

**Global Initiative for West and Central Africa**

# **Report on the National Workshop on Oil Spill Trajectory Modelling and National Dispersant Use Policy**

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[Hotel Protea-Ikeja, Lagos, Nigeria]

13-15 December 2010



Hosted by National Oil Spill Detection and Response Agency (NOSDRA)

NOTE

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## Executive summary

**Date:** Lagos, Nigeria, 13-15 December 2010

**Type:** National

**Organised by:**

- National Oil Spill Detection and Response Agency (NOSDRA)
- International Maritime Organization (IMO)
- International Petroleum Industry Environmental Conservation Association (IPIECA)

**Number of participants:** 48

**The principal objectives of the Workshop were to:**

- Provide presentation of the National Oil Spill Contingency Plan and inform participants of the updates
- Provide presentation on the existing document on dispersant use in Nigeria
- Review the National Dispersant use policy and draft an updated document
- Provide recommendations on the National Oil Spill Contingency Plan
- Review the national action plan for oil spill preparedness and response

**The results of the Workshop are as follows:**

At the conclusion of the Workshop, the participants agreed upon the following recommendations:

- 1) To improve information sharing and communication:
  - NOSDRA will establish an Oil Spill Response Stakeholders' Working Group to exchange information, update the NOSCP, the Dispersant Policy and other issues. This group will meet quarterly. The meetings will be organized by NOSDRA with the support of the stakeholders,
  - NOSDRA will update their website with up-to-date information for oil spill response (NOSCP, dispersant policy and other technical documents and forms),
  - NOSDRA will have an operational toll-free hotline 24 hours, 7 days.
- 2) Conflicting Responsibilities and Regulations for the NOSCP and Response:
  - NOSDRA is in charge of the administration of the NOSCP,
  - High-level Ministerial meeting should be organized by the DG, NOSDRA between NOSDRA, DPR, OPTS, NIMASA, NPA and NESREA to clarify once and for all responsibilities.
- 3) Integration of Industry and State OSCPs with the NOSCP:
  - The NOSCP will be reviewed following the national Tier 3 exercise to be held in July, 2011. This review will be carried out by the Oil Spill Response Stakeholders' Working Group,
  - Following the review, guidelines will be issued by NOSDRA for the development of OSCP for regional, States and other establishments.
- 4) Dispersant Use Policy:
  - The draft Dispersant Use Policy will be circulated by NOSDRA to the stakeholders for comments

- The Oil Spill Response Stakeholders' Working Group will finalize the Dispersant Use Policy based on a draft from NOSDRA looking at the technical aspects (list of products, standards for testing and storage, application zones),
  - NOSDRA will forward the draft Dispersant Use Policy to the Minister of Environment for consideration and necessary approval by the Federal Executive Council (FEC).
- 5) NOSDRA and the stakeholders have agreed to work together to achieve Items 1 – 4 in the year 2011.

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## Introduction

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The Global Initiative for West and Central Africa (GI WACAF) is a partnership between the International Maritime Organisation (IMO) and the International Petroleum Industry Environment Conservation Association (IPIECA) to enhance the capacity of countries to prepare for and respond to marine oil spills. A key innovative feature is to emphasize the promotion of public/private partnership for effective oil spill response making use of existing industry expertise and resources.

The mission is to strengthen the national oil spill response capability in twenty two countries in West and Central Africa through the establishment of local partnership between the oil industries and the national authorities in charge of oil spill preparedness and response at national level.

This program is jointly funded by the International Maritime Organization (IMO) and eight Oil Companies members (BP, Chevron, ENI, ExxonMobil, Marathon, PERENCO, Shell and Total) through the International Petroleum Environment Conservation Association (IPIECA).

The scope is to organise workshops, training, seminars and deployment exercises with national authorities in charge of oil spill response, in partnership with local business units.

