



# REPORT ON THE OSMAG-KPA-TKP MARINE OIL SPILL EMERGENCY RESPONSE TRAINING & TIER II DRILL CONDUCTED IN NOV 2019

**Tuesday 26<sup>th</sup> – Friday 29<sup>th</sup> November 2019**

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Environment Manager**

# OSMAG/KPA/TKP MARINE EMERGENCY RESPONSE TRAINING & TIER II DRILL – 26<sup>TH</sup> – 29<sup>TH</sup> NOV 2019

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# OSMAG/KPA/TKP MARINE EMERGENCY RESPONSE TRAINING & TIER II DRILL – 26<sup>TH</sup> – 29<sup>TH</sup> NOV 2019

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# OSMAG/KPA/TKP MARINE EMERGENCY RESPONSE TRAINING & TIER II DRILL – 26<sup>TH</sup> – 29<sup>TH</sup> NOV 2019

## ii.) Abbreviations

| Description |   |
|-------------|---|
| OSMAG       | Oil Spill Mutual Aid Group                |
| OSRAT       | Oil Spill Response & Action Team          |
| IAP         | Incident Action Plan                      |
| NOSCP       | National Oil Spill Contingency plan       |
| OSCP        | Oil Spill Contingency Plan                |
| PPCO        | Principal Pollution Control Officer       |
| MPCC        | Marine Pollution Control Centre           |
| ICC         | Incident Command Centre                   |
| KMA         | Kenya Maritime Authority                  |
| NEMA        | National Environment Management Authority |
| KEMFRI      | Kenya Marine Fisheries Research Institute |
| ERC         | Energy Regulatory Commission              |
| KPA         | Kenya Ports Authority                     |
| TKP         | Total Kenya PLC                           |

# OSMAG/KPA/TKP MARINE EMERGENCY RESPONSE TRAINING & TIER II DRILL – 26<sup>TH</sup> – 29<sup>TH</sup> NOV 2019

## ii.) Abbreviations

| Description |                                     |
|-------------|-------------------------------------|
| OSRL        | Oil Spill Response Limited          |
| MJT         | Mombasa Joint Terminal              |
| LOBP        | Lube Oil Blending Plant             |
| KOT         | Kipevu Oil Terminal                 |
| SOT         | Shimanzi Oil Terminal               |
| OSC         | On Scene Commander                  |
| LPG         | Liquefied Petroleum Gas             |
| OSMAG TC    | OSMAG Technical Coordinator         |
| OSMAG TA    | OSMAG Technical Assistant           |
| HFO         | Heavy Fuel Oil                      |
| HSEQ        | Health Safety Environment & Quality |

## 2. SUMMARY

- The Marine Oil Spill Emergency Response (MOSER) training and Tier 2 drill was organized jointly by the Kenya Ports Authority, Total Kenya PLC & The OSMAG Society. The schedule of events was as follows:

|                     |                       |  |
|---------------------|-----------------------|--|
| Tue, 26th Nov 2019  | Royal Court Hotel     | Classroom theoretical training               |
| Wed, 27st Nov 2019  | Royal Court Hotel     | Classroom theoretical training               |
| Thur, 28th Nov 2019 | KPA – MPCC            | Equipment demonstration & Practical handling |
| Fri, 29th Nov 2019` | KPA – MPCC & On-water | Simulated marine Oil spill emergency drill   |

- There were 36 participants from various OSMAG members and stakeholder agencies during the classroom training
- The practical equipment handling session saw an attendance of 91 delegates with the on-water equipment deployment exercise registering 101 participants.
- The equipment deployed included:
  - 1.) A new dedicated Pollution Control Vessel procured early this year. Onboard the vessel is mounted a boom reel with a 200m containment boom, fixed crane for deployment and retrieval of a skimmer, a Heavy-Duty Termite Model Skimmer unit and its accessories plus a 60-ton capacity recovered oil containment tank.
  - 2.) Other different kinds of boats such as mooring boats, pilot boats & rubber dingy
  - 3.) Dispersant sprayers and accessories

## 2. SUMMARY (Continued...)

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- The simulation drill exercise was based on a real time accident scenario involving cargo hose rupture during discharge operations at Shimanzi Oil Terminal (SOT).
- The simulation depicted an accidental discharge of an estimated 50 metric tons of HFO into the sea
- The Incident Command Centre (ICC) was set up at the KPA Marine Pollution Control Centre (MPCC).
- Total Kenya convened their Crisis Management Cell (CMC) at their head office, Regal Plaza, Nairobi in line with their emergency response procedures

### **3. ACKNOWLEDGEMENTS**

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➤ The organizers extend their sincere gratitude to the Kenya Ports Authority, TKP management, the OSMAG Technical staff, OSMAG Members, and the following agencies who participated in the drill:

- 1.) The Kenya Maritime Authority (KMA)
- 2.) The Kenya Navy
- 3.) The Maritime Police Unit
- 4.) The Energy & Petroleum Regulatory Authority (EPRA)
- 5.) Kenya Forests Service
- 6.) Kenya Wildlife Service
- 7.) Kenya Railways Corporation (Observers)



## 4. OBJECTIVES

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- 1) To appraise the level of emergency preparedness of OSMAG/OSRAT, KPA and the TKP Crisis Management Cell (TKP CMC) in the event of an oil spill crisis
- 2) Test the KPA Marine Pollution Control Centre (KPA MPCC) as an Incident Command Centre and assess the coordination between it and TKP CMC
- 3) Test the TKP Marine Emergency Response Plan and identify points of improvement
- 4) Test the Port of Mombasa Oil Spill Contingency and Response Plan and its application and identify points of improvement
- 5) Identify and mitigate any HSSE risks on site
- 6) To review arrangements for oil spill response among OSMAG members
- 7) Review stakeholder liaison and management during a real spill crisis

## 5. CLASSROOM TRAINING (DAYS 1 & 2)

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- There were 24 participants from various organizations and stakeholder agencies. The attendance rate was 48% (24 participants out of 50 expected) which was OK.
- Delegates from seven different government agencies attended the training.
- From post training feedback forms filled by the participants:
  - ✓ 100% of the delegates agreed that the training met their expectations.
  - ✓ 100% of delegates agreed that the training is relevant to their work and will apply knowledge gained.
  - ✓ More than 90% of respondents agreed that:
    - The content was organized & easy to follow;
    - The trainers were knowledgeable;
    - The trainers met training objectives;
    - Adequate time was allowed for questions and discussions.
  - ✓ 100% of participants rated the training as Good or Excellent.

