team present during the exercise are summarized as follows:

POSITIVES

- First exercise organized in the country to test the provisions of the national contingency plan
- First bilateral exercise to test cooperation mechanisms
- Recognition of the risk of a transboundary spill in the region
- Format of activity including 2-days training before running the exercise allowed to refresh participants on key elements of oil spill response
- Conference room equipment (wifi, projectors, flip chart, white board, etc.) was suitable
- Attendance: delegates of 'Operations Team' from relevant departments were present
- Presence of South African delegates as observers
- Presence of the BCC to discuss cooperation in the region

[1] It is understood from the discussions that "chain of events" refers to the sequencing of work phases : coordination meetings, work in sections, reporting, Planning/Operations meetings, etc.

POINTS THAT COULD BE IMPROVED

- Transboundary exercise between Namibia and Angola was maybe too ambitious at this stage
  - Test national response system first
  - National exercises in the form of tabletop and equipment deployment should be organised to familiarize participants with the provisions of the national contingency plan
  - More training should be provided to members of the Operations Team to familiarize them on oil spill response principles
- Most participants attended an oil spill preparedness and response activity for the first time
  - Low continuity in the training of participants
  - No record keeping of training attendance or participation to real spill incidents
  - Lack of general knowledge of participants on the functionning of the Operations Team
- Overall set-up of the Directorate of Maritime affairs may not be adequate for a full mobilisation of the Operations Team
- Means of communication between the countries (phone, fax, Skype, whatsapp) should have been tested before the exercise

Exercise evaluation

Based on the objectives set-out for this exercise the expected outcomes were evaluated by the control team using the following colour coding system:

	Well addressed
	Satisfactory
	Unsatisfactory
	Not addressed
	Not tested

Coordination between Angola and Namibia		
• Incident coordination – Structure / organisation – Control and command – Terminology – Language		*- Coordination meetings set-up by Control Team in Namibia and Angola* *- Cooperation language in English but only between GI WACAF Focal Points* *- Incident Commander from Namibia delegated communication with Angola to Mr Pinehas Auene (role not clearly identified)* *- No visibility on organisation/structure of management although both countries' organisation is based on IMS* *- No secondary channels of communications between IMT sections (operational) / only formal / high level communication between focal points)*
• Develoment of a response strategy – at sea – on air – shoreline		*- At sea response supervised by Angola (and industry) with support of Namibia for logistics. Is this okay? Yes if oil is likely to impact Angola **BUT** what if oil is expected to remain in Namibia (not impacting Angola)?* *- Incident Action Plans (IAP) developped separately on day 2 and not discussed between technical teams - Role of Namibia mainly limited to shoreline response* *- Little/no coordination regarding shoreline response strategy*
• Management of response resources		*- Respective roles of Namibia / Angola was finally agreed (offshore operations relinquished to Angola with support of Namibia in Namibian waters; Shoreline : each country in charge of their respective territory)* *- Namibia intiated discussion for sharing storage of waste in old mine sites*

• Funding of oil spill response operations and cost recovery		*- Operations Team requested that all costs are covered by ship owner.* *- Limitation of liability not discussed.* *- No cost tracking of Namibian resources* *- No accountability of actions taken* ***Note**: little to no resources engaged directly by Namibian authorities*
• Crisis Management (High level management / decision making)		*NOT TESTED but inputs from high level management prepared (i.e. request preparation of a press release)*
Communication links between Angola and Namibia		
• Notification / Alerting of neighbouring country		*- Angola notified orally* *- First injects forwarded by Namibia by email 'as it is' to Angola "For your information": Information sent before it has been properly reviewed, processed and cleared* *- No clear official procedure for alert and notification*
• Sharing of information		*- Information sharing limited to emails / phone calls between GI WACAF Focal points in both countries* *- GIS information not shared* *- No joint file depository* *- No acountability of shared information*
• Provisions of NOSCPs		*- No contact details provided in Namibia NOSCP* *- No alert and notification procedures*
• Means of communication		*- Formal communication channels limited to emails and phone calls between Angola and Namibian Focal Points* *- (Informal) Whatsapp used between Angola Incident Commander (M. Xavier) and Namibia GI WACAF Focal Point (P. Auene)* *- No technical communication between Operations sections* *- Direct lines not available (problem appeared to be on the Angola side)* *- No liaison officer nominated to attend in the IMT of other country*
Assistance mechanisms		
• International cooperation mechanisms (IMO/OSRL/others)		*- IMO Not contacted* *- OSRL Contacted by ship agent*
• Regional cooperation mechanisms : – Abidjan Convention (ABC) Emergency Protocol – Regional Contingency Plan		*- ABC not contacted.* *- POLREP system provided in regional contingency plan not used.*
• Sub Regional cooperation mechanisms : Test role of Benguela Current Convention (BCC)		*- NOT TESTED: BCC contingency plan not operational (as presented by BCC delegate during the training session)*
• Customs and immigration – Visa for external assistance – Equipment clearance		*- Customs procedure for autorisation to fly an aircraft in Namibian airspace tested and obtained.* ***Note**: List of T3 response resources not established by Operations Team which prevented this aspect to be fully tested*
• Assistance from South Africa		*- Delegate from South Africa (SAMSA) were not consulted despite being present in the room*

National response system

• Activation of the Namibian OSCP – Initial actions and assessment of spill at sea – Alert and notification procedures – Mobilisation of personnel		*- Personnel pre-mobibilised for the purpose of the exercise (NOT TESTED)* *- Preliminary assessment done by IC using marine charts* *- Potential spill magnitude not identified based on initial information provided* *- Initial trajectory (rule of thumbs 100%/3%) / Spill behavior / magnitude (common sense) should be carried out by Planning section (passive, no instruction given by IC) : probably due to lack of practical knowledge* *- Organization chart to be prepared as early as possible with team members / roles / contact details* *- Safety aspects not fully addressed (dangerous volatile compounds)? Fishing ban (mentioned) ? Exclusion zone? Risk for responders?*
• Command and control – Incident Management System – Structure / organisation – Accountability – Leadership – Communication		*- Participants generally not familiar with principles of IMS which lead to poor communication and lack of efficiency* *- Process of designation of IC during an incident (by whom?) is not clear* *- IC not familiar with NOSCP / IMS principles* *- No instructions given to sections' head by IC through out the exercise* *- Role of Mr Auene is unclear: IC Assistant? Response Coordinator? Liaison Officer? Planning?* *- Individual participants volunteered to take on roles (Planning/operations) in the management structure rather than being designated* *- Logistics function not played (extension of Operation section)* *- Admin/Finance not played*
• Development of an Incident Action Plan (IAP) – Methodology – défintion of response objectives – response strategies and tactics – tactical deployment		*- IAP developped on Day 2 in the form of a "wish-list" of what should be done* *- Not familiar with methodology (Priorities>Objectives>Strategies >Tactics> Resources)* *- Not clear who is in charge of the IAP? Planning / Operations sections?* *- Planning cycle: IAP should be developped on Day 1 for D+1* *- IAP should be more detailed with operational information (not limited a summary of what 'should' be done)*
• Common Operating Procedure – Reporting procedure – GIS data management – record keeping – Management of information		*- No recording / archiving of actions/ information* *- No incidents log (usually 1 personnel from Planning section should be designated)* *- GIS data provided (kml files) not used to follow progress of situation and mapping of resources* *- No system in place for information management* *- No accountability*

Response strategy, tactics and resources		
• Offshore response operations – Technical knowledge – Development of response strategies/techniques – Resources management		*- Aerial surveillance should be absolute priority (not immediately planned for during the exercise)* *- General lack of technical knowledge regarding offshore response techniques at sea* *- Coordination relinquished to Angola, shipowner and OSRL to manage. This was okay in the present situation, but Namibia should be capable of coordinating this kind of operation in its own EEZ* *- Role of Namibia regarded as support only (validation of response strategies, custom/immigration, sourcing of spotter aircraft, jet fuel, etc.)* *- Lack of clarity regarding dispersant spraying policy*
• Shoreline response operations – Technical knowledge – Development of response strategies/techniques – Resources management		*- Sensitivity maps have been used to identify Cunene as a priority site for protection and clean-up* *- Operations Teams was generally less reluctant to take charge of shoreline response operations* *- However, protection mentioned but not addressed in operational terms (equipment, personnel, logistics)* *- Logistics to bring equipment to remote area (Skeleton coast) identified as a major issue ('bottleneck')* *- Waste management addressed early*
• Response equipment (at sea / shoreline) – List of available resources – Support logistics – OT familiarity		*- List of national stockpile equipment present during presentation (by P. Auene) and mentioned during the exercise* *- List includes: offshore cont. & recov. (Foilex) + Shoreline protection (shoreline sealing) + skimmers, etc.* *- Unclear: Integration in national response strategy* *- No information on associated logistics (vessels requirements,* *- OT not familiar with implementation of response techniques*
• Crisis Management Room(s) – Location – Space – Access – Equipment		*- Basic equipment provided: Marine charts, phone lines / flip charts / white boards / projector / printer / fax / sensitivity maps (Too small: format A4/A3)* *- Not used to its full capacity (i.e. Projector should have been used to share latest information with the team and for teleconference with Angola)* *- Splinter rooms used for Operations and Planning sections too small / not fully functional (dedicated computer? Printers? Phone lines?)* *- Missing equipment : dedicated computers / vests for Logistics and Admin sections/ Large prints (A1) of sensitivity maps*

7. Recommendations

The following recommendations are based on the evaluation of the exercise (above) and discussions with participants during the workshop and exercise.

INTERNATIONAL COOPERATION

The exercise highlighted the need for the update of cooperation instruments in the region and sub-region to include and/or update operational aspects of assistance between the countries.

▶ **Alert and notification procedure for transboundary spills**

- Designation of focal points, by each country and clear process of who alerts who: at national level and from one country to the other ;
- Emergency contact numbers (24/7/365) to be kept up-to-date and readily available ;

- Use of standard reporting: POLREP system - included in the Regional Plan (should be referred to in each National Plan).

▶ **Role of the IMO**

- Countries should keep in mind that, according to the provisions of the OPRC 90 Convention, State-Parties should notify IMO in case of a spill;
- Include information for the notification of IMO.

▶ **Incident Management**

- Ensure countries are IMS compliant (same terminology, etc.) ;
- Specify interface between national response organisations : Who talks to whom? How? When? ;
- Develop and keep updated a list of call-out authorities: i.e. entities/individuals designated in each country, who are entitled to request assistance and/or agree to render assistance) ;
- Include in the cooperation instruments a template form to request the mobilisation of resources from assisting country ;
- Ensure that Emergency customs and immigration procedures are in place in all countries, parties of the Regional Plan ;
- Include rules for the management of response resources mobilised from outside the country by the requesting Party (to be included in the response plan developped by the Incident Commander of requesting country) ;
- Develop and include in the cooperation instruments, cost-recovery and insurance rules between assisting and requesting Parties ;
- Define rules for the demobilisation and returning of resources to Assisting Party.

▶ **Harmonisation of response strategies**

- Encourage standardization of oil spill response strategies in individual national policies**:**
    - for use of dispersants: geographical locations where dispersant are authorised, list of approved products, etc.
    - In-situ burning ;
    - Observation and reporting of spills at sea (use of Bonn Agreement Colour Cod and on land (SCAT) ;
    - Etc.

▶ **Clarification of the role of BCC** for the improvement of cooperation:

- Role <u>during preparedness</u> : facilitate the development of bilateral agreements, update and ensure maintenance of the Regional Plan, including operational aspects, organisation of transboundary exercises, routine check emergency contacts, regional oil spill equipment database, regional spill specialist database, etc. ;
- Role <u>during response operations</u>: mobilisation of international expertise, technical support for protection of sensitive environmental and biological resources.

NATIONAL RESPONSE FRAMEWORK

▶ **Consolidate the national response organization** so that it is robust, adaptable, flexible, coherent and clearly articulated with the other sectorial plans (port authorities, industry).

▶ Consider **ratification to the BUNKER Convention**

▶ Consider development of a **national dispersant spraying policy, if possible aligned with the policies of neighbouring countries (i.e Angola and South Africa)** that includes:

- Conditions of use in Namibian waters
- List of approved products

▶ Consolidate engagement with the **National Plan Management Committee (MC)** in order to ensure **:**

- key members of the Operations Team are identified/designated ;
- a good participation in future training and exercises activities ;
- the dissemination and sharing of information to MC members ;
- a clear decision-making processes is known to all.