The GI WACAF is based on an effective management system that established six goals of preparedness and key performance indicators to enhance the capacity of countries to prepare for and respond to marine oil spills. These goals cover the requirements of the OPRC 90 convention:

Goal 1: Legislation: Promote the ratification of the relevant international Convention

Goal 2: Contingency plan: Have contingency plan for all the countries of the region

Goal 3: Designation of authority: Get clarity in roles and responsibilities for oil spill response

Goal 4: Regional agreement: promote exchange and mutual assistance for oil spill response

Goal 5: Training: Ensure that training and exercise are developed in each country on a regular basis

Goal 6: National capabilities: support countries in developing their own national response system

## Objectives of the workshop

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The National Oil Spill Detection and Response Agency (NOSDRA) in collaboration with the International Maritime Organization (IMO) and the International Petroleum Industry Environmental Conservation Association (IPIECA) organized the National Workshop on Oil Spill Trajectory Modeling and National Dispersant Use Policy from December 13 – 15, 2010 at the Protea Hotel, Ikeja, Lagos. The Workshop was part of the activities under the Nigerian Action Plan for the biennium 2010 – 2011. It was aimed at strengthening the country's capacity for oil spill preparedness and response.

More specifically, the objectives were to:

- Provide a presentation of the National Oil Spill Contingency Plan and inform participants of the updates
- Provide a presentation on the existing document on dispersant use in Nigeria

- Review the National Dispersant use policy and draft an updated document
- Provide recommendations on the National Oil Spill Contingency Plan
- Review the national action plan for oil spill preparedness and response

## **Programme of the workshop**

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The programme of this workshop was composed of technical presentations and syndicate groups where participants worked together and exchanged ideas on Nigeria's National Oil Spill Contingency Plan and on dispersant use policy. This programme aimed at promoting discussions and sharing of information between the facilitators and the participants. More specifically, the topics presented were the following:

- Presentation of the GI WACAF project;
- Overview of the National Oil Spill Contingency Plan;
- Environmental and economical impacts of oil;
- Overview of oil spill response strategies;
- Dispersants, how do they work?
- Components of a dispersant use policy?
- Technique for trajectory modelling of oil spills;
- Project for real time meta ocean data collection in West and Central Africa.

The complete program is found at 0.

## **Location, Dates, Roles and Participants**

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The workshop was organised by the National Oil Spill Detection and Response Agency (NOSDRA) with the technical and financial support of IMO and IPIECA.

The experts in charge of the workshop were:

- Stéphane Grenon, E2 Consulting, Consultant to IPIECA
- Antoine Blonce, IMO

The National Oil Spill Detection and Response Agency (NOSDRA) took care of the general organisation and the host of delegates.

The workshop took place in the conference room of the Hotel Protea, Ikeja in Lagos.

The total number of participants is 48, representing the oil and gas industry, State and Federal Government Agencies, the Academia and the private sector. The participant list is in Annex 2.

## Opening Ceremony

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Welcoming remarks were given by Mrs U.H. Okwechime, acting Director General of NOSDRA on behalf on the Honourable Minister of the Environment, Mr John Odey, by Mr I.O. Musa, Director of Oil Spill Response of NOSDRA and by Mr Stéphane Grenon, Consultant to IPIECA.

These opening remarks reminded participants of the importance of this workshop towards the full implementation of Nigeria's National Oil Spill Contingency Plan. The development of an effective dispersant use policy in consultation with the relevant stakeholders follows other initiatives of Nigeria's Action Plan. Participants were reminded of the efforts of the Federal government to protect the environment and to ensure an efficient response system in Nigeria in accordance with the obligations of OPRC 1990. The efforts and support of IMO and IPIECA towards this goal were mentioned as well as the gratitude of IMO and IPIECA to NOSDRA for the organisation of this workshop.

The full opening addresses are available at 0.

## Summary of presentation

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Below is a summary of the presentations given during this workshop.

### Introduction of workshop objectives and presentation of the GI WACAF Project

Mr Antoine Blonce, Project Consultant, International Maritime Organisation

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This presentation explained the scope and objectives of the GI WACAF Project with a focus on the important collaboration between IPIECA and IMO. The outcomes and findings of earlier activities and the improvements observed in the region as a result of the GI WACAF project were also discussed. The presentation concluded by introducing the work plan for the next two years of the project and by presenting the planning cycle of the project. Following this presentation, participants were reminded of the objectives of this workshop and had the opportunity to introduce themselves.