## 6. CLASSROOM TRAINING FEEDBACK

| ISSUE  | Strongly Agree |            | Agree |            | Neutral |            | Disagree | Strongly Disagree |
|--|----------------|------------|-------|------------|---------|------------|----------|-------------------|
|  | Count          | Percentage | Count | Percentage | Count   | Percentage |          |                   |
| 1. The training met my expectations.   | 14             | 58%        | 10    | 42%        | 0       | 0%         | 0        | 0                 |
| 2. The knowledge learned is relevant to my work as an emergency responder and will apply it.       | 18             | 75%        | 5     | 21%        | 1       | 4%         | 0        | 0                 |
| 3. The content was organized and easy to follow.   | 9              | 38%        | 14    | 58%        | 0       | 0%         | 0        | 0                 |
| 4. The trainers were knowledgeable.  | 14             | 58%        | 9     | 38%        | 1       | 4%         | 0        | 0                 |
| 5. The trainers met the training objectives.   | 11             | 46%        | 13    | 54%        | 0       | 0%         | 0        | 0                 |
| 6. Adequate time was provided for questions and discussion and class participation was encouraged. | 8              | 33%        | 11    | 46%        | 5       | 21%        | 0        | 0                 |
| 7. The meeting room and facilities were adequate and comfortable                                   | 12             | 50%        | 9     | 38%        | 3       | 13%        | 0        | 0                 |
| 8. How do you rate the training overall?   | 12             | 50%        | 12    | 50%        | 0       | 0%         | 0        | 0                 |

## 6. CLASSROOM TRAINING FEEDBACK CONT'D

### 9. What did you like the most about the training?

- Very interactive session and Group discussions
- Good training organisation
- Relevant knowledge & information presented
- Shoreline Clean-up
- Booming
- Field Safety topic
- Knowledgeable facilitators
- Real life examples and case scenario analysis

### 9. Please provide specific suggestions and recommendations for future improvements to the Marine Emergency Response Training course?

- Incorporation of Videos
- Increase training time to three days
- Conduct regular refresher trainings
- Train a wider pool of responders
- Break topics into shorter sub-units
- Add unit on environmental effects
- Incorporate ice breaker teams to energise the class

## **7. PRACTICAL EQUIPMENT OPERATION (DAY 3)**

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- This was held on the 3rd day (28th November 2019) at the KPA MPCC
- The OSMAG Technical Coordinator assisted by KPA Marine Pollution Control Center staff took delegates round the equipment warehouse and also aboard the new dedicated Pollution Control Vessel (PCV Faggio) which moored at the K-Boat Jetty near the MPCC
- During the walkabout, the operating features of all the equipment within the warehouse and aboard the vessel were explained to the delegates.
- For the practical sessions, three teams (Booming, Skimming & Dispersants) were formed and allocated response stations consisting of representative equipment for the function.
- For each team, a team leader was assigned who demonstrated the practical aspects including choice from alternatives, starting and stopping the equipment, proper use in a spill situation, mobilization procedures for the equipment & safety during use
- Delegates were encouraged to relate the equipment with the theoretical presentations covered in the 2-day classroom sessions
- The delegates were then allowed time to practice individually the demonstrated skills to a satisfactory completion level.
- Subsequently, teams were rotated through the stations so as to have a rounded skill level.

# 8. DAY 4 - DRILL SCENARIO

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| NAME                        | ABBREVIATION | CALL SIGN            |
|-----------------------------|--------------|----------------------|
| • Booming Team              | (BT)         | Bravo Tango          |
| • Skimming Team             | (ST)         | Sierra Tango         |
| • Dispersant Team           | (DT)         | Delta Tango          |
| • Towing Team               | (TT)         | Tango Tango          |
| • Logistics Team            | (LT)         | Lima Tango           |
| • On-Scene Commander        | (OSC)        | Oscar Sierra Charlie |
| • Control Tower             | (CT)         | Charlie Tango        |
| • Incident Command          | (ICC)        | India Charlie        |
| • Pollution Control Vessel  | (PCV)        | Papa Charlie Victor  |
| • Mooring Boat – KMB5       | (KMB5)       | Kilo Mike Bravo 5    |
| • Pilot Boat – Tangulizi II | (PBT)        | Papa Bravo Tango     |
| • Marine Police Boat        | (MP)         | Mike Papa            |
| • Kenya Maritime Authority  | (KMA)        | Kilo Mike Alpha      |
| • K-Boat Pontoon            | (KBP)        | Kilo Bravo Papa.     |

# 8. DAY 4 - DRILL SCENARIO (Spill at SOT)

## OIL SPILL RESPONSE TRAINING OF ONSITE RESPONDERS

### ANNOUNCED EQUIPMENT DEPLOYMENT EXERCISE

**DATE:** 29<sup>th</sup> November 2019

**TIME:** 0900hrs to 1400hrs

**VENUE:** Kilindini Harbour, Mombasa

This simulation exercise involves an escalating incident with multiple issues to be considered in the response within an expanding response.

### OBJECTIVE OF THE EXERCISE

Test identification, inspection, preparation, operation and deployment of oil spill response equipment as will be used with the Port of Mombasa.

Test knowledge of the Port of Mombasa Oil Spill Contingency and Response Plan and its application.

### PROGRAM: FRIDAY 29<sup>th</sup> November 2019

|      |   |
|------|---|
| 0830 | Safety brief and scenario presentation by OSRAT Team Leader   |
| 0900 | Initiation of the exercise by the provision of an alert message to the On-Scene Commander (OSC) in charge of OSRAT. |
| 0930 | Exercise Execution following guide from Incident Command  |
| 1245 | Equipment Recovery & Demobilization   |
| 1330 | Exercise debriefing and feedback  |
| 1430 | Lunch Break & Secure  |

### Metrological and Oceanographic Data

| Wind                       | Current                     | Tide          |
|----------------------------|-----------------------------|---------------|
| Direction: 13 <sup>o</sup> | Direction: 103 <sup>o</sup> | HW: 0530 3.7m |
| Speed: 5 knots             | Speed: 0.30 knots           | LW: 1148 0.3m |

## 8. DAY 4 - DRILL SCENARIO (Spill at SOT)

| SCENARIO             |   |
|----------------------|---|
| Scenario Information |   |
| 0600                 | M/T KROSSWIND docks at Shimanzi Oil Terminal (SOT) with 12 mooring lines to discharge 12,500MT of Heavy Fuel Oil (HFO) to Mombasa Joint Terminal (MJT) tanks at Shimanzi.   |
| 0740                 | Ship's crew and shore personnel complete the pre-transfer safety checklists and hoses hooked up, well connected and cargo operations commence.  |
| 0800                 | Strong winds force the mooring lines slacked and the vessel drifted off the Jetty   |
| 0805                 | Surge of bad weather and heavy winds has reached a climax throughout Mombasa inner harbour area. The vessel has been drifted off the jetty and 8 mooring lines parted. The cargo hoses stretched resulting in the bursting of one of the hoses and spilling product into the water. |
| 0820                 | The ship's ESD is triggered, cargo pumps are stopped, and valves closed.  |
| 0835                 | Chief Engineer contacts loading master ashore to initiate emergency shutdown  |
| 0836                 | Fire-fighters stationed at SOT raise the alarm and inform Port Control VTS tower of the emergency.  |
| 0838                 | Master puts out an emergency call for tug assistance.   |
| 0850                 | Tug Simba III and Kiboko II respond to call for assistance.   |
| 0915                 | Tug Simba III and Kiboko II push the vessel back alongside the jetty safely.  |
| 0920                 | Oil is seen drifting towards berth 9 & 8. Some of the oil remains mobile around the vessel.   |



## 8. DAY 4 - DRILL SCENARIO UPDATES (Spill at SOT)

| UPDATE 1:   |   |
|-------------|---|
| 0955        | Four staff from the pollution control section of KPA arrive on site for assessment.   |
|             | From assessment, the team estimates the amount of oil spilled to be about 50 tonnes. With the tide ebbing, the bulk of the oil is now between berth 10, 9, & 8. Release of oil from the tanker is now contained. General wind speeds have largely reduced but occasional wind gusts remain. |
| <b>Task</b> | Adjust your response to match this new information  |

| UPDATE 2:   |   |
|-------------|---|
|             | The OSMAG TC arrives on site for surveillance.  |
|             | The KMA Environment officers arrive on site.  |
|             | The KPA-PPCO arrives on site.   |
|             | The three officials conduct a joint surveillance. From evaluations based on the possible spilled quantities and the current level of response a unanimous decision is made to escalate it to Tier 2 level. An Incident Command Center (ICC) is established. |
| <b>Task</b> | Review your staff compliment and equipment resources for adequacy. Make requests for any extra equipment or personnel required to achieve objectives of an expanded tier 2 response.  |