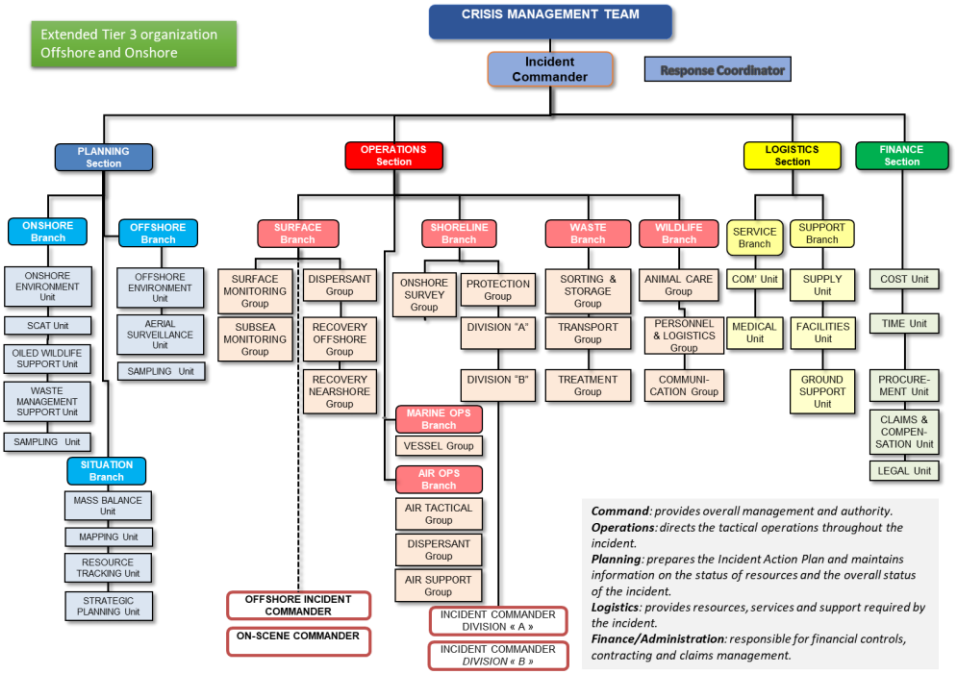
▶ **Reinforce the participation of industry** in the national response framework

▶ **Consider the establishment of a core response team** composed of trained / competent personnel that would be invited to attend preparedness activities and play key role during real spill incidents.

RESPONSE STRUCTURE AND ORGANIZATION

▶ Clarify the roles of **Incident Commander** and **Response Coordinator**

▶ Structure the Operations Team by identifying the key functions of each of the sections. The following is an exemple of a fully deployed OT organisation from the industry.



▶ Consider the development **job tickets** for key functions of the OT, i.e.

- Incident Commander
- Response Coordinator
- Operations Section Head
- Planning Section Head
- Logistics Section Head
- Finance and Administration Section Head

▶ **Ensure a sufficient level of technical competence** of Operations Team designated staff through targeted training and exercises, and attendance to real spill incidents

▶ **Keep track of personnel** that attended prepardness activities and real spill incident with information of their role during these activities

▶ **Ensure that key positions in the Operations Team** (Incident Commander, Response Coordinator Section's head, etc.) **are allocated to trained and competent personnel** during exercises and real spill incidents:

- Consider creation of 'core response team' (as recommended in the national response framework section) to be mobilised in priority (to be discussed with the **National Plan Management Committee**)

▶ Ensure effective command and control mechanisms of the Operations Team through **better accountability** (KPIs, key deliverables, etc.)

▶ **Specify the essential external interfaces** of the OT:

- Specify the interfaces (national and local) with the Port Authorities, responsible parties (i.e. private sector, maritime transport, oil industry etc.) ;
- Clarify interfaces with external assistance (national and international).

RESPONSE STRATEGIES

▶ **Characterisation of the risk** associated with marine oil spills in Namibia

▶ **Strategic discussion on the role of the Operations Teams/Namibian authorities** during an oil spill incident:

- Aerial surveillance
- Coordination of offshore response operation (is it realistic?)
- Shoreline Clean-up Assessment Teams
- Shoreline response operations
- Waste management
- Wildlife response operations
- Etc.

▶ **Review the set of sensitivity maps** :

- Tactical maps: review baseline data (unacurracies / missing information)
- Strategic maps : use larger scale to identify key protection sites along the shoreline for quick decision making (as they are now, information is redundant with Tactical maps)
- Develop site-specific operational maps for protection and clean-up identifying:
    - deployment strategies for each specific sites ;
    - response equipment ressources ;
    - logistics requirements.

▶ Development of a **shoreline response strategy**

- Overall strategy based on sensitivity maps (strategic/tactical) ;
- Use Operational maps to determine oil spill equipment that should prepositionned / maintained ;
- Identify key logistics aspects :
    - Road access / aircraft take-off/landing tracks ;
    - Restricted access areas :
    - Potential staging areas and waste storage .
- Development of **waste management strategy** and **oiled wildlife management strategy**

PREPAREDNESS: TRAINING, EXERCISES AND RESPONSE RESOURCES

▶ Plan training for key Members of the OT on key aspects of response, i.e.:

- Principles of Incident Management System

- IMO OPRC Level 2 / Level 3
- Aerial surveillance / Shoreline Clean-up Assessment
- Common Operating Picture

▶ Use an integrated approach for the development of national response capabilities:

- Assess need to have and maintain heavy-duty offshore equipment (should include mobilisation procedure, support vessels, logistics, maintenance and training requirements)
- Focus on response priorities; i.e. protection of seal and sea bird colonies in sheltered areas along the coastline and equipment for shoreline clean-up (mostly rocks and sand)

	Minimum equipment	**Interface with national plan**	**Minimum training requirements**
Industry / Terminals			
Port Authorities			
Local authorities			
MWT			
Others?			

▶ Develop realistic, objective-driven, and measurable, preparedness objectives:

- Training / exercise : who? what? when? how often? ;
- Equipment: make sure to take into account an holistic approach when considering to acquire response equipment (maintenance, competence, logistics).

▶ Develop a programme of exercise to test specific response aspects including:

- Notification exercises ;
- Tabletop exercises ;
- Equipment deployment exercises ;
- Incident management exercises.

The following table is an exerpt of the 2005 IPIECA guideline on exercise planning. It gives an overview of the purpose and scope of each of these types of exercises.

	Notification Exercise	Tabletop Exercise	Equipment Deployment Exercise	Incident Management Exercise
Purpose	• demonstrate availability to respond • ascertain travel options • verify communications systems • confirm accuracy of information	• test emergency management knowledge and capability • provide individual and team training • acquaint personnel with roles and responsibilities	• test equipment deployment procedures and strategies • practice individual skills and team interaction • focus on teamwork and organization • test communications	• demonstrate spill response management capabilities • integration of roles of different parties • focus on overall incident management aspects
Coordination	• exercise coordinator	• exercise coordinator • role players • evaluators	• exercise coordinator • technical advisers • evaluators	• exercise coordinator • facilitators, role players • evaluators, controllers
Location	• offices, homes	• office, crisis centre, hotel command post	• simulated response location	• crisis room and single or several response facilities
Personnel	• all team members	• response team members • other parties	• local spill response team • contractors • observers	• local/central response teams • other parties
Duration	• 1–2 hours	• 4–8 hours	• 4–8 hours	• 1–2 days
Objectives	• personnel notified and ready to respond	• response strategies agreed • resources identified • implementation complete	• equipment mobilized and working	• personnel mobilized • response strategy agreed • crisis being managed
Evaluation	• reports on efficiency and speed of communications • recommendations	• reports from facilitators and evaluators • feedback from players • recommendations	• reports of individual and team performances • team member feedback • recommendations	• reports of individual and team performances • team member feedback • external party feedback • recommendations

8. Conclusion

This activity has been organised in recognition of the risk of a major marine oil spill in the region with the potential to affect 2 or more countries. It included 2 phases: a 2-days training to refresh the participants on the key elements of oil spill response and a 2-days tabletop exercise organised in conjunction with Angola to test the coordination of a major oil spill incident.

The discussions following the presentations and the outcome of the exercise permitted to identify key points for the improvement of response efficiency through the consolidation of the national response system and the implementation of international cooperation mechanisms.

Specific recommendations were developed for the improvement of: 1) international cooperation, 2) national response framework, 3) response organization, 4) response strategies and 5) preparedness: training, exercises and response resources are presented in section 7 of the present document.

It must be noted that, whilst the development of specific cooperation mechanisms in the form of regional contingency plans or multilateral agreements may help improve response effectiveness in the region, the consolidation of national response systems through an improved organisation, and the implementation of a comprehensive training and exercise programme, should be considered as a priority.

Annex 1 : Programme[2]

Day 1 – Tuesday 6th August 2019	
0830 – 0900	**Arrival and registration of participants**
	Opening Ceremony
0900 – 1000	**Welcome Speech from GI WACAF** *Emilie Canova, GI WACAF Project Coordinator* **Opening Speech** *Mr Willem Goeiemann, Executive director, Ministry of Works and Transport*
1000 – 1030	**Coffee Break & Group Photo**
	Workshop Introduction
1100 – 1130	**GI WACAF Project Update** *Emilie Canova, GI WACAF Project Coordinator* **Introduction of Facilitators** *Emilie Canova, GI WACAF; Romain Chancerel, OTRA; Alex Hunt, ITOPF* **Introduction of Participants** **Workshop overview** *Emilie Canova, GI WACAF*
	Oil Spill Contingency Planning
1130 - 1200	**Regulatory and Institutional Aspects of Oil Spill Contingency Planning** *Emilie Canova, GI WACAF* • OPRC 90 and the international framework • National obligations according to OPRC 90 • Institutional arrangements and sharing of responsibilities Q&A
1200 – 1300	**Lunch**
1300 – 1345	**Overview of the NOSCP** *Mr Pinehas Auene, Deputy director Marine pollution control and SAR, Ministry of Works and Transport* To include:

[2] Programme initially proposed for the worshops has been adjusted during the workshop as reflected in section 5. Activities and proceedings

	• Roles and responsibilities of government departments and agencies • Role of oil industry in spill response • Key points on oil spill response strategy • Information on vessels, aircraft and equipment stockpiles • Hazardous waste storage and treatment considerations Q&A
1345 – 1400	**Role of ITOPF in Spill Response** *Alex Hunt, ITOPF*
1400 – 1430	**Command & Control of Spill Response** *Alex Hunt, ITOPF* • Major challenges posed by oil spills • Roles and responsibilities in spill response • Organising, scaling and staging the response • Incident management & organisational structures • Key requirements for effective control • Important tools for incident command Q&A
1430 – 1500	**Coffee Break**
1500 – 1600	**National Oil Spill Risks, Environmental and Socio-economic Sensitivities** *Mr Pinehas Auene, Deputy director Marine pollution control and SAR, Ministry of Works and Transport* To include: • Risks from shipping (including passing ships) • Risks from offshore E&P • Sensitive coastal habitats • Fishing and tourism Q&A
1600 – 1630	**Environmental Sensitivity Mapping** *Romain Chancerel, OTRA* • Overview and purpose of Sensitivity Mapping • Benefits to decision-makers during response • Examples of Sensitivity Maps Q&A
1630 – 1700	**Discussion and Summary of Day 1** *Emilie Canova, GI WACAF (Facilitator)*
	End of Day 1

Day 2 – Wednesday 7th August 2019	
	Spill Response Strategy
0900 – 0945	**At-Sea Response** *Romain Chancerel, OTRA* • Gathering information: aerial surveillance • Assessing the need for a response at sea • Containing and recovering floating oil • Application of dispersants: benefits & limitations • Shoreline protection strategies • The NEBA concept Q&A
0945 – 1030	**Shoreline Clean-Up** *Alex Hunt, ITOPF* • Gathering information: shoreline surveys • Strategy and stages of shoreline clean-up • Techniques for bulk oil recovery • Removal of residual oil: methods and end-points • Issues of aggressive clean-up and late termination Q&A
1030 – 1100	**Coffee Break**

1100 – 1130	**Responding to Oiled Wildlife**
	Romain Chancerel, OTRA
	
	• Integration of Oiled Wildlife Response into Incident Management organisation offshore and onshore
	  ○ Definition of strategy
	  ○ Deployment of operations
	• Access to and mobilisation of advice/specialized organizations
	• Access to Tiered response resources
	
	Q&A

1130 – 1200	**Oily Waste Management (Film)** *Alex Hunt, ITOPF* • Issues associated with oily waste production • Methods for reducing oily waste in clean-up • Treatment and disposal options

	Quiz
1200 – 1300	**Lunch**
	Oil Spill Compensation
1300 – 1330	**Introduction to the International Oil Spill Compensation Conventions** *Emilie Canova, GI WACAF and Alex Hunt, ITOPF* • Conventions covering tanker spills (CLC, FUND, supplementary Fund) • The Bunkers Convention (BUNKER) **Oil Spill Compensation (Film)** • Conventions covering tanker spills (CLC & FUND) • The Supplementary Fund, STOPIA and TOPIA • The Bunkers Convention (BUNKER) • P&I Clubs and the International Group • The role of the IOPC Funds • Case Study: HEBEI SPIRIT Quiz
1330 – 1400	**Record Keeping & Claim Formulation** *Alex Hunt, ITOPF* • Key organisations and the claim settlement process • Guidance on claim formulation and submission • Stages and criteria for claim assessment • Record keeping during the response Q&A
1400 – 1430	**Coffee Break**
	Transboundary Response
1430 – 1500	**International Cooperation in Spill Response** *Alex Hunt, ITOPF* • Lessons learned in 50 years of spill response • Issues associated with transboundary incidents • Key case studies: TASMAN SPIRIT, PRESTIGE, SANCHI • Examples of effective regional cooperation Q&A
1500– 1545	**Transboundary Arrangements within the NOSCP** *Ministry of Works and Transport and Benguela Current Commission* To include: • Communication links between governments of Angola and Namibia

	• Mechanism for requesting international assistance • Discussion on potential issues related to transboundary incidents Q&A
1545– 1600	**Summary of Day 2 and Workshop Wrap-up** *Emilie Canova, GI WACAF (Facilitator)*
1600 – 1630	**Introduction of the Exercise** *Romain Chancerel, OTRA*
	End of Day 2

Following this 2-day training, a transboundary exercise between Angola and Namibia took place on 8th and 9th August 2019.