### Overview of the National Oil Spill Contingency Plan

Mr I.O. Musa, Director OSDR, NOSDRA

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The latest version of Nigeria's National Oil Spill Contingency Plan was presented to the participants with an emphasis on the authorities in charge, the National incident command system, the Tier response organization and the alerting system. The response options and more specifically the existing dispersant use policy was presented as well as the roles and responsibilities of the various stakeholders in the context of an emergency. The presentation concluded by the presentation of Nigeria's action plan for further development of the NOSCP. The presentation was followed by multiple questions from the participants mainly dealing with the communication aspects of the plan.

### Environmental and Economical Impacts of Oil

Stéphane Grenon, Consultant to IPIECA, E2 Consulting

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Following an oil spill, a number of environmental and economical impacts can be observed. This presentation gave an overview of these potential impacts on various marine habitats and species such as birds, fishes, marshes, mangroves and intertidal communities. Impacts on coastal activities such as fishing, tourism and



coastal amenities as well as acute and chronic toxic effects resulting from oil were explained. The presentation concluded with an emphasis on the factors affecting the toxicity of oil and the necessity of evaluating the impacts following an oil spill in an objective and scientific manner.

### **Overview of Spill Response Strategies**

Stéphane Grenon, Consultant to IPIECA, E2 Consulting

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The main response strategies employed offshore and onshore during oil spill incidents were discussed. It also considered the benefits, the operational limitations and some of the important issues that may arise with regard to these response strategies. It considered issues related to offshore (monitor and evaluate, containment and recovery, chemical dispersants) and shoreline cleanup operations (shoreline types, management, logistics), the setting of standards for cleanup efforts, termination of response and waste management. This presentation also provided participants with a method to select the proper response strategies during an oil spill incident.

### **Dispersants, How do they work?**

Stéphane Grenon, Consultant to IPIECA, E2 Consulting

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The use of dispersants can be an effective response technique when dealing with oil at sea. However, like any other technique, many limitations can affect the effectiveness of dispersants. This presentation aimed at providing an in-depth understanding of how dispersants work and to present their limitations and their environmental impacts. The effect of oil weathering on dispersant effectiveness mainly viscosity increase and the formation of emulsion was discussed in details. The various application techniques and their respective advantages and disadvantages were also presented. Environmental impacts of dispersants were illustrated in presenting the concept of Net Environmental Benefit Analysis (NEBA) particularly in relation with the decision making process involved in using dispersants.

### **Components of a Dispersant Use Policy**

Stéphane Grenon, Consultant to IPIECA, E2 Consulting

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A National dispersant use policy provides the framework for the use of dispersants within a country. This presentation explained the principal components of an effective dispersant use policy. Issues with developing an approved list of dispersants, identification of geographical areas where they can be used based on water depth, distance to shore and sensitive areas and the authorisation process for their use in case of an emergency were all discussed at length with the participants. This presentation highlighted the need to discuss all of these issues while in preparedness mode with all the relevant stakeholders rather than at the time of an emergency.

### **Oil Spill Trajectory Model for Oil Spill Pollution Management**

Pr Nwilo, P.C and Mr Badejo, O.T., Department of surveying and geoinformatics, University of Lagos

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This presentation showed the different equations and parameters used to model the trajectory of oil following a spill. Meteorological parameters such as wind, wave, tides, currents and oil information such as spreading and evaporation rate are also considered. Once the model is developed, the application can use a Geographic Information System (GIS) where data can be entered and the trajectory of the oil calculated. The presentation ended with a demonstration of an oil spill simulation using ArcGIS. Cooperation between industry, government and academic to develop research and studies in this matter was also discussed. Once a good model is developed for the region, it could be shared with all the stakeholders and used to improve oil spill response.

## Real-time Met Ocean Data Collection in Africa

Nnamdi Ahiamadu, TOTAL E&P Nigeria Ltd and Valérie Quiniou-Ramus, TOTAL S.A.