## 8. DAY 4 - DRILL SCENARIO UPDATES (Spill at SOT)

| UPDATE 4: |   |
|-----------|---|
| 1148      | The tide is now slack. Wind speeds have normalised, and wind gusts subsided.  |
| Tasks     | Prepare to adjust your response strategy and tactics for the next three hours based on the soon to change tidal stream from ebbing to flooding. |

| UPDATE 5: |   |
|-----------|---|
| 1230      | The Governor of Mombasa visits the Incident Command Centre. He is concerned about reports of possible impacts at Mtongwe beach, Likoni Ferry area. He is also concerned that if the oil escapes from the harbour towards the North Coast, it may affect tourism as the country is in the tourism peak season. |
| Tasks     | Provide an update to the IC on the status of field response and possibility of incident escalating to out of the inner harbour and into the Likoni channel. Also provide the current strategies and tactics put in place to address such a scenario should it happen.   |

## 8. DAY 4 - DRILL SCENARIO UPDATES (Spill at SOT)

| UPDATE 6: |  |
|-----------|--|
| 13.00     | The operational period for this shift is ending. The Incident Commander issues a shift changeover instruction. All teams and responders are required to demobilise in an orderly manner back to base for shift debriefing.   |
| Tasks     | <p>Prepare a debriefing report for the upcoming debrief exercise. Report to include items such as:</p> <ol style="list-style-type: none"><li>1. Review of adequacy of: Equipment, Personnel, Decision making and interactions with other response teams.</li><li>2. Review of response strategies &amp; procedures used during the response.</li><li>3. Factual update on: mass balance, chronological account of key actions/activities, Resources allocated.</li></ol> |

| UPDATE 7: |   |
|-----------|---|
| 13.30     | Fisherfolk along Mwenza Creek and Mtongwe beach report about oiling of their fishing gear and of fish being contaminated.   |
| Tasks     | <p>Prepare advise to them about:</p> <ol style="list-style-type: none"><li>1. Whether they can fish and sell their catch to the local market.</li><li>2. Whether fish from the area will be safe to eat?</li><li>3. If TOTAL will compensate them should there be a fishing ban and for any consequential losses.</li></ol> |

END OF EXERCISE.

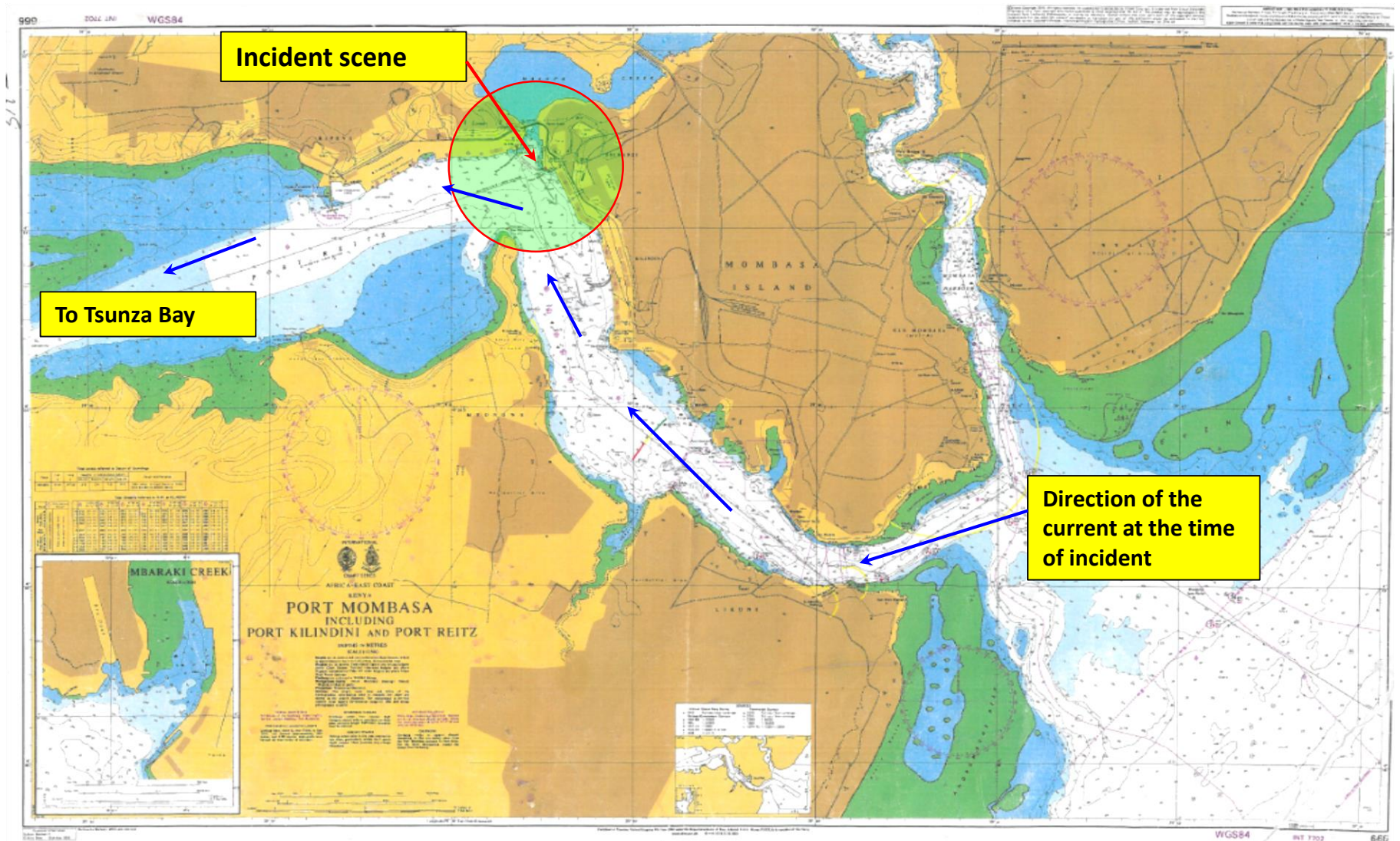
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## v.) Map of Kenya & Location of Mombasa City



# OSMAG/KPA/TKP MARINE EMERGENCY RESPONSE TRAINING & TIER II DRILL -- 26<sup>TH</sup> - 29<sup>TH</sup> NOV 2019

## Location of the Scene of the Incident



# OSMAG/KPA/TKP MARINE EMERGENCY RESPONSE TRAINING & TIER II DRILL – – 26<sup>TH</sup> – 29<sup>TH</sup> NOV 2019

## Location of the Incident Scene (S.O.T), Marine Pollution Control Centre & Mombasa VTS Control Tower



# 10. EVENTS CHRONOLOGY (BEFORE ACTIVATION)

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- The three main response teams (Booming team, Skimming team & Dispersants team) set up during the equipment familiarization and handling training the previous day were re-confirmed.
- Each team was allocated a trained Emergency Responder from KPA as the team leader.
- In the absence of the KPA Principal Pollution Control Officer (Captain Namadoa), one of the Pollution Control Officers (Ms Florence Bet) was designated as the On Scene Commander (OCS).
- The following were appointed to the Incident Command Centre (ICC):-
  - OSMAG Technical Coordinator - Incident Commander & Ops Officer
  - TKP Environment Manager – Historian
  - TKP HSEQ Engineer (Coast Region) – Safety, Logistics & Liaison Officer
  - KPA Environment Officer – Communications Officer