*This table top exercise organised by the GI WACAF Project in cooperation with national authorities in charge of oil spill preparedness and response in Angola (Ministério dos Recursos Minerais e Petróleos) and Namibia (Ministry of Works and Transport) was **held simultaneously in Luanda and Walvis Bay** in order to test cooperation mechanisms in the sub-region.*

Annex 2 : List of participants

No.	Names	Institution	Email address	Telephone	Mobile
1	Ester Mweulyao (Ms)	Ministry of Information, Communication and Technology	Ester.Mweulyao@mict.gov.na	063 223220	0813718336
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31	Alex Hunt	ITOPF	alexhunt@itopf.org	+447788551500	

32	Romain Chancerel	OTRA	rchancerel@otra.onmiciosoft.com	+33611201179	
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Annex 3 : Opening speech from Willem Goeiemann, Executive Director of Works and Transport

REPUBLIC OF NAMIBIA

MINISTRY OF WORKS AND TRANSPORT

Welcoming and Opening remarks by Willem Goeiemann

Executive Director of Works and Transport

at the Transboundary Oil Spill Response Workshop and Exercise with Angola

06 August 2019

Walvis Bay

Representatives of the International Maritime Organization (IMO) and the International Petroleum Industry Environmental Conservation Association (IPIECA)

Representatives of the Benguela Current Convention (BCC)

Distinguished participants from South Africa

Members of Operations Team (OT) of the National Marine Pollution Contingency Plan

Management and Staff of the Ministry of Works and Transport

Members of the Media

Distinguished Ladies and Gentlemen

I am honoured to be here this morning to deliver brief welcoming and opening remarks for this important Transboundary Oil Spill Response Workshop and Exercise, which are taking place simultaneously in Walvis Bay and Luanda.

I thank IMO and IPIECA for supporting and facilitating these important interventions under the auspices of the Global Initiative for West, Central and Southern Africa (GIWACAF) Project. These interventions will no doubt significantly contribute to effective transboundary oil spill preparedness and response arrangements in Namibia and the sub-region.

I warmly welcome our distinguished facilitators, namely Ms Emilia Canova, GIWACAF Project Coordinator, and our old friend Romain Chancerel, IMO representative and past GIWACAF Project Manager. I am advised that Romain has been to Namibia before and he did some sterling work during his tenure as GIWACAF Project Manager. Welcome back to Namibia - Romain.

Last but not least (as far as our facilitators are concerned) I also warmly welcome Mr. Alex Hunt – IPIECA Consultant.

Let me also extend my warmest and fraternal welcome to the participants from South Africa.

Lastly, I wish to welcome all the members of the National Plan Operations Team present here today and thank them for their unwavering dedication and commitment to ensuring that Namibia's marine pollution preparedness and response system is responsive to the prevailing risk scenarios and is aligned to international best practices.

Ladies and Gentlemen

The objectives of this important and timely workshop and exercise are to:

1. Expose participants to the key issues related to transboundary oil spill incidents
2. Train the participants on the existing transboundary arrangements and on topics related to the exercise
3. Test the communication links between Angola and Namibia
4. Test assistance mechanisms and mobilization of international resources
5. Test the National Plans of the two countries in the case of a transboundary oil spill incident

I am saying that this workshop is timely because it comes at a time when, in the face of a changing oil spill risk profile, we have been considering modalities for strengthening sub-regional arrangements and partnerships for transboundary pollution response and mutual assistance within the BCC area in line with Article

10 of the International Convention on Oil Pollution Preparedness, Response and Cooperation of 1990 (OPRC).

The above is informed by the fact marine pollution (especially oil spills), knows no international boundaries.

Moreover, no single nation can respond to a large oil pollution incident without the assistance of other states. As we have learned from the 2010 Deepwater Horizon oil spill incident in the Gulf of Mexico, even the most powerful and richest nation on earth could not have managed that spill without outside assistance.

We cannot, therefore, emphasize enough the importance of forging regional, sub-regional and bilateral partnerships in order to be better prepared for, and respond to, oil spills that are beyond the capacity of any one of our countries.

Having said that, it is pertinent to state that regional and sub-regional systems cannot be effective without effective national systems. In this regard, Namibia is working towards finalizing binding national cooperative arrangements to be concluded between relevant Government institutions in order to promote maximum cooperation and coordination in the implementation of the National Plan.

Equally, we are also exploring options for a sustainable funding model that places emphasis on the potential polluter rather than the tax payer. For without sustainable funding, the National Plan cannot be exercised, it cannot be reviewed regularly, key personnel cannot be trained, and equipment cannot be bought and deployed. In short, the National Plan cannot be operationalized without sustainable funding arrangements.

Ladies and Gentlemen

We are fortunate to have such a strong and diverse panel of experts in our midst, with considerable individual and collective experiences in various aspects of transboundary oil spill preparedness and response.
I therefore encourage you all, especially the OT members, to make full use of them during this workshop and exercise.
In the same vein, I encourage you to take advantage of the presence of the exercise observers - whom I encourage to make a frank and thorough assessment of the exercise.

The rich exchange of knowledge, information and ideas that will be shared during this workshop as well as the lessons that will come from the table-top exercise will be of great benefit to all our countries in the sub-region.

The ultimate objective of the table-top exercise must be to improve rather than to impress.

After your engagements for the next four days, I am confident that the foundation for enhanced transboudary cooperation and mutual assistance, including regular joint exercises and reviews, will be strengthened further.
There is a need to build on the natural linkages among the BCC States and this workshop and exercise afford us the opportunity to do so.

I, once again, thank IMO and IPIECA, for strongly supporting Namibia and the sub-region over the years.

In conclusion, I wish to convey to all of you the very best wishes of the Minister of Works and Transport, Honourable John Mutorwa, who is looking forward to a successful outcome of your engagements during the next four days.

I now declare the Transboundary Oil Spill Response Workshop and Exercise open.

I thank you.Thank you.

Annex 4 : Opening speech from Emilie Canova, GI WACAF Project oordinator

GI WACAF Welcoming Address

Transboundary oil spill response training and exercise

6th – 9th August, Walvis Bay, Namibia

Emilie Canova, GI WACAF Project Coordinator

Mr Willem Goriemann, Executive Director, Ministry of Works and Transports

Mr. Pinehas Auene, Deputy Director Marine Pollution Prevention and SAR, Ministry of Works and Transport

Distinguished delegates from South Africa,

Distinguished representatives of the Benguela Current Commission,

Ladies, Gentlemen, Dear Colleagues

It is my honour and pleasure to deliver this welcoming speech at the opening of this transboundary oil spill response training and exercise between Namibia and Angola on behalf of the International Maritime Organization (IMO) and IPIECA, the global oil and gas industry association for advancing environmental and social performance. I would like to welcome you all at this meeting organized by the Namibian Ministry of Works and Transports with the support of IMO and IPIECA, within the framework of the Global Initiative for West, Central and Southern Africa (GI WACAF Project).

I wish to extend my sincere appreciation to the Government of Namibia and particularly to the Ministry of Works and Transports for hosting and supporting this important event. I would like to express my thanks to Mr. Pinehas Auene and his staff for their significant assistance and efforts in putting together this workshop.

The GI WACAF project was established in 2006 and aims in strengthening the capacity of countries to prepare for and respond to oil spills through the promotion of public-private cooperation. Today it covers 22 countries in West, Central and Southern Africa. Since its inception, significant progress has been made in improving spill response capabilities by raising awareness through national and regional workshops and training. I would like here to acknowledge the engagement of Namibia in the GI WACAF Project. The collaboration between the Namibian government and GI WACAF is not new by any means (2013: Regional Conference; 2018: sub regional workshop on shoreline clean-up). The present workshop gathering us this week is thus a continuity of our joint effort. These efforts will, I am certain, ensure that this week will result in a fruitful outcome.

The subject that brings us together today is very important for all the countries of West, Central and Southern Africa, in view of their geographical position in an oil producing region with intense maritime traffic, resulting in risks of pollution for the marine environment. Our meeting is a follow up to the last Regional Conference of November 2017 where this topic of transboundary cooperation was raised. I wish also to extend my appreciation to the Benguela Current Commission that supported this initiative that aims to foster transboundary cooperation between Angola, Namibia and South Africa in case of an oil spill and is very instrumental in the regional cooperation.

Over the next four days, the key objectives of the training followed by a table-top exercise, will be to provide you with the key aspects related to trans-boundary spill incidents to help establish and manage effective transboundary response.

The table top exercise organised by the GI WACAF Project in cooperation with national authorities in charge of oil spill preparedness and response in Angola (Ministério dos Recursos Minerais e Petróleos) and Namibia (Ministry of Works and Transport) will be held simultaneously in Luanda and Walvis Bay and will be the occasion to put into practice the lessons learnt and to concretely test the cooperation mechanisms in the sub-region such as communication links between Namibia and its neighbour Angola, assistance mechanisms, the mobilization of international resources and the provisions of the respective National Plans in the case of a trans-boundary oil spill incident.

To achieve this goal, two consultants will facilitate the training and the exercise, namely Alex Hunt from ITOPF and Romain Chancerel from OTRA. They gained hand-on expertise in shoreline response during numerous incidents they attended and continue to attend on a regular basis. They are now recognized internationally as experts in this field, so please do not hesitate to engage and share your experience with them.

We encourage you to participate actively, to ask questions and to foster dialogue this week, to ensure interactive discussions on the issues affecting the oil spill preparedness and response stakeholders. Much can be achieved by the sharing of experiences and we hope to learn from you in practical terms about the successes achieved and the challenges you face in the area of pollution response.

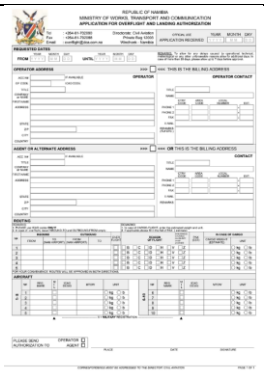
Thank you for your kind attention, and I wish you all a successful workshop.