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This presentation discussed a project aiming at collecting meteorological data on oil platforms in the WACAF region and share these data with everyone on a website. Making this content public, to improve local meteorological prevision and oil spill response, by using for instance oil spill trajectory models, would be a very powerful tool. However, the main issue for this project is to gather all the data from the different oil companies that are not using the same codes, and whose data is generally for internal use only. To do so, an International Scientific Volunteer (VIS, Mr Rémi Estival) was hired for the next two years. He'll be based in South Africa (Cape Town) at the ICEMASA (International Centre for Education, Marine and Atmospheric Sciences over Africa).

## Summary of working groups

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### Group Discussion: Identification of priorities for the updating of the NOSCP

Over the course of the workshop, participants worked in syndicates on two occasions. The main objective of this work was to identify priority items for the effective implementation of a National Oil Spill Contingency Plan (NOSCP) in Nigeria. It was also a great opportunity for the participants to interact with colleagues from other departments or from the industry. The participants were split into four groups. The composition of these groups was established randomly in order to ensure representation from all types of participants. Working groups were asked to identify 3 to 4 priority actions for the improvement of the NOSCP. The results of these discussions were the following:

- 1) Need to improve the communications between NOSDRA and all stakeholders to improve knowledge about the NOSCP and the roles and responsibilities of the various organisations involved in oil spill response;
- 2) Need to eliminate conflicting responsibilities and regulations between NOSDRA, NESDRA and DPR with regards to the NOSCP and oil spill response. This situation creates confusion as to which organisation is in charge during an emergency;
- 3) Need to improve the integration of Industry and States OSCP as many of these plans do not take into account the existing NOSCP.

These priority items were further discussed the following day (Day 3) to identify how they could be resolved and by which organisation. The results of these discussions were used to determine final recommendations of the workshop.

### Drafting committee for a National Dispersant Use Policy

One of the main objectives of this workshop was to initiate the process of drafting a National dispersant use policy for Nigeria. To this effect, a small drafting committee was created. This committee was composed of representatives from NOSDRA (I.O. Musa, O. Okunubi, O.J. Abe), NESDRA (T. A. Oni) and the oil industry (Y. Elegbefeye (Total), E. Esele (PPMC)) with the assistance of the consultant to IPIECA. Taking into consideration the comments formulated during working group discussions, the committee began the process of drafting a policy by reaching a consensus on the main elements of such a policy. The results of these discussions are the following:

1. Are dispersants an authorized response options in Nigeria?
  - a. Yes, at specified locations within the marine environment.
  
2. Which dispersants are approved for usage in Nigeria?
  - a. Will create a list with product names for dispersants with low toxicity, efficient and biodegradable
  - b. The list will be built from lists from other countries (UK and/or France and/or USA and/or others to be defined)
  - c. Additional test may be required according to Nigerian Environmental Regulations and chemical import regulations (toxicity test)
  
3. Where can dispersants be used? (Geographical area)
  - a. Where water depth is at a minimum of 20m
  - b. Would like to include distance from shore but because coastal water depth is not the same everywhere more data is required to take a decision (Nigerian Navy)
  - c. Could also take into consideration the amount of oil spilled
  - d. Would not rule out dispersant use where water depth is less than 20m but that would be exceptional
  
4. What is the application authorization process?
  - a. Authorization must be obtained prior to application of dispersants
  - b. Process:
    - i. Phone call to NOSDRA to get authorization (DG or duty officer)(24hrs number)
    - ii. Proper documentation must be sent to NOSDRA after

The finalization of the National dispersant use policy is one of the principal recommendations of this workshop.

## **Summary of the closing ceremony**

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In his closing remark, Mr O.J. Abe, Director planning, NOSDRA, thanked the participants for their participation and involvement during this workshop. He mentioned that NOSDRA welcomed the recommendations from this workshop and that they would follow up on these very important items. He also acknowledged the importance of the support from IMO and IPIECA during this workshop. Participants were informed that a National exercise is planned for this summer, which will be an important step in the updating of the NOSCP. Following his remark, certificates and a memory stick containing course materials were distributed to the participants.