# 11. EVENTS CHRONOLOGY – AFTER ACTIVATION

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## BOOMING & SKIMMING

- 1033hrs: Activation via radio alert from the VTS Tower
- 1108hrs (35mins after activation): Arrival of the OSC at the scene of the accident via a rubber dingy deployed ex-the PCV Faggio Surveillance starts immediately
- 1112hrs (39mins after activation): Instructions to OSMAG TC to set up an ICC and Booming & Skimming Teams to make immediate arrangements, mobilize and proceed to scene via the PCV Faggio. KMB5 also to be deployed to assist in boom deployment
- 1126hrs (53mins after activation): Booming & Skimming Teams arrive at the scene of incident via the PCV Faggio 1128hrs: ICC confirmed to be fully set up at the MPCC (55mins after activation)
- 1131hrs (58mins after activation): OSC update - slick drifting towards Berths No 9 & 10. Tide is slack. The slick may move backwards and impact Berths number 10 and 11
- 1134hrs (1hr 1 min after activation): OSC request to ICC to make arrangements for a Pilot Boat to assist in the response actions.
- 1135hrs (1hr 2 min after activation): OSC/ICC consultation on dispersants application. Proposed to execute close to Berths 8 & 9 when ready so as to avoid slick escaping.



# 11. EVENTS CHRONOLOGY – AFTER ACTIVATION

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- 1139hrs (1hr 6mins after activation): BT requests for advice from OSC on best booming strategy. Tidal flooding expected to start 1149hrs. OSC advises BT to consider anchoring of the boom from the bow of vessel to a cardinal onshore near KPA HQ
- 1153hrs (1hr 25 minutes after activation): Start of booming {Time taken to prepare boom & commence deployment = 32mins}
- 1237hrs (2hrs 4mins after activation): Completion of booming {Time taken to fully deploy boom = 39mins}
- 1315hrs (2hrs 42mins after activation): Start of skimming operation {Time taken to prepare skimmer & deploy = 38mins}
- 1326hrs (2hrs 53mins after activation): : Report of a man overboard ex PCV Faggio. OSC confirms shortly that it was one of the divers who was ensuring proper deployment of boom in the water
- 1353hrs (3hrs 20mins after activation): Completion of skimming operation {Time taken to skim = 38mins}
- 1454hrs (4hrs 21mins after activation): Completion of withdrawal of skimmer & boom from the water {Time taken to recover skimmer & boom = 1hr 1min}

# 11. EVENTS CHRONOLOGY – AFTER ACTIVATION

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## DISPERSANTS APPLICATION

- 1233hrs (2 hours after activation): Dispersant Team deployed to scene of incident via Pilot Boat Tangelizi II
- 1353hrs (3hrs 20mins after activation): Completion of dispersants application **{Time taken to apply dispersants = 1hr 20mins}**
- 1456hrs (4hrs 23mins after activation): Completion of exercise after all teams arrive back at MPCC and all equipment has been recovered back to warehouse **{Overall response & recovery time = 4hrs 23mins}**
- 1516hrs (4hrs 43mins after activation): All teams re-assemble at MPCC. Debrief starts
- 1550hrs (5hrs 17mins after activation): Completion of debrief followed by lunch **{Debrief duration: 34mins}**

## 12. KEY HIGHLIGHTS OF THE DRILL

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- Quantity reported spilled – 50 tonnes
- Time taken for On Scene Commander to arrive at scene for surveillance = 35mins
- Time taken to fully set up the Incident Command Centre = 53mins
- Time taken for Booming & Skimming Teams to arrive at the scene of incident = 53mins
- Time taken to prepare & fully deploy the boom = 39mins
- Total length of boom deployed – 200 meters
- Time taken to prepare skimmer & deploy = 38mins
- Time taken for Dispersants Team to arrive at the scene of incident and commence dispersion = 2hrs
- Quantity reported to have been recovered via skimming operation = 10% = 5 tonnes
- Quantity reported to have been dispersed via the dispersants = 5% = 2.5 tonnes
- {Quantity of Dispersants used = 120 ltrs (Ratio 1:20)}
- Quantity assumed to have evaporated = 5% = 2.5 tonnes
- *Quantity remaining for next operational period response = 40 tonnes*

# 13. DEBRIEF OBSERVATIONS & ACTION PLAN

| Issue reported by teams  | Explanation & Proposed<br><b>Corrective Action</b>   | By Who                                 | By When              |
|--|--|--|----------------------|
| <p>Challenges experienced with the setting up of the skimmer with regard to rapid installation of its various sub-assemblies.</p> <p>Operators observed not to be very conversant with regard to parts compatibility leading to delayed assembly and deployment. This is not desirable as far as emergency response is concerned</p> | <p>PCV Faggio and associated equipment and accessories on board still new.</p> <p>More practical exercises recommended to facilitate full internalization of use by the operators. MPCC to arrange for more practical internal trainings</p> | <p>KPA MPCO<br/>&amp; OSMAG<br/>TC</p> | <p>ASAP</p>          |
| <p>Challenges experienced with regard to safe hooking and un-hooking of the skimmer once it was deployed in the water. Operator forced to over-reach with risk of falling overboard into the water during the process</p>  | <p>To design and implement a modification to facilitate safe but effective hooking and unhooking of the skimmer</p>  | <p>KPA MPCO<br/>&amp; OSMAG<br/>TC</p> | <p>ASAP</p>          |
| <p>Spillages of hydraulic oil experienced on board the PCV Faggio during skimmer handling</p>  | <p>To carry a tool to facilitate effective de-pressurization of hydraulic lines</p>  | <p>KPA MPCO<br/>&amp; OSMAG<br/>TC</p> | <p>Next exercise</p> |

# 13. DEBRIEF OBSERVATIONS & ACTION PLAN

| Issue reported by teams   | Explanation & Proposed<br><b>Corrective Action</b>  | By Who              | By When       |
|---|---|---------------------|---------------|
| Challenges experienced with rapid identification of accessories for the boom  | Pre-pack all accessories for the boom before deployment so as to facilitate easy identification during deployment and save time | KPA MPCO & OSMAG TC | Next exercise |
| Heavy dust from clinker experienced by dispersants team during response   | Planned installation of Eco-Hoopers by KPA  | KPA MPCO            | Next exercise |
| Boom recovery not efficient as expected due to friction between boom and the vessel ramp. Higher wear and tear rate | Consider installation of a modification to incorporate use of retractable rollers to facilitate less contact and friction       | KPA MPCO            | ASAP          |
| Chain of command not respected among some of the teams. Too many random instructions                                | Appointed Team Leaders to exert better control during exercises   | KPA MPCO / OSMAG TC | Next exercise |

## 14. GENERAL CONCLUSION ON THE DRILL

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- In relation to the set objectives, the drill was noted to have been successful.
- Areas for improvement were revealed at the MPCC, the Incident Command Centre, during classroom theory training; and during practical equipment training thereby presenting key learning's for continual improvement.
- The recommended actions to address the noted weaknesses are indicated in the summaries above.
- KPA, OSMAG & TKP ought to follow up and ensure that all the recommendations made are executed as required for improvement
- The effectiveness of executed corrective actions shall be assessed during at the next simulation exercise planned for end of Q2 – 2020 to be coordinate by OSMAG and KPA

# 15. INVITATION LETTERS



TOTAL KENYA PLC

Our Ref: MD/019/10/126

October 8, 2019

The Managing Director  
Kenya Ports Authority  
P. O. Box 95009 - 80104  
MOMBASA

Dear Sir,

**RE: OIL SPILL RESPONSE SIMULATION DRILL ON 29<sup>TH</sup> NOVEMBER 2019 WITHIN THE PORT OF MOMBASA**

Environmental sustainability is fundamental in all our operations in ports and terminals and is an important performance criteria for Total Kenya PLC and the Total Group worldwide. To meet this objective, Total Kenya PLC complies with stringent hydrocarbon vessel standards, assessment of marine and river terminals (jetties) and has a documented oil spill preparedness and response contingency plan. Notably, Total Kenya PLC is a founder member of OSMAG and recognizes the critical role KPA has continued to play in terms of personnel, policies and equipment to counter pollution.