Annex 5: Proceeding of the exercise

Timeline	Content
Time (BST +1) **08:42** What: **Inject 1 (Email)** Subject: **EXERCISE - URGENT Malavita incident POLREP** From **Ship agent** to **MWT (P. Auene)**	***EXERCISE - EXERCISE - EXERCISE*** ***Dear Mr Auene,*** ***Please find in attachment the initial POLREP after the MALAVITA incident.*** ***Please acknowledge receipt of this email rapidly.*** ***Regards,*** ***Malavita Agent in Walvis BAy***
Time (BST +1): **08:44** What: **Email** Subject: **Re: EXERCISE - URGENT Malavita incident POLREP** From: **MWT (P. Auene)** to: **Ship agent**	*Received in good order. thank you*
Time (BST +1): **08:45** What: **Team briefing** From: **MWT (P. Auene)** to: **Namibia Operations team**	M P. Auene: Read information in the inject Incident Commander: give instructions to Sections heads **Note: Time out (control team): What do we know? What do we want to achieve? How do we do it? With what resources? Aerial surveillance?**
Time (BST +1): **09:12** What: **Email** Subject: **Re: EXERCISE - URGENT Malavita incident POLREP** From: **MWT (P. Auene)** to: **ship agent**	*Update:* *National Plan Operations Team activated to respond to incident.* *Angola will be duly informed.*
Time (BST +1): **10:05** What: **Attempt to notify Angola** From: **MWT (P. Auene)** to: **MIREMPET (M. XAVIER)**	***Attempts to call provided crisis number unsuccessful (not working)*** ***Manuel Xavier number not working***
Time (BST +1): **10:03** What: **Inject 2** Subject: **EXERCISE - URGENT oil spill modelling from ITOPF** From: **ship agent** to: **MWT**	***EXERCISE - EXERCISE - EXERCISE*** ***Dear Mr Auene,*** ***We have asked ITOPF to do a first modelling of the oil spill. We have just received the report that you can find in attachment of this email. This should provide you with useful information.*** ***Please let me know what you plan.*** ***Regards*** ***Malavita agent in Walvis Bay***
Time (BST +1): **11:19** What: **Email** Subject: **Re: EXERCISE - URGENT oil spill modelling from ITOPF** From: **MWT (P. Auene)** to: **Ship agent**	*Received. Thanks.* *Angola has been formally notified and an incident response team has been established there to respond to the threat.*
Time (BST +1): **11:38** What: **Inject 3** Subject: **Inspection report** From: **Ship agent** to: **MWT (P. Auene)**	***EXERCISE EXERCISE EXERCISE*** ***Dear Mr Auene,*** ***Thank you for your updates. Please find in attachment the report sent by the chief ingeneer on inspection casualty on Malavita.*** ***Please advise on further actions taken.*** ***Regards*** ***Malavita agent Walvis Bay***

Time (BST +1): **12:51** What: **Email** Subject: **ANGOLA CONTACT INFO** From: to:	*Angolan contact* *Xavier Manuel* *manuel.x.xavier16@gmail.com* *manuel.xavier@minpet.gov.ao* *tel: +244 923 401 469*
Time (BST +1): **13:15** What: **Email** Subject: **MALAVITA POLLUTION** From: **MWT (P. Auene)** to: **Ship agent**	*Dear Sirs* *We are writing to get your assurance that all costs related to the above response will be borne by the shipowner or their P&I insurance in line with the polluter pays principle.* *So far the following activities have been carried out, with the expert guidance of ITOPF:* *1. Aerial surveillance* *2. Shoreline assessment* *In the next few days, we expect to carry out (again with the guidance of ITOPF):* *1. Dispersant application (procure and apply)* *2. Shoreline clean up operations* *3. Environmental and social Impact assessment* *We await your earliest confirmation.* *Regards* *P Auene* *Deputy Director: Marine Pollution Control and SA*
Time (BST +1): **13:33** What: **Email** Subject: re: **MALAVITA POLLUTION** From: **Ship agent** to: **MWT (P. Auene)**	***EXERCISE EXERCISE EXERCISE*** *Dear Mr Auene,* *Thank you for your email.* *This is to confirm that reasonable expenses will be refunded by the ship owner's insurance provided that the expenses have been discussed with ITOPF and after submission of claims. In addition, we are making contact with IOPC to evaluate the level of cover available.* *Regards,* *Malavita agent Walvis Bay*
Time (BST +1): **13:40** What: **Email** Subject: Re: **MALAVITA POLLUTION** From: **MWT (P. Auene)** to: **Ship agent**	*Well noted. It would be appreciated if the polluter can be more proactive and lead the response efforts. Otherwise, we will ensure that ITOPF continues to provide the necessary advise.* *Feedback from IOPC is awaited*
Time (BST +1): **13:37** What: **INJECT 4** Subject: re: **MALAVITA incident aerial observation report** From: **Ship agent** to: **MWT (P. Auene)** Cc: **MIREMPET (M. Xavier)**	***EXERCISE EXERCISE EXERCISE*** ***Dear Mr Auene,*** ***Please find in attachement the report of the aerial surveillance mission.*** ***Please advise on the situation and way forward planned.*** ***Regards,*** ***Malavita Agent Walvis Bay***
Time (BST +1): **13:40** What: **Email** Subject: **Re: EXERCISE - MALAVITA incident aerial observation report** From: **MWT (P. Auene)** to: **Ship agent** Cc: **MIREMPET (M. Xavier)**	*Many thanks for the information.* *In the next 24-72 hours, the following is planned:* *- Considering dispersant application (aerial) - possibly OSRL* *- Shoreline cleanup operations* *- Liaise with Angola and exchange information on response activities*

Time (BST +1): **14:23** What: **INJECT 5** Subject: Re: Re: **MALAVITA incident aerial observation report** From: **Ship agent** to: **MWT (P. Auene)** Cc: **MIREMPET (M. Xavier)**	***EXERCISE EXERCISE EXERCISE*** *Dear Mr Auene and Mr Xavier Manuel,* *Thank you for the update. Following your email, I would like to advise you that after consultation with ITOPF and IOPC Fund, the shipowner will be willing to mobilise aerial dispersion platform from OSRL which logistic requirements are provided in the attached form.* *The cost are entirely covered by us.* *Please acknowledge receipt and kindly indicate:* *- Final airport destination in Namibia or Angola* *- Confirmation of minimum requirements of take off / landing track (as in the document)* *- availability of dispersant stockpile at the airport (100 m3)* *- Custom and immigration clearance procedure (English crew)* *- Clearance / authorisation for flying at low altitude in the region* *- Points of contact at destination* *- Any other relevant information.* *Regards,* *Malavita Agent Walvis Bay*
Time (BST +1): **14:31** What: **Email** Subject: **Re: Re: Re: EXERCISE - MALAVITA incident aerial observation report** From: **MWT (P. Auene)** to: **Ship agent** Cc: **MIREMPET (M. Xavier)**	*Many thanks for the email which we have received in good order.* *We will revert with the requested info*
Time (BST +1): **15:35** What: **1st coordination meeting** Between **MWT (P. Auene)** and **MIREMPET (M. XAVIER)** **How?:** Using Microsoft Teams on Control team	Meeting involving Pinehas Auene + Incident Commander + sections' heads (Planning and Operations) Discussion on aerial surveillance report Discussion on aerial dispersant spraying: from Angola (Luanda) Angola request update on spill trajectory
Time (BST +1): **16:18** What: **Email** Subject: **Re: Re: Re: EXERCISE - MALAVITA incident aerial observation report** From: **MIREMPET (M. Xavier)** to: **Ship agent** Cc: **MWT (P. Auene)**	*Please find answer **(bold)** to shipowners request of information attached* *PO Manuel XAVIER – Incident Commander Luanda :* *After consultation with ITOPF and IOPC Fund, the shipowner will be willing to mobilise aerial dispersion platform from OSRL which logistic requirements are provided in the attached form. The aircraft is ready to take off anytime from the UK base (ETA: take off + 36 hours)* *Before take off, kindly indicate:* *- Final airport destination in Namibia or Angola* ***Angola Incident Command proposes that the aircraft flies first to Luanda to be loaded with 15 m3 of dispersant. Final airport destination will be the airport of Moçamedes (Angola), which meets requirements and will serve as a staging area.*** *- Confirmation of minimum requirements of take off / landing track (as in the document)* ***International airport / runway 2 500 m.*** *- availability of dispersant stockpile at the airport (100 m3)* ***Dispersant can be mobilised from Luanda (SONILS base in the port of Luanda) through stockpiles of the oil industry. We are currently mobilising 110 m3. We are making arrangements to transport the***

	dispersant (IBCs) to the airport of Luanda. Ministry of Defense will make available a military aircraft (IL 76), which will do three round trips to position the dispersant at the airport of Moçamedes. ***We are also mobilising 2 vessels for dispersant application, which are also equipped for dispersant and recovery Plus 2 support vessels. ETA: to be confirmed… 2 Environmental Advisors are also been mobilised to be located in Moçamedes*** *- Custom and immigration clearance procedure (English crew)* ***Members of the Comando Nacional de Incidentes are making contact with local customs and immigration officers in Moçamedes.*** ***We also need MSDS of the dispersant coming in the tank of the aircraft*** ***We need copy of passports of all passengers (crew, pilots and technicians of the aircraft)*** *- Clearance / authorisation for flying at low altitude in the region* ***The civil aviation authority will facilitate the clearance. The certification of the pilot is needed in order to get that clearance. Please send it.*** *- Points of contact at destination* ***TBC in Luanda and in Moçamedes*** *- Any other relevant information.*
Time (BST +1): **16:45** What: **2nd coordination meeting** Between **MWT (P. Auene)** and **MIREMPET (M. XAVIER)** **How?:** Using Microsoft Teams on Control team	Meeting involving Pinehas Auene + Incident Commander + sections' heads (Planning and Operations) Discussions on aerial spraying (logistics) • carried out from Angola • operational supervision OSRL / ITOPF • Dispersant stockpile from Angola • Need clearance air space + spotter aircraft from Namibia Other discussions on oil stranding : mis-interpretation of ITOPF inject: will not occur before 4 days (not 1 day)
Time (BST +1): **17:37** What: **Email** Subject: **Re: Re: Re: EXERCISE - MALAVITA incident aerial observation report** From: **Ship agent** to: **MIREMPET (M. Xavier)** Cc: **MWT (P. Auene)**	***EXERCISE EXERCISE EXERCISE*** *Dear Mr Xavier Manuel,* *Information received in good order.* *As requested, please find in attchment the copy of the passorts of the crew (for the purpose of the exercise this information will actually be provided later but consider that it has been received).* *Can you confirm that the plane can leave the UK now?* *Regards,* *Malavita Agent Walvis Bay*
Time (BST +1): **16:18** What: **Email** Subject: **Overflight Clearence request form** From: **Operations team leader (Namibia)** to: **MWT (P. Auene)**	*Good day* *Please see attached the overflight clearance request form for the crew flying the dispersant.* *Regards* *Dwaine* *http://www.ncaa.com.na/docs/oflight_land_appl.pdf* 
Time (BST +1): **18:03**	***EXERCISE – EXERCISE***

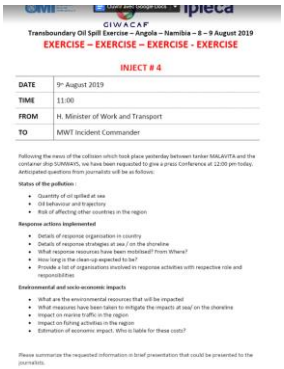
What: **Email** Subject: **Re: Re: Re: EXERCISE - MALAVITA incident aerial observation report** From: **MIREMPET (M. Xavier)** to: **Ship agent** Cc: **MWT (P. Auene)**	*Yes we confirm. Please as soon as possible…* *P/O Manuel Xavier - Incident Commander - Luanda*
Time (BST +1): **16:08** What: **INJECT 6** Subject: **EXERCISE - radar image** From: **Ship agent** to: **MWT (P. Auene)** Cc: **MIREMPET (M. Xavier)**	***EXERCISE EXERCISE EXERCISE*** *Dear Mr Auene and Mr. Manuel Xavier,* *Please find in attachment satelite imagery provided by ITOPF for your information.* *Regards,* *Malavita Agent Walvis Bay*
Time (BST +1): **16:14** What: **Email** Subject: **Re: radar image** From: **MWT (P. Auene)** to: **Ship agent** Cc: **MIREMPET (M. Xavier)**	*Much appreciated*
Time (BST +1): **17:32** What: **Email** Subject: **Fwd: Overflight authorization request** From: **Ship agent** to: **MWT (P. Auene)** Cc: **MIREMPET (M. Xavier)**	***EXERCISE*** *Dear Mr Auene,* *Please find attached the application form for overflight duly filled in by OSRL.* *Please acknowledge receipt.* *Regards,* *Malavita Agent Walvis Bay* 
END OF DAY 1	