## Recommendations of the Workshop

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At the conclusion of the Workshop, the participants agreed upon the following recommendations:

**1) To improve information sharing and communication:**

- NOSDRA will establish an Oil Spill Response Stakeholders' Working Group to exchange information, update the NOSCP, the Dispersant Policy and other issues. This group will meet quarterly. The meetings will be organized by NOSDRA with the support of the stakeholders;
- NOSDRA will update their website with up-to-date information for oil spill response (NOSCP, dispersant policy and other technical documents and forms);
- NOSDRA will have an operational toll-free hotline 24 hours, 7 days.

**2) Conflicting Responsibilities and Regulations for the NOSCP and Response:**

- NOSDRA is in charge of the administration of the NOSCP;
- High-level Ministerial meeting should be organized by the DG, NOSDRA between NOSDRA, DPR, OPTS, NIMASA, NPA and NESREA to clarify once and for all responsibilities.

**3) Integration of Industry and State OSCP's with the NOSCP:**

- The NOSCP will be reviewed following the national Tier 3 exercise to be held in July 2011. This review will be carried out by the Oil Spill Response Stakeholders' Working Group;
- Following the review, guidelines will be issued by NOSDRA for the development of OSCP for regional, States and other establishments.

**4) Dispersant Use Policy:**

- The draft Dispersant Use Policy will be circulated by NOSDRA to the stakeholders for comments
- The Oil Spill Response Stakeholders' Working Group will finalize the Dispersant Use Policy based on a draft from NOSDRA looking at the technical aspects (list of products, standards for testing and storage, application zones);
- NOSDRA will forward the draft Dispersant Use Policy to the Minister of Environment for consideration and necessary approval by the Federal Executive Council (FEC).

**5) NOSDRA and the stakeholders have agreed to work together to achieve Items 1 – 4 in the year 2011.**

## Conclusions

This workshop benefited from the participation of delegates from various Governmental departments and from the local oil industry. This representation from both the public and private sectors enabled the participants to have very productive discussions and to better understand the preoccupations of each other. This workshop also clearly demonstrated the interest and motivation of all parties to work together to improve the capacity of Nigeria to deal with a marine oil spill and to minimize its effects on local population and its economy.

Workshop evaluation forms were distributed to the participants for completion. They were asked to rate a series of statements in relation to their experience on the course and the associated logistical arrangements; Figure 1 below shows an analysis of this feedback. Feedback was very positive for the event, with no significant negative comments received. There was consensus that the training was very useful.