Following the OSMAG/KPA/TKPLC marine emergency response training and tier 2 drills conducted every year since 2014, Total Kenya PLC once again wishes to spearhead this year's oil spill response simulation training and drill between 26<sup>th</sup> and 29<sup>th</sup> of November 2019 within the port of Mombasa, which will ultimately involve many stake holders and principally KPA. We request for your consent, access and participation in the training and ultimately in the drill.

Our HSEQ Manager (Mr. John Muchunu) will hereafter contact the Harbour Master to discuss the finer details of the drill.

We look forward to our continued partnership.

Regards

Yours faithfully,  
TOTAL KENYA PLC

**Olagoke ALUKO**  
Managing Director

Regal Plaza, Limuru Road, P. O. Box 30736 00100 GPO Nairobi  
Tel: (254-20) 2897000 / 0719 027000  
E-mail: administrator@total.co.ke ; website: www.total.co.ke

Directors: Stanislas Mittelman\*, Jean-Philippe Torres\*, Olagoke Aluko\*\* (Managing), Julien Severine\*, Joe Muchekahu, Joseph Karago, Margaret Shava (\*French, \*\*British)



TOTAL KENYA PLC

Our Ref: HSEQ/ENV/2019/117

October 24, 2019

The Managing Director  
Tullow Kenya B.V  
P.O BOX 63298-00619  
NAIROBI, KENYA

Dear Sir,

**RE: INVITATION TO PARTICIPATE IN MARINE EMERGENCY RESPONSE DRILL**

Total Kenya Plc in conjunction with the Oil Spill Mutual Aid Group Society (OSMAG) and Kenya Ports Authority (KPA) has organized for a Tier II marine oil spill response training on **Tuesday 26th to Thursday 28th November 2019** starting from **0800hrs to 1700hrs** culminating in a drill on **Friday 29th November 2019** starting from **0900hrs to 1300hrs** at the KPA Marine Pollution Control Centre.

The training and exercise is suitable for delegates who will play a role in an oil spill emergency response or those interested in developing their oil spill response skills. The drill will involve 'real time' response based on weather conditions and KPA mooring activities.

OSMAG, the Marine Pollution Control Centre and Total Kenya Plc will bear the training and exercise costs, but participants are expected to make their own travel and accommodation arrangements where necessary.

You are requested to nominate **1** delegate with priority to OSRAT (Oil Spill Response Action Team) members to participate in the training and the said exercise. Kindly forward your response and nomination to our Environment Manager Mr. Francis Saha and the OSMAG Technical Coordinator Mr. Washington Okanga via e-mails [francis.saha@total.co.ke](mailto:francis.saha@total.co.ke) and [washington.okanga@osmagociety.com](mailto:washington.okanga@osmagociety.com) respectively by **Friday, 15<sup>th</sup> November 2019** to facilitate finalization of arrangements.

We thank you and look forward to our continued cooperation.

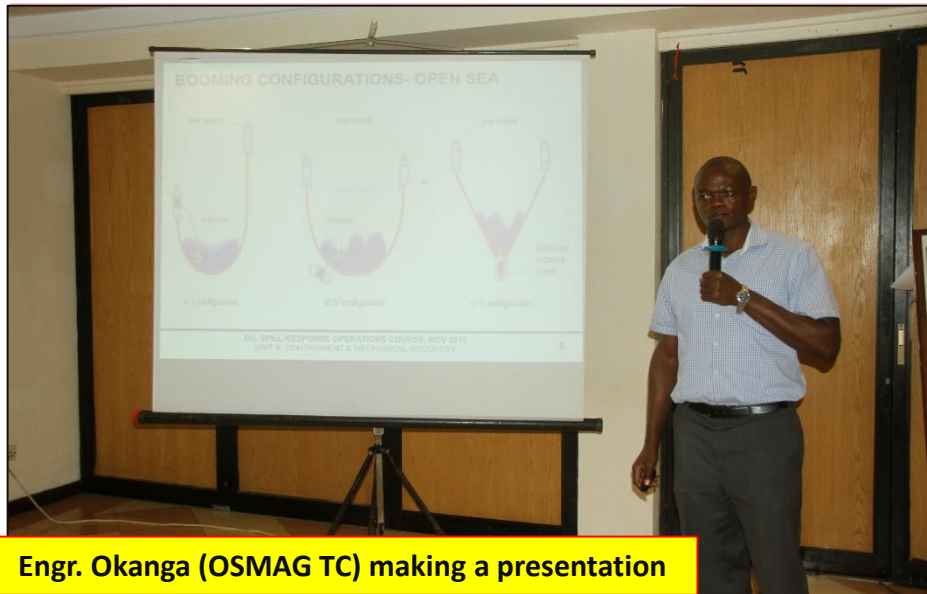
Yours faithfully,  
Total Kenya Plc

**Olagoke ALUKO**  
MANAGING DIRECTOR

Regal Plaza, Limuru Road, P. O. Box 30736 00100 GPO Nairobi  
Tel: (254-20) 2897000 / 0719 027000  
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# 16. PHOTOS – DAY 1 & 2 - CLASSROOM TRAINING



Engr. Okanga (OSMAG TC) making a presentation



Mr. Gitau (Formerly OSMAG TA – Currently EPRA) making a presentation



Mr. Makhuli (KPA) making a presentation



Mr. Okeri (KPA) making a presentation



# 16. PHOTOS – DAY 1 & 2 - CLASSROOM TRAINING



Delegates during the classroom sessions



Mr Salim Munyambu of Petrocity makes a point during one of the classroom sessions



Mr Loui Baraza of Total Kenya (Center) & other delegates during the classroom sessions



Delegates during the classroom sessions

# 16. PHOTOS – DAY 1 & 2 - CLASSROOM TRAINING



Ms Ibtisam Abud of MBTL makes a presentation



Delegates listen on during the session



Delegates listen on during the session



Mr Makhuli of KPA makes a presentation

# 16. PHOTOS – DAY 2 – GROUP PHOTO



Delegates & facilitators pose for a group photo at the end of the classroom sessions

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



Delegates gather for Day 3 practical equipment training at the KPA Marine Pollution Control Center



Delegates gather for Day 3 practical equipment training at the KPA Marine Pollution Control Center



Engr Okanga – (OSMAG TC) takes delegates through a safety brief before start of the practical training sessions



Ms Florence Bet (KPA – Pollution Control Officer) addresses delegates on behalf of the PPCO who was away