Timeline	Content
Time (BST +1): **09:47** What: **INJECT 7** Subject: **Re: Re: Re: EXERCISE - MALAVITA incident aerial observation repor** From: **Ship agent** to: **MWT (P. Auene)** Cc: **MIREMPET (M. Xavier)**	***EXERCISE EXERCISE EXERCISE*** *Dear Mr Auene and Mr Manuel Xavier,* *Please find in attachment the report of the aerial surveillance conducted this morning.* *Please advise on the plan for today.* *Best regards,* *Malavita Agent Walvis Bay*
Time (BST +1): **10:06** What: **Email** Subject: **Re: EXERCISE - OSLR plane update** From: **MWT (P. Auene)** to: **Ship agent** Cc: **MIREMPET (M. Xavier)**	*Thanks, We will send you our plans for today shortly*
Time (BST +1): **09:59** What: **Email** Subject: **EXERCISE - OSLR plane update** From: **Ship agent** to: **MWT (P. Auene)** / **MIREMPET (M. Xavier)**	***EXERCISE EXERCISE*** *Dear Mr Auene and Mr Manuel Xavier,* *This is to inform you that the aircraft has departed from the UK yesterday night. It is currently refueling in Nairobi airport and the pilots will have a*

	mandatory rest before flying down to Namib. Arrival estimated tomorrow (10/08) morning in Namib. *Regards,* *Malavita Agent Walvis Bay*
Time (BST +1): **10:06** What: **Email** Subject: **Re: EXERCISE - OSLR plane update** From: **MWT (P. Auene)** to: **Ship agent** Cc: **MIREMPET (M. Xavier)**	*Well received*
Time (BST +1): **09:31** What: **Email (internal)** Subject: **Revised action plan** From: **Operations team leader (Dwaine)** to: **MWT (P. Auene)**	*OPERATIONS ACTION PLAN FOR 09 August 2019* *Aerial survey assessment sitRep: SLOT 1 09:30* *SLOT 2 16:00* *Notification of areas affected - Marine (Done)* *- NCAA (done)* *- Regional/local Authorities (Done)* *Notify IMO Abijan Convection* *Foward Command Station set up (Mine Assisted) Land line +264 65685013* *Heads flew with the morning slot 09:30* *Helicopter SURVEY of the River mouth 12:00 - Incident Commander* *-Aerial observer* *- Heads* *- itopf* *Assessment of sensitivity areas and marking of sensitive areas.* *Identify Areas to set up of preventative measures for shoreline clean up Stream line* *Sitrep for ground ops - Build strategy for shoreline Clean up* *Logistics plan for equipment transport and man power* *In Collaboration with the Regions (Kunene & Erongo establish and mobilise a volunteer System)* *Health and safety: set up of temporary clinic from the army* *action plan for mobilisation (Planning)* *Waste management action plan (Planning 30min)* *Media briefing in conjunction with Angola* *Consult with Angola (calls and emails)*
Time (BST +1): **10:06** What: **Email** Subject: **Fw: Revised action plan** From: **MWT (P. Auene)** to: **MIREMPET (M. Xavier)** Cc: **Ship agent**	*Dear Manuel* *Herewith our IAP for today - obviously it is not cast in stone and may change.* *Kindly share yours with us.* *We will call you shortly.* *Kind regards*

Time (BST +1): **11:02** What: **Email** Subject: **IAP for Day 2 - Luanda IMT** From: **MIREMPET (M. Xavier)** to: **MWT (P. Auene)** Cc: **Ship agent**	***OFFSHORE OPERATIONS*** *OSRL aircraft* *Angola Incident Management Team recommends that the OSRL plane flies to the slick location and appliers the first 15 m3 of dispersant before landing in Moçamedes (Namibe).* *Permits and authorisation confirmed from both Luanda and Moçamedes (Namibe) authorities for OSRL aircraft. Moçamedes (Namibe) will serve as staging area for the aerial dispersion operation.* *Please confirm that:* • *The aircraft is authorised to fly and spray dispersant on the slick, in Namibian waters* • *The dispersant in the tanks of the aircraft is authorised in Namibian waters, and provide the Material Safety Dispersant Sheet (MSDS) of the dispersant.* *Dispersant stockpile at Moçamedes (Namibe) airport* *Started transportation of 110 m3 of dispersant from Sonils Logistic Base to Luanda airport.* *2 plane loads of dispersant (30 m3 each) are already in Moçamedes as they were transported by* *military aircraft overnight. Total: 60 m3 at the airport.* *Other operations planned at sea* • *2 vessels with dispersant application capability plus containment and recovery equipment. Approx 17* • *hrs Luanda/Namibe. ETA 12:00 today on site.* • *2 vessels to support containment and recover operations. The same timing Luanda/Moçamedes.* *Operation will be conducted to protect* • *Priority 1 Cunene river* • *Priority 2 Tombwa* • *Priority 3 Baia dos Tigres* *COASTAL AND SHORELINE OPERATIONS* *Near shore and Shoreline Protection / Clean-up Operations* *Conduct shoreline assessment by 2 Environmental Advisors and 2 Oil Spill Advisors with local community* *Equipment is being prepared to be sent from Luanda to Moçamedes with IL76.* *ManPower for nearshore and shore operation will come from various entities (Navy, Fire Brigade personnel, etc.)* *Planned staging area in Tombwa* *Identification of temporary waste storage areas*
Time (BST +1): **11:16** What: **Email** Subject: **Re: IAP for Day 2 - Luanda IMT** From: **MWT (P. Auene)** to: **MIREMPET (M. Xavier)** Cc: **Ship agent**	*Received in good order. Thank you* *Can we have a coordination call at 11:30 IE in 15 minutes?*
Time (BST +1): **11:36** What: **Email** Subject: **Re: IAP for Day 2 - Luanda IMT** From: **MWT (P. Auene)**	*Regarding the requested information:* *- approval for aircraft to operate in Namibia airspace has been granted* *- dispersant in question is approved for use in Namibia. MSDS will follow shortly*

to: **MIREMPET (M. Xavier)** Cc: **Ship agent**	
Time (BST +1): **09:36** What: **Email (internal)** Subject: **Re: Overflight Approval** From: **Operations team leader (Dwaine)** to: **MWT (P. Auene)**	*Good day see attached below the overflight Approval and Overflight Number.* *CA31/0058/2019* *REGARDS* *DWAINE*
Time (BST +1): **09:36** What: **Email (internal)** Subject: **Fw: Re: Overflight Approval** From: **MWT (P. Auene)** to: **MIREMPET (M. Xavier)** Cc: **Ship agent**	*Flight authorization herewith enclosed. Thank*
Time (BST +1): **11:57** What: **Email (internal)** Subject: **Coordination of spotter plane** From: **Operations team leader (Dwaine)** to: **MWT (P. Auene)**	*Good day* *Kindly provide us with the the following items:* *Etd from Luanda and estimated time of arrival into Namibian airspace for co ordination of spotter plane.* *The proposed flight path over the spill area. And if they have a dedicated frequency for the two planes to co ordinate.* *Our spotter plane is currently at based at the Damond mine 2-3km to the east of the kunene mouth.the contact details of the flight crew is as follows* *Capt M Mushimba 0811624441.* *Please provide us the contact details of the flight crew for co ordination.* *Regard*
Time (BST +1): **12:35** What: **Email (internal)** Subject: **Re: Coordination of spotter plane** From: **MWT (P. Auene)** to: **Operations team leader (Dwaine)**	*Well noted. Thanks*
Time (BST +1): **10:26** What: **INJECT 8** Subject: **EXERCISE - Malavita incident angry fishermen** From: **Ship agent** to: **MWT (P. Auene)** / **MIREMPET (M. Xavier)**	***EXERCISE EXERCISE EXERCISE*** *Dear Mr Auene and Mr Manuel Xavier,* *We received complaints from several fishermen who reported having sailed into a large slick of black oil in the north of the Namibian waters.* *Please take action.* *Regards,* *Malavita Agent Walvis Bay*
Time (BST +1): **11:02** What: **INJECT 9** Subject: **EXERCISE - Malavita incident angry fishermen** From: **Ship agent** to: **MWT (P. Auene)** / **MIREMPET (M. Xavier)**	***EXERCISE EXERCISE EXERCISE*** *Dear Mr Manuel Xavier and Mr Auene,* *Please find in attachment the report of the 3rd aerial surveillance conducted.* *Regards,* *Malavita Agent Walvis Bay*

Time (BST +1): **12:15** What: **INJECT 10** Subject: **EXERCISE - Malavita incident angry fishermen** From: **Ship agent** to: **MWT (P. Auene)** / **MIREMPET (M. Xavier)**	***EXERCISE*** *Dear Mr Auene* *Message from Minister of Work and Transport: we have been requested to give a press Conference at 12:00 pm today. Anticipated questions from journalists will be as in stated in attachment.* *Regards,* *Malavita Agent Walvis Bay*	 GIWACAF Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019 EXERCISE – EXERCISE – EXERCISE - EXERCISE INJECT # 4 DATE 9th August 2019 TIME 11:00 FROM H. Minister of Work and Transport TO MWT Incident Commander
END OF DAY 2 and OF EXERCISE		

Annex 6 : Exercise injects

INJECT 1 - POLREP

GIWACAF

Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

MARINE POLLUTION REPORT (POLREP) FORMAT

NOTE: The type incidents to be reported are outlined on page 3

Send completed form to: Directorate of Maritime Affairs (DMA) or Walvis Bay Port Control.
DMA tel +264 814756070/0816649188, email skalomo@mwtc.gov.na or pauene@mwtc.gov.na

DATE AND TIME OF INCIDENT (24 HOUR FORMAT)

8/8/2019 – Early morning –	6 am

INCIDENT LOCATION NAME/ DESCRIPTION

70 NM South West of Cunene

Incident coordinates (where available)

Formats of coordinates use (select one)	Latitude of pollution	Longitude of pollution
Degrees & decimal degrees	°	°
Degrees, minutes & decimal minutes	° ′ ′	° ′ ′
Degrees, minutes & seconds	18°20'51.00"S	11° 6'46.00"E

DESCRIPTION OF INCIDENT

Communication received from Tanker MALAVITA regarding a collision at sea.

Collision between Tanker MALAVITA and containership SUNWAYS. MALAVITA struck on her side (Portside) by SUNWAYS

All crew of both vessels are accounted for / no need for medical evacuation or Search and Rescue

There is no fire or explosion onboard any of the 2 vessels

Damage to tanker

- The tanker suffered extensive damage to the hull / Portside tank #4 is ruptured
- A major leak of crude oil was observed, assessed by tanker crew to be drifting in a North –Northeasterly direction
- The crew is investigating the extent of damage and will be estimating the volume of oil spilled
- It appears that the bunker tanks of the tanker were NOT affected

Damage to container ship:

- Integrity of the container ship is not compromised / No major damage reported
- The ship proceeded on own power and was anchored 5 Nm in the South of the collision site
- It appears that the bunker tanks of the container ship were NOT affected

Page 1 of 3

Form: POLREP_V.2_2018

Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

POLLUTION SOURCE

[X] Vessel [ ] land [ ] other [ ] unknown

Tanker MALAVITA (characteristics attached)
- Loaded at oil terminal in Western Africa / Fully laden
- Was headed South (final destination China)

Vessel details: Type if known: [X] Tanker [ ] Container [ ] Bulk Cargo [ ] Fishing [ ] Military [ ] Recreational [ ] Other vessel type (Specify).....

Vessel name	Flag state/call sign	Namibian vessel?
MALAVITA	Singapore	[ ] Yes [X] No

Pollutant

[X] Oil → [ ] Bilge [ ] Diesel oil [ ] HFO oil [X] Crude Oil [ ] Unknown [ ] Other

Specify: MEDIUM CRUDE (oil characteristics provided in appendix)

[ ] Liquid chemical

Name | MARPOL Cat /UN No.

[ ] Garbage
[ ] Package
[ ] Sewage
[ ] Other

Details/description

EXTEND OF POLLUTION (observation by vessel crew at 7:30 am)

Size of pollution (length & width in meter): Large slick observed (more than 2 NM in length) headed North. Mainly black in appearance

Amount of pollutant if known (litres) : unknown but significant (incident under investigation by vessel crew)

ADDITIONAL INFORMATION

Has the discharge stopped? [ ] Yes [ ] No [X] Unknown

Form: POLREP_V.2_2018

Response action undertaken? ☐ Yes ☐ No If yes please provide details below

Preliminary assessment of damages shows that a significant proportion of cargo of portside tank 4 was lost. No other tanks seem to be impacted. Damage to Port Side Crude Oil Tank 4 is under investigation to assess the volume of oil that has been released. The results of investigation will be communicated in due course.