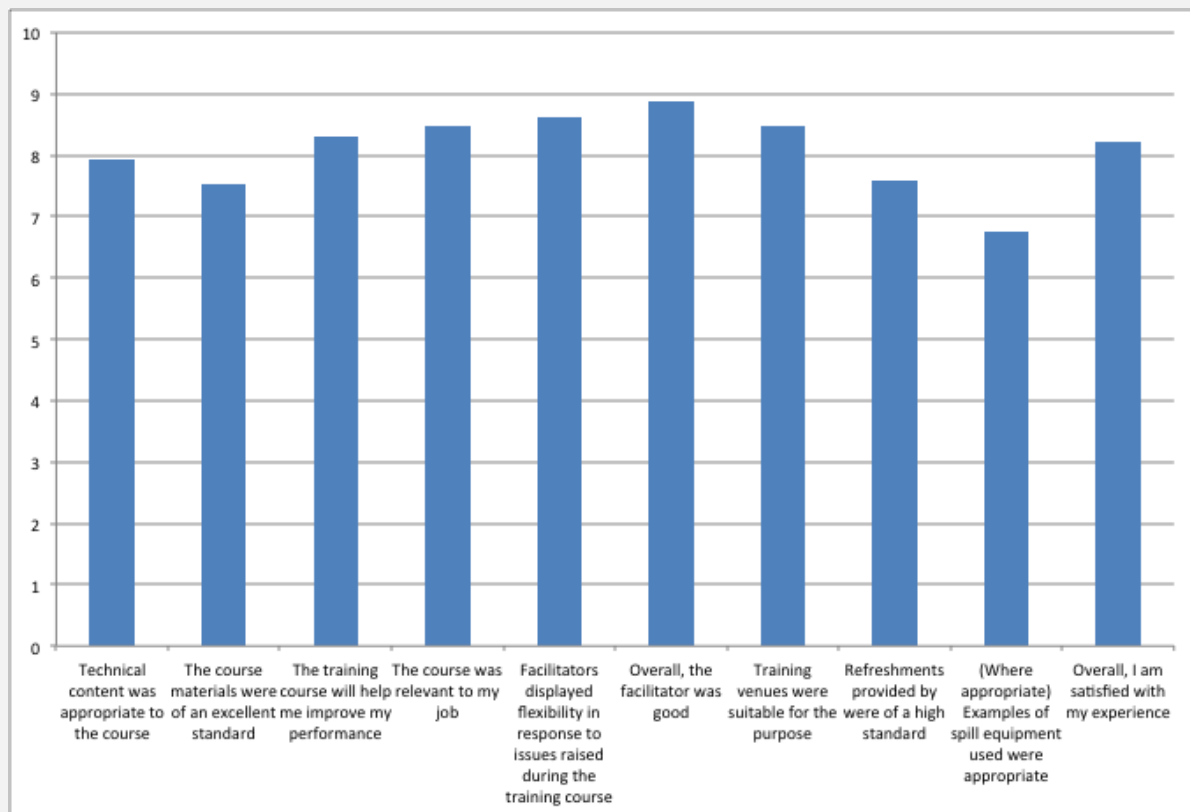


Figure 1. Results of the evaluation form (See form 5)

## Annex 1: Programme

### Day 1: 13 December 2010

#### Opening Ceremony

09h30	Registration of participants
10h00	Opening speech IMO/IPIECA Opening speech NOSDRA Opening speech Minister of Environment
11h00	Coffee break
11h30	Introduction of workshop objectives and presentation of the GI WACAF Project Mr Antoine Blonce, Project Consultant IMO/IPIECA

#### Oil spill preparedness and response in Nigeria

12h00	Detailed presentation of the National Oil Spill Contingency Plan Mr Abe, NOSDRA <ul style="list-style-type: none"> <li>- Authorities in charge</li> <li>- The National Incident Command system</li> <li>- The Tier response organization</li> <li>- The alerting system</li> <li>- Response option and dispersant use policy</li> <li>- Equipment's list and operation</li> <li>- Oil Spill Sensitivity Mapping</li> <li>- Action Plan for further development</li> </ul>
12h30	Presentation of existing documents on dispersant use policy Mr I.O. Musa, Director OSDR, NOSDRA
13h00	Lunch Break
14h00	CNA and Oil Industry oil spill response Mr Stéphane Grenon, Consultant IMO/IPIECA <ul style="list-style-type: none"> <li>- General organization of CNA</li> <li>- Presentation of the equipment for dispersants spraying</li> </ul>
14h30	Oil Spill Preparedness and response arrangements Mr I.O. Musa, Director OSDR, NOSDRA <ul style="list-style-type: none"> <li>- Presentation of operational capability for response at sea</li> </ul>
15h00	Coffee break

#### Response strategy and dispersant

15h30	Environmental and Economical Impacts of oil Mr Stéphane Grenon, Consultant IMO/IPIECA
16h30	End of the day 1

## Day 2: 14 December 2010

09h30 **Overview of oil spill response strategies**  
Mr Stéphane Grenon, Consultant IMO/IPIECA

- Information of the existing available strategies for oil spill response and respective limitations

10h15 **Dispersants. How do they work?**  
Mr Stéphane Grenon, Consultant IMO/IPIECA

- Detailed information on the dispersant actions on oil

11h00 **Coffee break**

### National dispersant use policy

11h30 **Overview of the current capacity for the application of dispersants in Nigeria**  
Mr Abe, NOSDRA

12h15 **Components of a dispersant use policy**  
Mr Stéphane Grenon, Consultant IMO/IPIECA

- Issues with establishing a list of approved dispersants
- Identifying criteria for dispersants use
- Pre-approved areas

13h00 **Lunch Break**

14h00 **Introduction to the decision making process in Nigeria for dispersants use**  
Mr Abe, NOSDRA

- Issues with establishing a list of approved dispersants
- Identifying criteria for dispersants use
- Pre-approved areas

14h15 **Group discussion: Identifying issues/challenges in drafting a dispersant use policy in Nigeria**  
All

15h00 **Coffee break**

### Trajectory Modelling

15h30 **Technique for Trajectory modelling of oil spills**  
Pr Nwilo, P.C and Mr Badejo, O.T., Department of surveying and geoinformatics, University of Lagos

- Information of the existing software, pros and cons ,
- Use of modelling results, flight survey

16h30 **Project for real-time metocean data collection in West and Central Africa**  
Mr Nnamdi Ahiamadu, Total E&P Nigeria

- Progress report for Total metocean stations;
- Discussion with other stakeholders.