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



Delegates walk down the ramp at the K-Boat Jetty to board the PCV Faggio for practical training on booms and skimmers handling



Delegates on the jetty platform before boarding the PCV Faggio



Delegates on the jetty platform before boarding the PCV Faggio

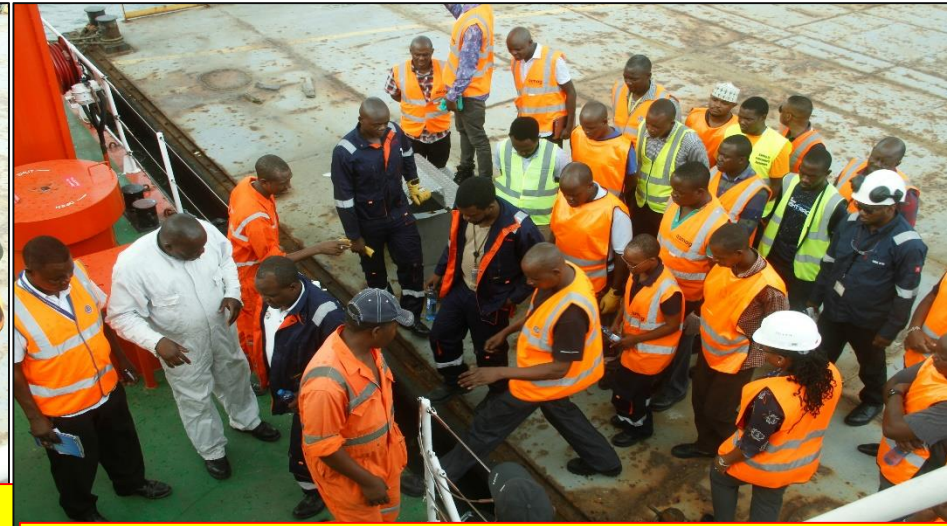


Delegates receive instructions before boarding the PCV Faggio

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



Delegates undergo a safety brief conducted by Mr Okumu (KPA - PCO) before boarding the PCV Faggio



Delegates boarding the PCV Faggio



Mr. Okumu explains the various features of the equipment aboard the PCV Faggio



Delegates undergoing further explanations aboard the PCV Faggio

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



F. Saha (TKP Environment Manager & Current OSMAG Secretary) & J. Wechuli (TKP Financial Accounting Manager & Current OSMAG Treasurer) aboard the PCV Faggio during the session



Mr. Okumu gives more explanations to delegates before start of the practical training sessions on booms & skimmers deployment

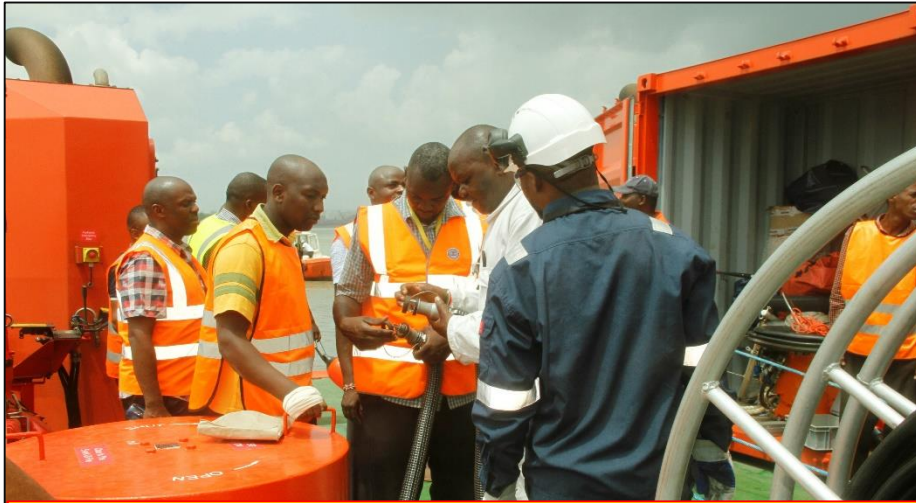


KPA MPCC Staff prepare the boom for deployment demonstration



Delegates receive practical instructions on boom deployment

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



Mr. Okumu explains the functionality of the air blower & suction hoses and their accessories to delegates



Delegates receive more practical instructions on boom deployment



Delegates receive more practical instructions on boom deployment



Commencement of the practical boom deployment demo



# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



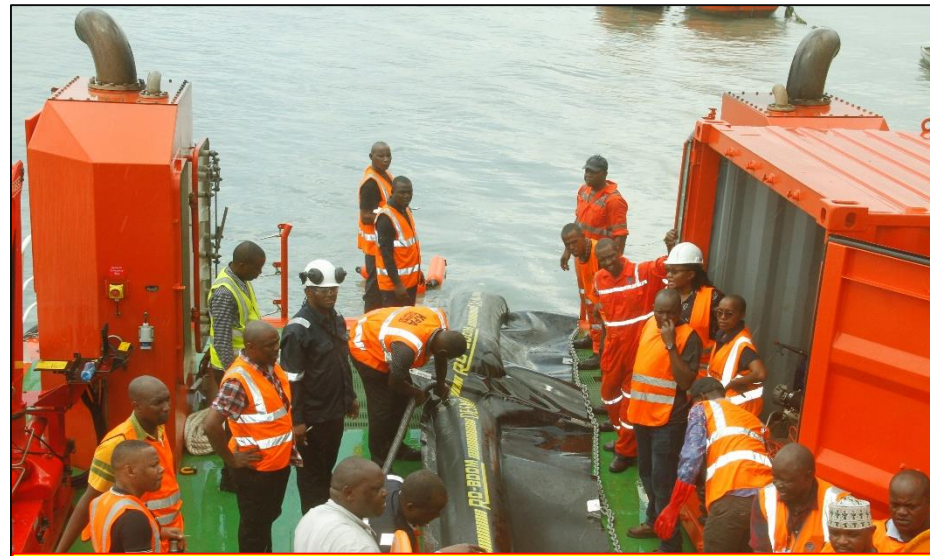
Inflation and deployment of the first sections of the boom



Inflation and deployment of the first sections of the boom



Inflation and deployment of the first sections of the boom



Deflation and retrieval of the boom after the practical demo

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



KPA-MPCC Staff demonstrate the assembly of the Weir Skimmer



KPA-MPCC Staff demonstrate the assembly of the Weir Skimmer



Mr Okumu explains the functionality of the Weir Skimmer unit



Mr Abdikadir (KPA-MPCC) prepares the skimmer for deployment

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



KPA-MPCC Staff secure the skimmer onto an onboard crane unit



Lifting of the skimmer for deployment via the onboard crane unit



Lifting of the skimmer for deployment via the onboard crane unit



Deployment of the skimmer into the water

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



Challenges experienced in attempts to safely unhook the skimmer



Demonstration of the functionality of the skimmer in the water



Retrieval of the skimmer after the demo



Demonstration of use of the mop skimmer unit also onboard

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



**Engr. Okanga (OSMAG TC) explains the various components of a vacuum oil recovery unit**



**Engr Okanga explains the functionality of a recovered oil storage tank and its connections to the vacuum recovery unit**