Contact of MALAVITA Shipowner correspondent in Walvis Bay:-

Tel: 0816470919

Email: malavita.agent@gmail.com

ITOPF have been mobilised. A technical advisor, Alex Hunt is present in Walvis Bay to provide technical

Metocean information

TIME	WIND	CURRENT
From 08/08 6am to 09/08 6am	Direction : 200° Speed: 10 kt	Direction : 20° Speed: 0.30m/S
From 09/08 6am to 10/08 6am	Direction : 225° Speed: 15 kt	Direction : 10° Speed: 0.50m/S
From 10/08 6am to 11/08 6am	Direction : 240° Speed: 10 kt	Direction : 15° Speed: 0.30m/S

X	Photos taken →	Details: MALAVITA from drone (7:30 am)	Held by: Correspondent
☐	Videos taken →	Details	Held by
☐	Sample taken →	Description	Held by
☐	Items retrieve →	Description	Held by

DETAILS OF ORIGINAL REPORTER

Name **PAUL**	Position **C/E**	Phone **N/A**

Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

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NAME OF CONTROL AGENCY	NAME OF STATUTORY AGENCY
MWT	

Equipment used
☐ *NAMPORT* ☐ *GRN/MWT* ☐ Other

Possible further action
☐ *legal* ☐ *Other* ☐

Details

SENDER DETAILS

Name JOHN	MALAVITA correspondent in WB	Date 08/08/2019
Phone : TBC	Fax TBC	Email : malavita.correspondent@gmail.com

PRIVACY STATEMENT

MWT is collecting the information on this form to enable it to carry out its role as managing agency of the of the National Plan. MWT may give some or all of this information to other Government bodies, NGOs or international organizations who may have responsibilities under the National Plan or law enforcement.

SUMMARY OF INCIDENTS TO BE REPORTED

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

REPORTABLE	NON-REPORTABLE
Oil • All slicks trailing from a vessel • All pollutions in the marine environment (notwithstanding the size or amount of oil or sheen) • All pollutions where NMPCP equipment is used in the response *Note: If oil or sheen is visible on the surface of the water then it is an illegal discharge MARPOL permits oily discharges at 15 parts of oil to one million parts of water (15 ppm). Oil discharged at sea cannot be visually observed until at least 50 ppm and even that may not be readily discerned depending upon the observation platform, sea state, weather conditions etc.*	• Algal bloom • Hydrogen sulphide eruptions • Dredging foam • Coral spawning
Chemicals • All sightings of slicks/discolorations trailing vessels or offshore platforms	• Liquid chemicals from land-based sources

INJECT 2 – ITOPF assessment

GIWACAF

Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

Inject 2

DATE: 8th August 2019,

TIME: 10 am

TO: MALAVITA ship correspondent in Walvis Bay
Email: malavita.correspondent@gmail.com

ADVICE REGARDING THE RELEASE OF CRUDE OIL FROM TANKER MALAVITA

ITOPF was informed of the release of an unknown quantity of CRUDE OIL in Namibian Waters, following a side collision between tanker MALAVITA and containership SUNWAYS at location 18°20'51.00"S 11° 6'46.00"E (around 70 NM South West of Kunene). On the basis of the information provided, we were requested to provide technical advices on potential oil fate and behaviour based on available oil characteristics and metocean information in the region.

Characteristics of Crude oil

Medium crude oil (API: 22.6; ITOPF group 3) loaded on MALAVITA from West African oil terminal

Oil Property	Crude oil
API	22.6
Specific Gravity or density	917.3kg/m3 at 15°C (2) 882,78 g/ cm3 at 26°C (1)
Pour Point	-34°C
Viscosity	410 mPas at 22°C (1) 370 mPas at 26°C (1) 120 mPas at 30°C (1)
H2S	N/ A
Flash Point	92°C after 1 hour (2) >100°C after 3 hrs (2)
Composition	59.9 % Saturated HC (2)
	24,2 % Aromatics (2)
	13% Resins (2)
	2,9 % Asphaltenes (2)
Wax	13%

THE INTERNATIONAL TANKER OWNERS POLLUTION FEDERATION LIMITED (ITOPF)
1, Oliver's Yard, 55 City Road, London EC1Y 1HQ, United Kingdom
Tel: +44 (0)20 7566 6999, Fax: +44 (0)20 7566 6950, 24hr Pager: +44 (0)7626 398 4606
Email: central@itopf.com Web: www.itopf.com
Registered in England No. 944863. Registered Office as above.

Window of dispersibility	Estimated over 72 hrs with 5 m/s of wind

Metocean conditions

Water temperature in the area: 18°C

TIME	WIND	CURRENT
From 08/08 6am to 09/08 6am	Direction : 200° Speed: 10 kt	Direction : 20° Speed: 0.30m/S
From 09/08 6am to 10/08 6am	Direction : 225° Speed: 15 kt	Direction : 10° Speed: 0.50m/S
From 10/08 6am to 11/08 6am	Direction : 240° Speed: 10 kt	Direction : 15° Speed: 0.30m/S

Trajectory modelling an potential shoreline impact

Based on the above, the expected trajectory of the oil is as follows:

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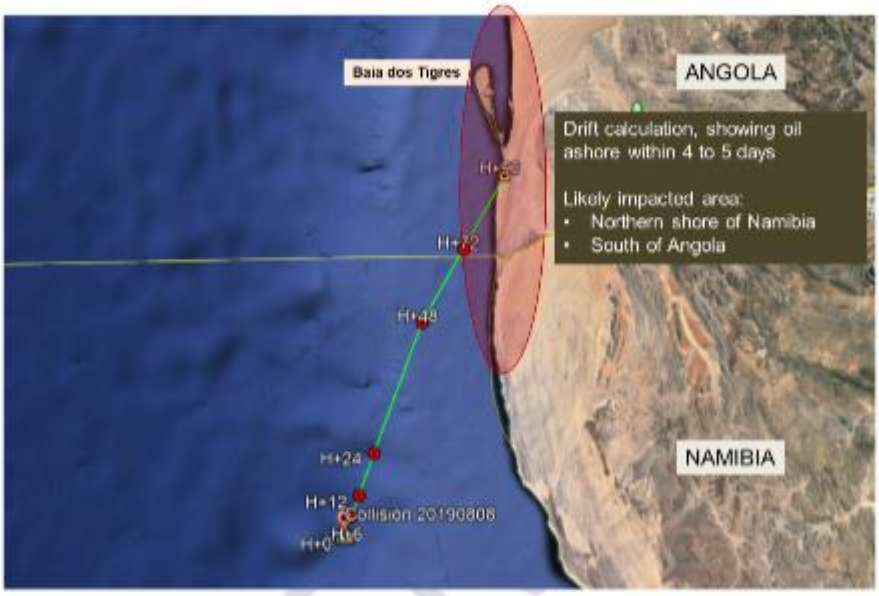

Potential shoreline oiling highlighted in red accounts for uncertainties in current and wind forecast and other oil behaviours such as oil spreading and fragmentation.

Oil behaviour analysis

Oil behaviour (mass balance) for wind speeds of 10 knots (5m/s) and 20 knots (10m/s) as well as potential dispersibility was provided by shipowner and are reported below

Mass balance

Wind: 10 knots

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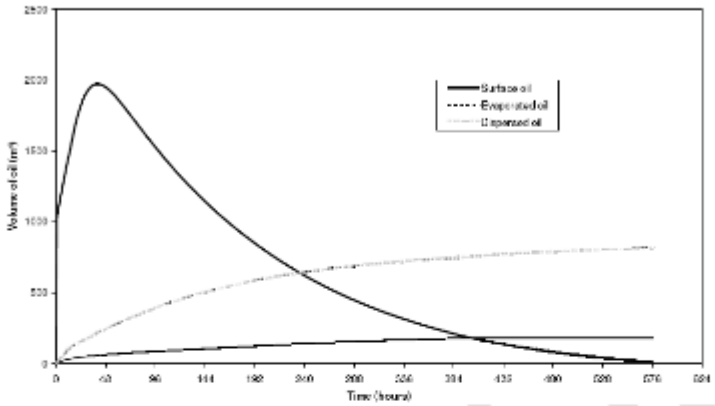
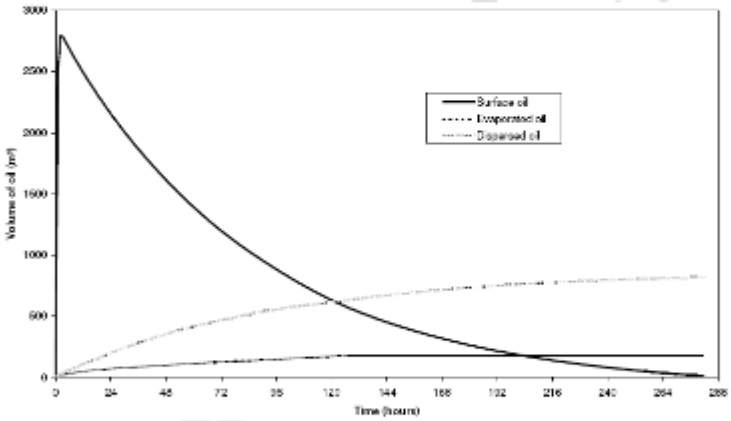


Wind: 20 knots



Dispersant time window

The figures below are based on the use of Inipol IP 90, Corexit 9500A Finasol OSR 52 and Slickgone NS at 26°C

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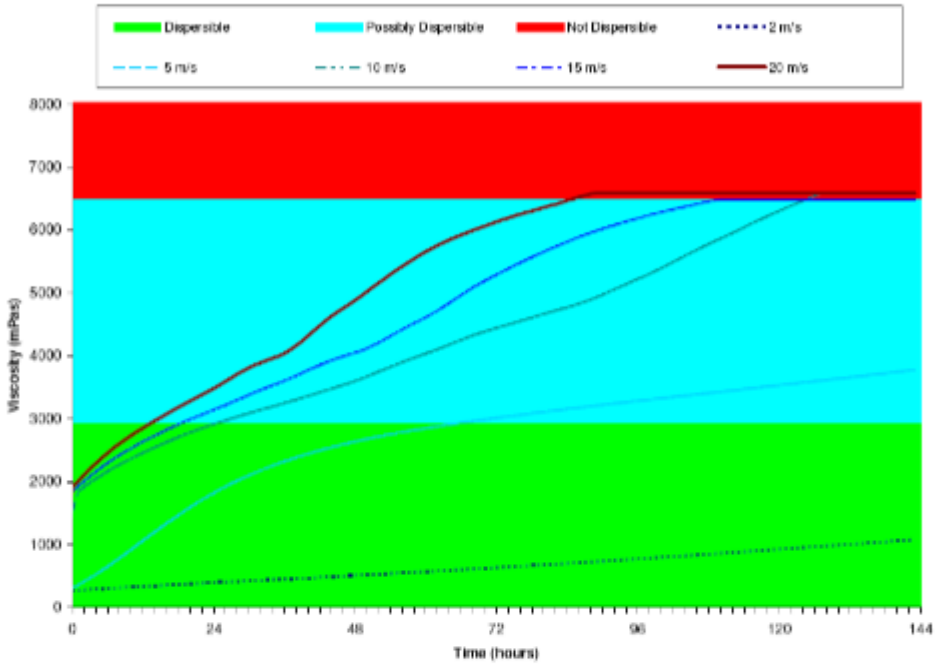

Provisional recommendations

According to provisional trajectory modelling outputs, shoreline oiling is expected within 3 to 5 days. At-sea response operations should be implemented as soon as possible with priority given to chemical dispersion until oil has emulsified (expected 72 hours with current wind speed (10knots). Provisions should also be made to implement containment and recovery techniques after oil is emulsified and cannot be chemically dispersed anymore. Shoreline protection strategies should be implemented in sensitive areas in Namibia AND Angola as well. Provisions for shoreline clean-up in should also be made in this area.