**Drafting committee for the update of the dispersant use policy**  
Small group in side meeting room (5 persons)





## Day 3: 15 December 2010

### Recommendations

09h30	Presentation of the Drafting committee Committee speaker		
10h00	Working group to provide recommendation on the drafted dispersant use policy - Comments and recommendation of the dispersant use policy	Working group to provide general recommendation on National Oil Spill Contingency Plan - General recommendation for oil spill preparedness and National Oil Spill Contingency Plan	Working group to review and update develop an Action Plan - Update GI WACAF Action Plan - Update country profile
11h30	Coffee break		
12h15	Presentation of out comes from each group Speaker from each group		
13h00	Lunch Break		
14h00	Adoption of general recommendations		
15h00	Coffee Break		

### Closing ceremony

16h30	Closing ceremony - Certificates and USB sticks - Recommendation of the workshop - Closing speech.
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## Annex 2: List of participants

S/N	NAME	ORGANIZATION	EMAIL ADDRESS	TELEPHONE
1	Akinyemi Kola	MRS Oil Nig. Plc	<a href="mailto:kkny@mrsoilnigplc.com">kkny@mrsoilnigplc.com</a>	08033094742
2	Oni, Titus Adekanmi	NESREA	<a href="mailto:onititus@yahoo.com">onititus@yahoo.com</a>	08033536388
3	Olowolagba Akin	Public Health UNILAG	mrnewstar@yahoo.co.uk	08032072828
4	J. E. Lahu	NOSDRA	johnlahu1@yahoo.com	07038335600
5	Ojoablo Gbenga	MT Technologies	gbanejusgbenjis2001@yahoo.com	08036614808
6	Mohammed Gumsuri	NOSDRA	gumsuri11@yahoo.com	08033080100
7	Elegbeleye O. A.	Total Exp. PH	yemisi.elegbeleye@total.com	07034008922
8	Okunubi C. O.	NOSDRA (Lagos)	<a href="mailto:cokunubi@yahoo.com">cokunubi@yahoo.com</a>	08023136998
9	Aguiyi, D. P. O.	Shell	<a href="mailto:dmain-paul.aguiyi@shell.com">dmain-paul.aguiyi@shell.com</a>	08070341727
10	Musa, Idris Olubola	NOSDRA	iomusa2003@yahoo.com	08033153547
11	Antoine Blonce	IMO	ablonce@imo.org	+447580913902
12	Stéphane Grenon	E2 Consulting	sg.e2consulting@videotron.ca	+15145642991
13	Ukwuoma Ernest	Envirochem Petras Ltd	e.ukwuoma@yahoo.com	08037792310

14	Chris Epunam	Jschafar Training Int.	jschafartraining@gmail.com	08066339855
15	Irvine Obot	NOSDRA	<a href="mailto:irvine_obot@yahoo.com">irvine_obot@yahoo.com</a>	08034417546
16	Utuk, Ekaete Okon	NOSDRA	<a href="mailto:ekautuk@yahoo.com">ekautuk@yahoo.com</a>	08029538339
17	Henshaw Ogubike	NOSDRA	<a href="mailto:ogubikehens@yahoo.co.uk">ogubikehens@yahoo.co.uk</a>	08037037919
18	Adesida M. O.	NOSDRA	<a href="mailto:oadesida@yahoo.co.uk">oadesida@yahoo.co.uk</a>	08033161855
19	Gidado, D. A.	NOSDRA	dagidado@yahoo.com	08036138408
20	Afam-Anadu, F. O.	AGIP	<a href="mailto:francis.afam-anadu@naoc.agip.it">francis.afam-anadu@naoc.agip.it</a>	08033102422
21	Enyi, Udeogu	NOSDRA	<a href="mailto:udeoguenyi@yahoo.com">udeoguenyi@yahoo.com</a>	08038676445
22	Udeh, S. A.	NOSDRA	<a href="mailto:shagiraustin@yahoo.com">shagiraustin@yahoo.com</a>	07035653105
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## **Annex 3: Opening speech IMO/IPIECA**