**Engr. Okanga trains delegates on operations of a rubber dingies**



**Engr. Okanga (OSMAG TC) trains delegates on other marine oil spill emergency response general quipment**

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



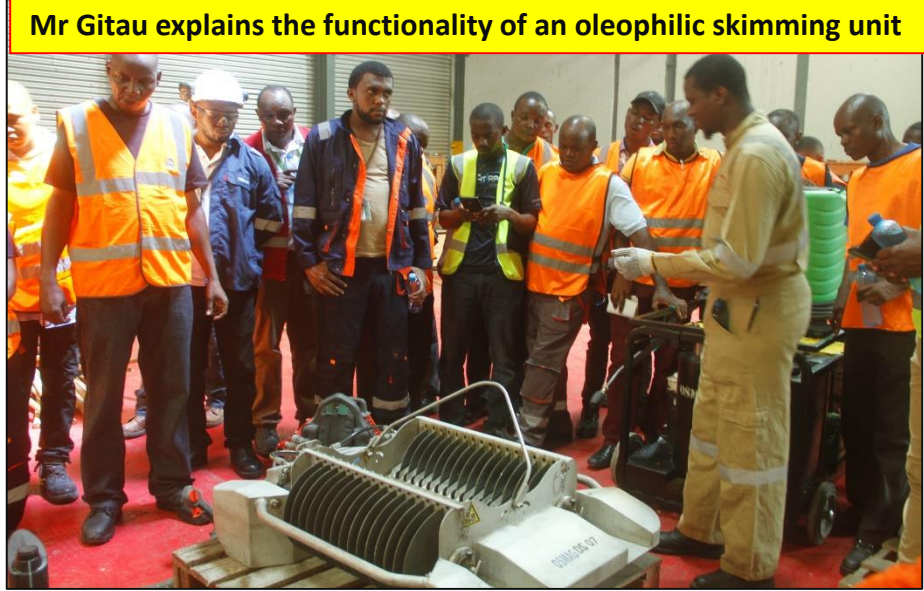
Mr Gitau explains to delegates the functionality of fully assembled and charged FastTank unit



Mr Gitau explains to delegates the functionality of dispersant application nozzles and other accessories



Gitau explains on use of other dispersant application equipment



Mr Gitau explains the functionality of an oleophilic skimming unit

# 17. PHOTOS - DAY 3 - PRACTICAL EQUIPMENT TRAINING



Mr Gitau explains the functionality of a mobile recovery unit



Mr Gitau explains the functionality of a mobile recovery unit



Gitau explains on use of other dispersant application equipment



Gitau explains use of shoreline clean up and recovery equipment

# 18. PHOTOS - DAY 4 – BRIEFING PRIOR TO ACTIVATION



Delegates gather at the KPA Marine Pollution Control Center on the day of the drill for briefing prior to activation



Ms Florence Bet (KPA – Pollution Control Officer) takes delegates through a safety and other expectations briefing



Captain Muthama (KPA – Head of Marine Operations) addresses delegates



Captain Muthama (KPA – Head of Marine Operations) addresses delegates



# 18. PHOTOS - DAY 4 – ACTIVATION AND SURVEILLANCE



The Mombasa VTS Control Tower from where the activation signal was relayed



Ms Florence Bet (The On-Scene Commander) Heads to the scene of the spill to conduct preliminary surveillance



The On-Scene Commander (OSC) conducts surveillance at the scene of the incident. The 'MT Crosswind' is in the background



Booming & Skimming Team members proceed to board the PCV Faggio to head to the scene of the incident as directed by OSC

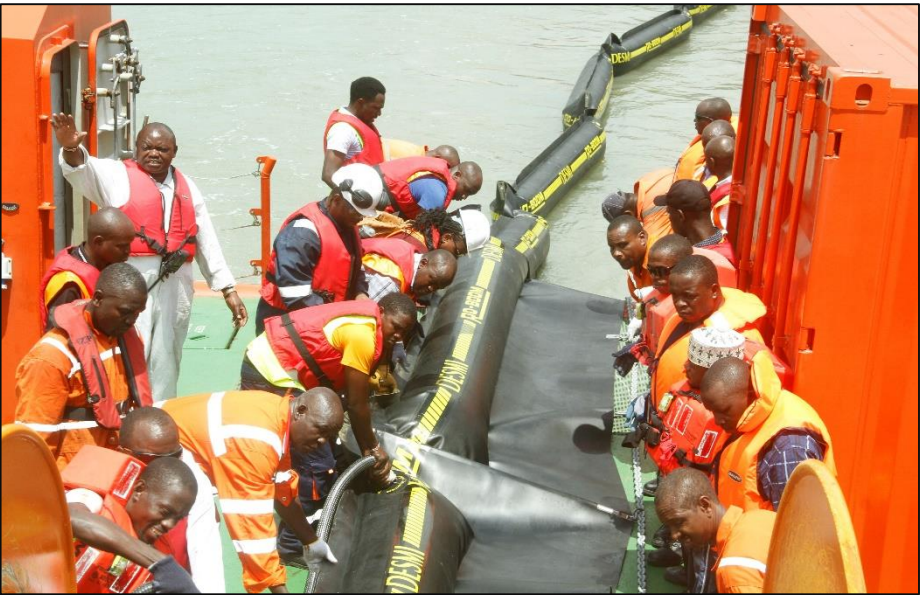
# 18. PHOTOS - DAY 4 – BOOM DEPLOYMENT



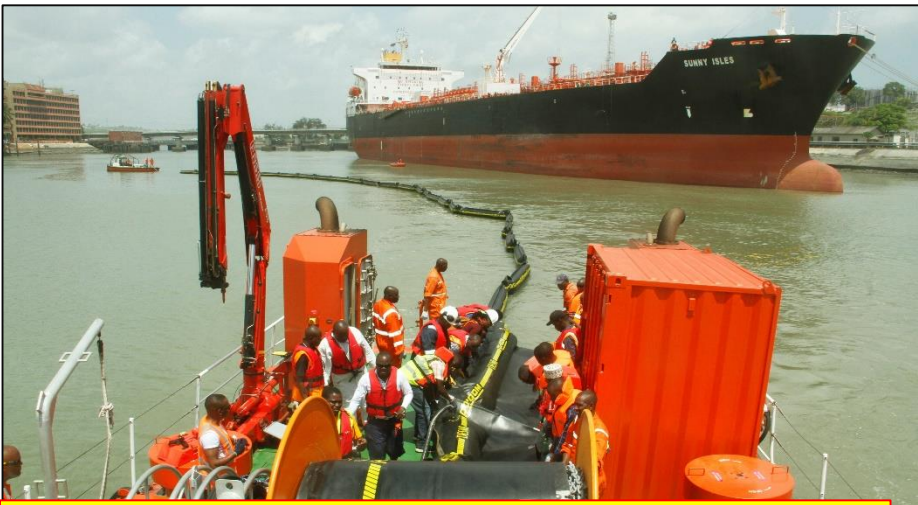
Booming & Skimming Team members receive instructions from their Team Leader (Mr Okumu) aboard the PCV Faggio



B&S Team commence boom deployment at the scene of the incident. OSC, KMB5 and 'MT Crosswind' are in the background