Alex Hunt

Technical Advisor, ITOPF

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INJECT 3 – Inspection report

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INJECT #3

DATE	8th August 2019
TIME	11 :00
FROM	MALAVITA Ship agent
TO	MWT - Namibia

Following the collision with the container ship SUNWAYS, the crew of MALAVITA has completed an inspection of the vessel and reported the following conclusions:

POLLUTION

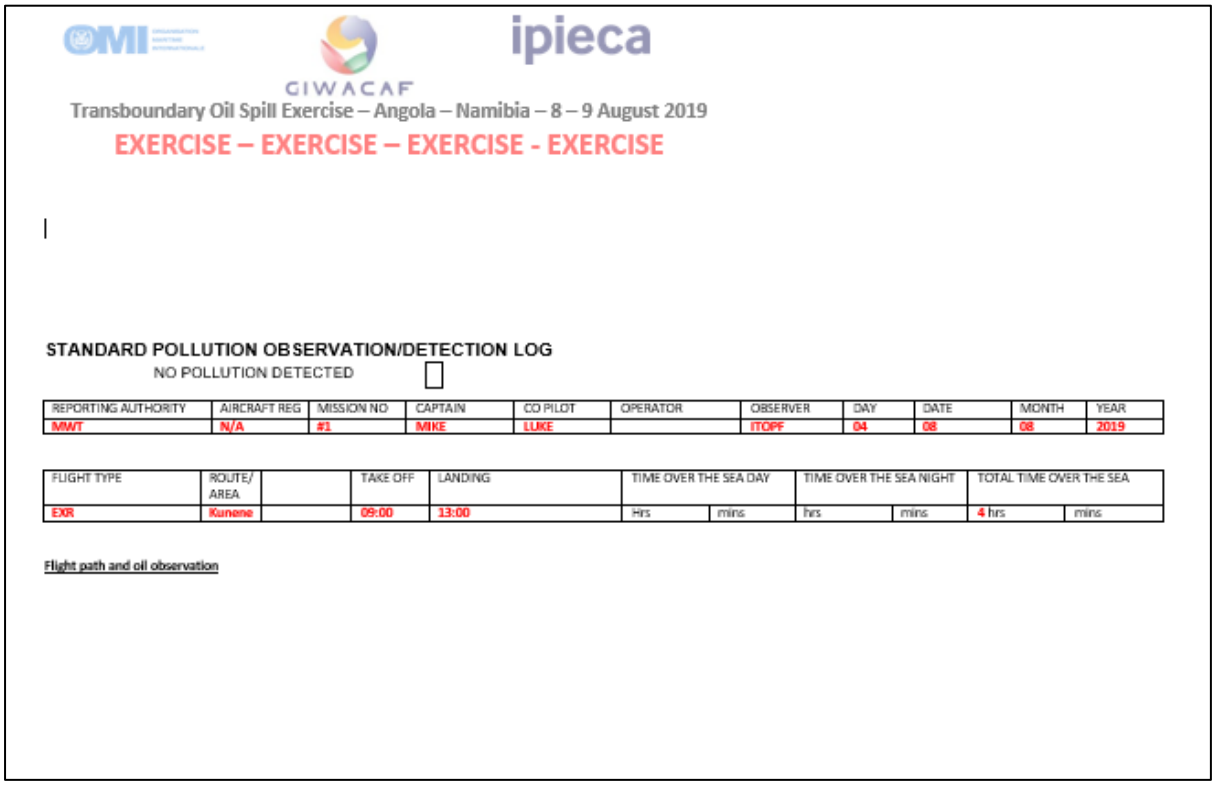
- Port side #4 tank of the vessel has suffered extensive damage, resulting in the loss of most of the cargo. It is estimated that 17,000 tons of the crude oil cargo have been spilled at sea.
- The remaining cargo has been transferred to the slope tank of the vessel and spillage can be considered as stopped / no further leakage could be seen.

INTEGRITY OF VESSEL

Considering the extensive damage suffered,

- Meteorological conditions on site allowed the tanker to be moved on her own power and anchored safely at a position 1 Nm South West of the collision;
- The ship captain was in contact with shipowner and an internationally recognized salvage expert has been mobilised from South Africa and is being dispatched to the vessel, for detailed inspection and estimating whether the ship can safely sail to a safe haven;
- Contacts have been initiated with the South African authorities to investigate possibility to sail the ship to the port of Cape Town, for repairs.

INJECT 4 – Aerial observation report No. 1



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STANDARD POLLUTION OBSERVATION/DETECTION LOG

NO POLLUTION DETECTED ☐

REPORTING AUTHORITY	AIRCRAFT REG	MISSION NO	CAPTAIN	CO PILOT	OPERATOR	OBSERVER	DAY	DATE	MONTH	YEAR
MWT	N/A	#1	MIKE	LUKE		ITOPF	04	08	08	2019

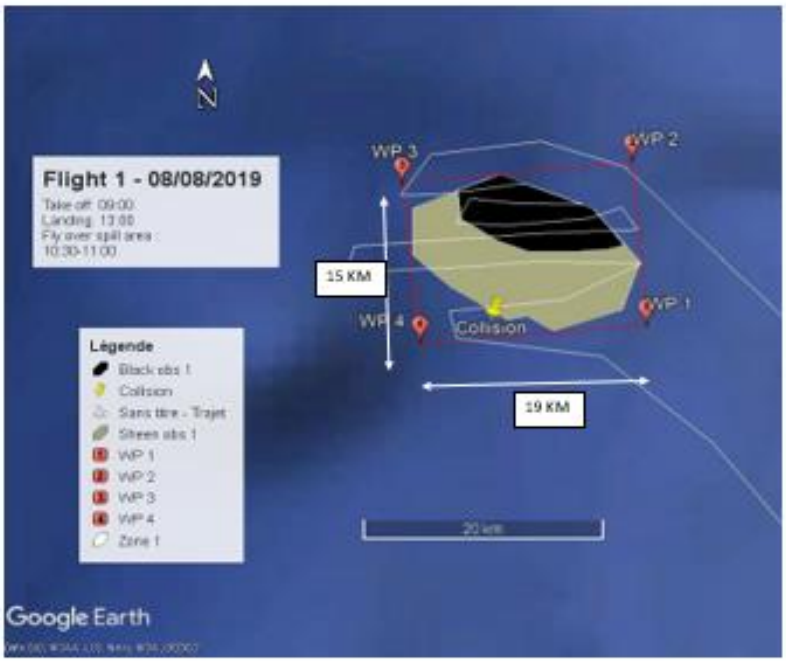
FLIGHT TYPE	ROUTE/ AREA		TAKE OFF	LANDING	TIME OVER THE SEA DAY		TIME OVER THE SEA NIGHT		TOTAL TIME OVER THE SEA	
EXR	Kuneme		09:00	13:00	Hrs	mins	hrs	mins	4 hrs	mins

Flight path and oil observation

EXERCISE – EXERCISE – EXERCISE - EXERCISE

Form: SPODL_V.1_2018

No	AREA CODE	TIME UTC		POSITION (ZONE 1)		DIMENSION		AREA COVER %	OIL AREA KM²							MAXIMUM VOLUME M³	COMPATIBLE? YES/NO
			WP	LAT 'SOUTH'	LONG 'EAST'	LENGTH Km	WIDTH Km			1	2	3	4	5	Other		
1	OIL 1	10:30	1	18°21'3.64"S	11° 9'25.85"	19	15	60 %	179km2			40%	20%		Clear: 40%	17100 m3	
			2	18°13'4.40"S	11°13'30.04"E												
			3	18°14'11.26"S	11° 2'35.47"E												
			4	18°21'53.79"S	11° 3'27.28"E												


N
Flight 1 - 08/08/2019
Take off: 09:00
Landing: 13:00
Fly over spill area :
10:30-11:00
Légende
Black obs 1
Collision
Sans titre - Trajet
Sheen obs 1
WP 1
WP 2
WP 3
WP 4
Zone 1
WP 3
WP 2
WP 1
WP 4
Collision
15 KM
19 KM
20 km
Google Earth

INJECT 5 – OSRL Logistics support

Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

INJECT # 5

DATE	8th August 2019
TIME	14 :00
FROM	MALAVITA Ship agent
TO	MWT – Namibia, MIREMPET Angola

After consultation with ITOPF and IOPC Fund, the shipowner will be willing to mobilise aerial dispersion platform from OSRL which logistic requirements are provided in the attached form. The aircraft is ready to take off anytime from the UK base (ETA: take off + 36 hours)

Before ~~take off~~, kindly indicate:

- Final airport destination in Namibia or Angola
- Confirmation of minimum requirements of ~~take off~~ / landing track (as in the document)
- availability of dispersant stockpile at the airport (100 m3)
- Custom and immigration clearance procedure (English crew)
- Clearance / authorisation for flying at low altitude in the region
- Points of contact at destination
- Any other relevant information.

INJECT 6 – Satellite imagery

CIWACAF

Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

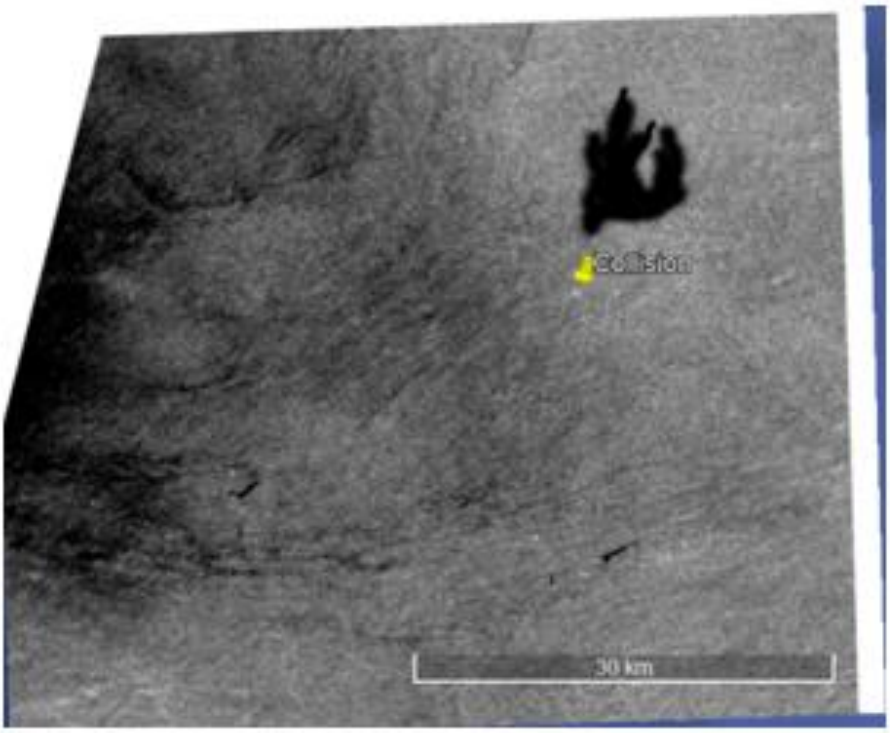
EXERCISE – EXERCISE – EXERCISE - EXERCISE

INJECT # 6

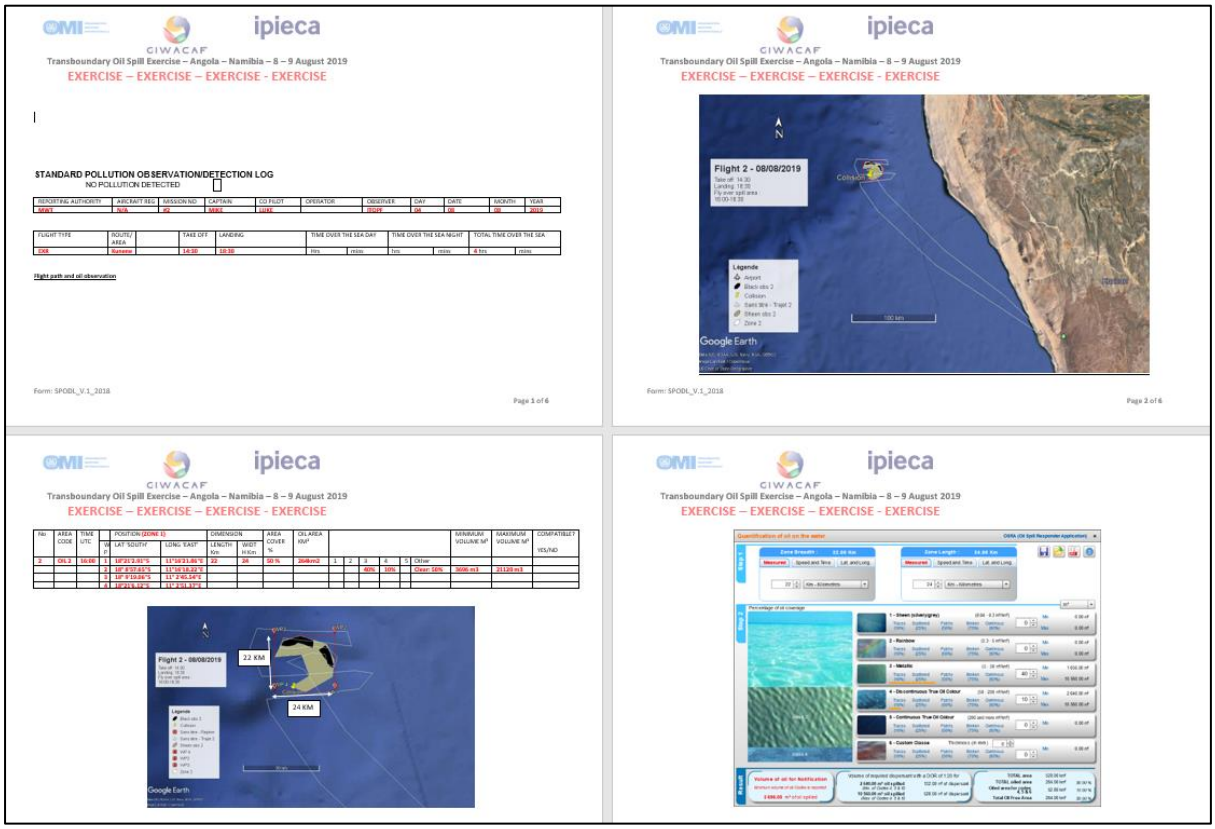
DATE	8th August 2019
TIME	15 :00
FROM	MALAVITA Ship agent
TO	MWT – Namibia, MIREMPET Angola

Dear all

The following is satellite image (radar) showing the extent of the spill at 15:00 this day.