# 18. PHOTOS - DAY 4 – BOOM DEPLOYMENT



**B&S Team proceed with boom deployment at the scene of the incident assisted by mooring boat KMB5**



**B&S Team proceed with inflation and deployment of the boom**



**B&S Team complete roll out of the entire boom from its reel**

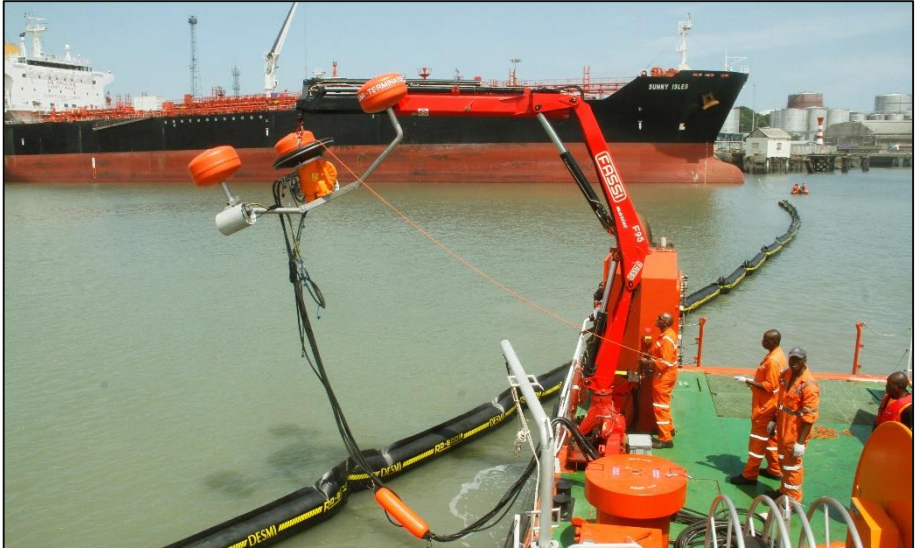


**Boom fully deployed around the 'MT Crosswind'**

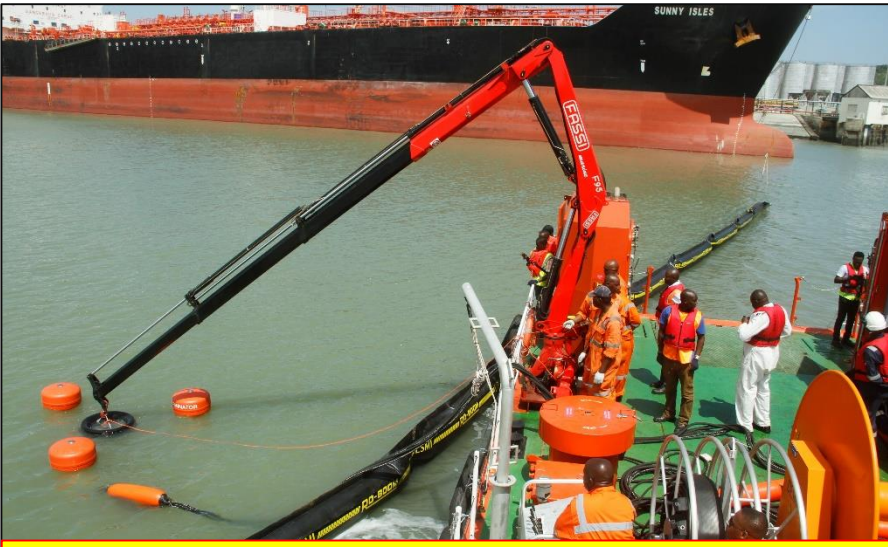
# 18. PHOTOS - DAY 4 - SKIMMING



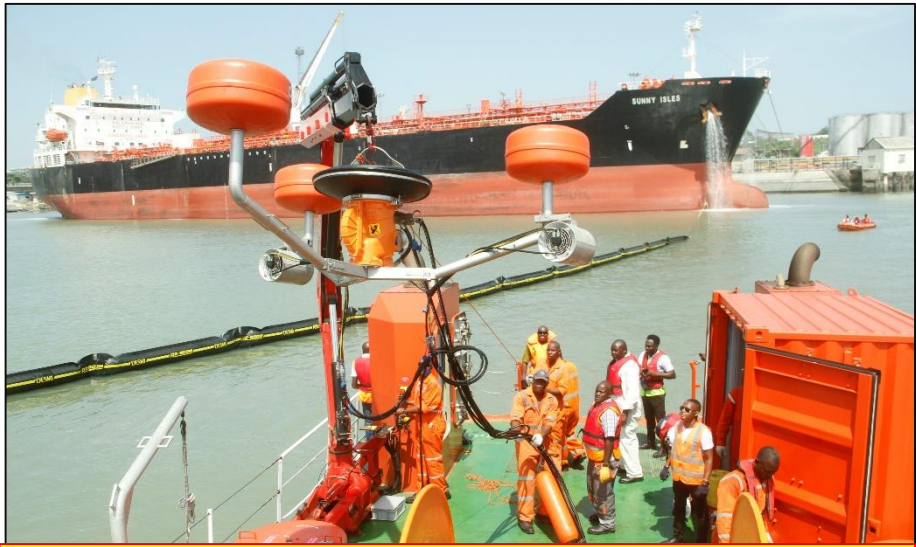
B&S Team deploying skimmer into the water



B&S Team deploying skimmer into the water

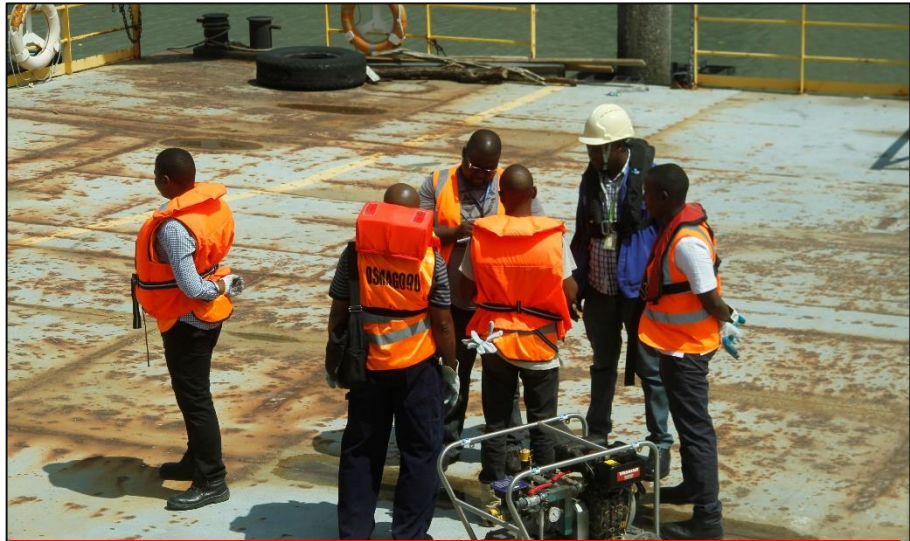


B&S Team deploying skimmer into the water



Retrieval of skimmer after completion of the skimming exercise

# 18. PHOTOS - DAY 4 – DISPERSANTS APPLICATION



Dispersants Team wait for Tangulizi Boat at the K-Boat Jetty



Dispersants team head to the scene of the incident



Dispersants Team guided by OSC in dingy boat spray dispersants



B&S Team Pose for a photo on arrival back at the K-Boat Jetty

# 18. PHOTOS - DAY 4 – BOOM RETRIEVAL



**B&S Team prepare to commence retrieval of the boom**



**Retrieval of the boom in process**



**Boom fully recovered from the water and back on its reel**



**B&S Team Pose for a photo on arrival back at the K-Boat Jetty**

# 18. PHOTOS - DAY 4 - EQUIPMENT DEPLOYMENT



Participants attend the debrief session before being served with lunch and refreshments



Ms Florence Bet makes the closing remarks after the debrief



Engr. Okanga facilitates the debrief session



Frank Lilungu takes notes during the debrief session

**THANK YOU**