INJECT 7 – Aerial observation report No. 2



OMI CIWACAF ipieca

Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

STANDARD POLLUTION OBSERVATION/DETECTION LOG

NO POLLUTION DETECTED ☐

REPORTING AUTHORITY	AIRCRAFT REG	MISSION NO	CAPTAIN	CO PILOT	OPERATOR	OBSERVER	DAY	DATE	MONTH	YEAR
MOAT	N/A	#2	MIKE	LUIZ		JOSE	08	08	08	2019

FLIGHT TYPE	ROUTE/ AREA		TAKE OFF	LANDING	TIME OVER THE SEA DAY		TIME OVER THE SEA NIGHT		TOTAL TIME OVER THE SEA	
EXE	Eyesore		14:30	18:30	Hrs	mins	hrs	mins	4 hrs	mins

Flight path and oil observation

Form: SPODL_V.1_2018

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Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

Form: SPODL_V.1_2018

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Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

No	AREA CODE	TIME UTC	POSITION (ZONE 1) W I P	LAT: SOUTH°	LONG: EAST	DIMENSION LENGTH Km	WIDTH H:6m	AREA COVER %	OIL AREA KM²						MINIMUM VOLUME M³	MAXIMUM VOLUME M³	COMPATIBLE? YES/NO
2	OIL 2	16:00	1	10°21'2.01"S	11°10'21.06"E	22	28	50 %	2646m2	1	2	3	4	5	Other		
			2	10° 8'57.45"S	11° 10'15.22"E								40%	10%	Clear: 50%	3696 m3	21120 m3
			3	10° 9'59.06"S	11° 2'45.54"E												
			4	10°21'1.19"S	11° 2'31.32"E												

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Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

INJECT 8 – Angry Fishermen

GIWACAF

Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

INJECT # 2

DATE	9th August 2019
TIME	09:30
FROM	Harbour Master Walvis Bay
TO	MWT Incident Commander

Following the news of the collision which took place yesterday between tanker MALAVITA and the container ship SUNWAYS, representatives of the fishing industry requested a meeting early this morning, in order to express their concern.

CONCERN ABOUT THE POLLUTION SITUATION

Several fishermen reported having sailed into a large slick of black oil in the north of the Namibian waters.

REMINDER OF THE IMPORTANCE OT THE FISHING INDUSTRY IN WALVIS BAY

They reminded that the fishing industry is the cornerstone of the city's economy which has developed into a leading force in the world's fish supply market. Locally, the industry creates more than 8,000 jobs and generates 10% of the country's GDP. There are more than 2 kilometres of landing quays, cold storage, processing and canning facilities, playing an important role in the development of Walvis Bay.

High value fish and related products are processed for export purposes to niche markets in Europa, Australia, the United States and Hong Kong. 90% of the hake caught and processed is exported to the Spanish markets. Other fish species caught commercially include pilchards, anchovy, tuna, monk, sole, horse-mackerel and other demersal species.

IMPACT OF THIS CATASTROPHIC OIL SPILL

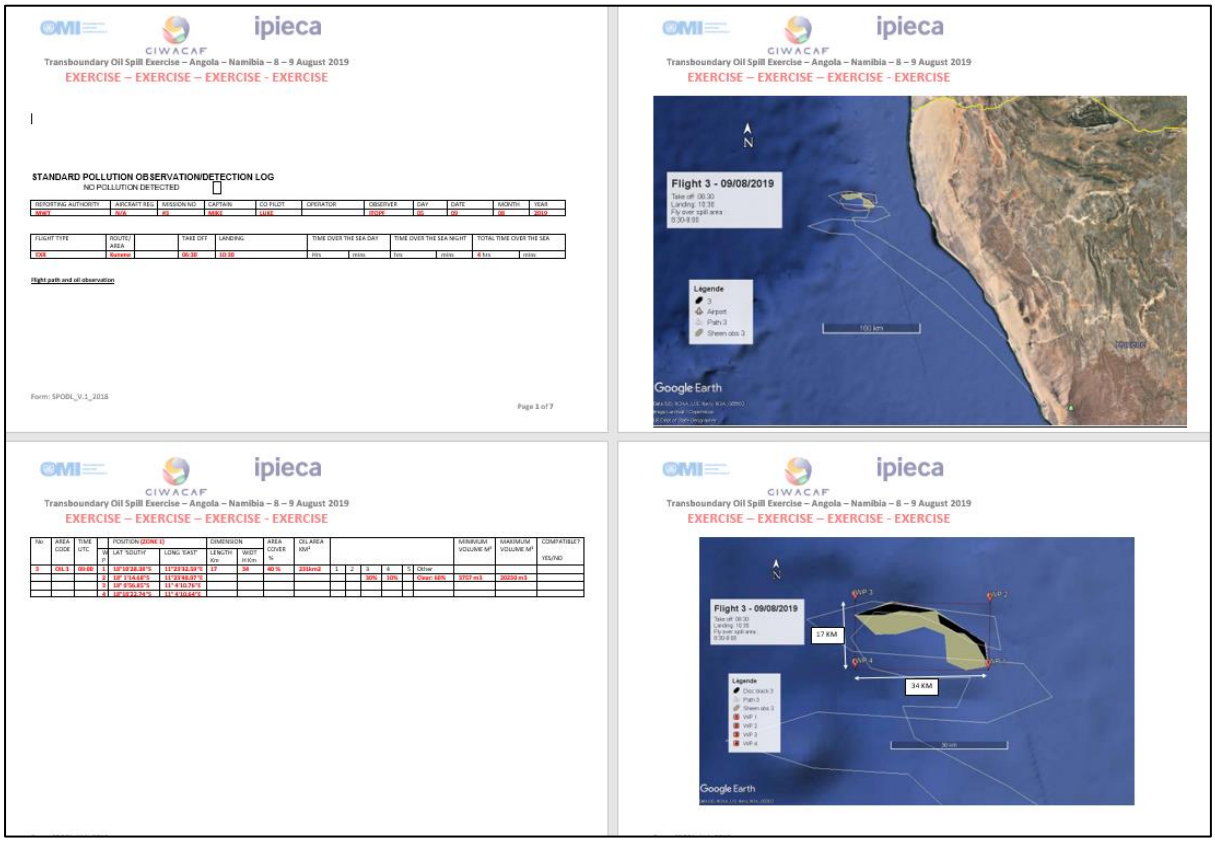
The representatives of the fishing industry estimate that this oil spill will have disastrous consequences on the country's economy

In order to preserve the image of exceptional quality of the Namibian fishing industry, the representatives are of the opinion that fishing has to be stopped until the situation is cleared up.

They demanded information on

- Who is going to pay for all this?
- What is the government going to do to compensate the industry and avoid that 8,000 jobs disappear.

INJECT 9 – Aerial observation report No. 3



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Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

STANDARD POLLUTION OBSERVATION/DETECTION LOG

NO POLLUTION DETECTED ☐

REPORTING AUTHORITY	AIRCRAFT REG	MISSION NO	CAPTAIN	CO PILOT	OPERATOR	OBSERVER	DAY	DATE	MONTH	YEAR
MNEF	N/A	#3	MNEF	LUIZ		STOPP	09	09	08	2019

FLIGHT TYPE	ROUTE/ AREA		TAKE OFF	LANDING	TIME OVER THE SEA DAY		TIME OVER THE SEA NIGHT		TOTAL TIME OVER THE SEA	
OBS	Extreme		06:30	10:30	hrs	mins	hrs	mins	4 hrs	mins

Flight path and oil observation

Form: SPODL_V.1_2018

Page 1 of 7

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Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

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Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

No	AREA CODE	TIME UTC	POSITION (ZONE 1)		DIMENSION		AREA COVER %	OIL AREA KM²						MINIMUM VOLUME M³	MAXIMUM VOLUME M³	COMPATIBLE?
			Nr.	LAT 'SOUTH'	LONG 'EAST'	LENGTH Km	WIDTH Miles			1	2	3	4	5	Other			YES/NO
3	OIL3	09:00	1	10°10'38.38"S	11°23'32.59"E	17	38	40 %	2314m2			30%	10%		Clear 60%	3707 m3	20230 m3	
			2	10° 17'45.68"S	11°23'45.07"E													
			3	10° 8'56.85"S	11° 4'10.76"E													
			4	10°10'22.74"S	11° 4'10.64"E													

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Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

INJECT 10 – Ministry request

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Transboundary Oil Spill Exercise – Angola – Namibia – 8 – 9 August 2019

EXERCISE – EXERCISE – EXERCISE - EXERCISE

INJECT # 4

DATE	9th August 2019
TIME	11:00
FROM	H. Minister of Work and Transport
TO	MWT Incident Commander

Following the news of the collision which took place yesterday between tanker MALAVITA and the container ship SUNWAYS, we have been requested to give a press Conference at 12:00 pm today. Anticipated questions from journalists will be as follows:

Status of the pollution :

- Quantity of oil spilled at sea
- Oil behaviour and trajectory
- Risk of affecting other countries in the region

Response actions implemented

- Details of response organisation in country
- Details of response strategies at sea / on the shoreline
- What response resources have been mobilised? From Where?
- How long is the clean-up expected to be?
- Provide a list of organisations involved in response activities with respective role and responsibilities

Environmental and socio-economic impacts

- What are the environmental resources that will be impacted
- What measures have been taken to mitigate the impacts at sea/ on the shoreline
- Impact on marine traffic in the region
- Impact on fishing activities in the region
- Estimation of economic impact. Who is liable for these costs?

Please summarize the requested information in brief presentation that could be presented to the journalists.

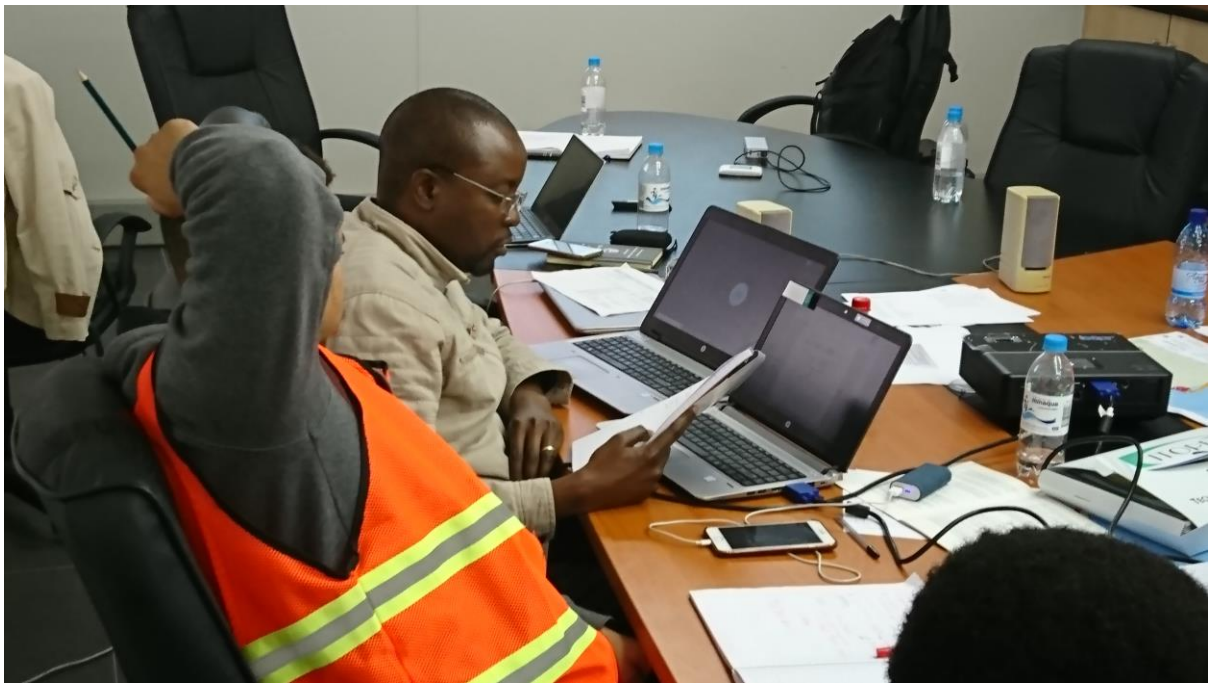
Annex 7 : Pictures

Groupe Picture

Reading of the first injects by Mr Pinehas Auene

Preliminary assessment of spill incident using marine charts

Coordination meeting with Angola



Planning section