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Director General, NOSDRA, representing the Minister of the Environment, Mrs. Uche Okwechime;  
Director Planning, NOSDRA, Mr. Olufeni Abe;  
Director Oil Spill, NOSDRA, Mr. I.O. Musa  
Distinguished participants and guests

It is an honour for me today to speak here on behalf of the International Maritime Organisation (IMO) and of the International Petroleum Industry Environment Conservation Association (IPIECA). On behalf of these organisations, I wish to extend our appreciation to the Government of Nigeria for hosting this Workshop, and in particular the National Oil Spill Detection and Response Agency (NOSDRA) for its efforts and assistance with the planning, arrangements and the logistics for this Workshop.

As you know, one of the major objectives of IMO is to institute an efficient cooperation system at a technical, legal and scientific level between Governments and Industry in order to improve maritime safety and the protection of the marine environment. A good example of this is the co-operation between IMO and the oil industry under the headline of the IMO/Industry Global Initiative, which has matured over a twelve years partnership. The latest activity within this partnership is the Global Initiative for West and Central African Countries, which provide the framework for the present Workshop. In order to facilitate and improve preparedness to oil spills and cooperation between countries, numerous Conventions were adopted at the International level such as Marpol 73/78, OPRC and its HNS Protocol, the Civil Liability Convention 1992 and the Fund Convention of 1992. These provide an efficient legal framework for preparedness and compensation and have been ratified by Nigeria.

It is widely recognized that all coastal States could be affected by an oil spill either from ship traffic or from oil exploitation activities. These can cause significant impacts to important economical sectors such as fisheries and tourism but also to the marine and coastal environment. These potential impacts highlight the importance of being prepared. An effective National Oil Spill Contingency Plan and Regional Cooperation Agreements are essential tools in this regard. IMO and IPIECA recognise the significant efforts of Nigeria in this matter and would like to encourage you to continue toward this important goal.

We hope that the workshop we are holding this week will be an important milestone for Nigeria's preparedness to oil spill response. The importance of having a good dispersant use policy in place to respond efficiently to an oil spill was reminded to us by the incident of the Deepwater Horizon that took place in the Gulf of Mexico last summer. Dispersant use is often a contentious issue and we are looking forward to fruitful discussions on this important topic. It is our hope that by the end of this workshop, the drafting of a dispersant use policy in Nigeria will be well underway.

Once again, I would also like to express the appreciation of IMO and IPIECA towards the Government of Nigeria for this workshop and I wish all participants a very productive workshop.

Thank you

## **Annex 4: Opening speeches**

SPEECH PRESENTED BY DIRECTOR GENERAL, NOSDRA, MRS. UCHE OKWECHIME; ON BEHALF OF THE HONOURABLE MINISTER OF ENVIRONMENT, MR. JOHN ODEY.

It gives me great pleasure to welcome you all to the Workshop on Oil Spill Trajectory Modelling and National Dispersant Policy. This workshop is the third stakeholders meeting within the framework of the International Maritime Organisation (IMO)/International Petroleum Industry Environmental Conservation Association (IPIECA) and GI-WACAF Project held in Nigeria. The workshop presents all stakeholders in the oil spill management sector in Nigeria and beyond, with yet another opportunity to brainstorm and come-up with far reaching decisions, especially those agreements that will guide the drafting of a comprehensive National dispersant use policy as well as the proper utilisation of the National Oil Spill Contingency Plan in Nigeria.

Distinguished personages, you will all agree with me that recent oil spill incidents in the Gulf of Mexico in the United States, as well as the 16th June, 2010 Spill in Xingang Port in the Dalian Province of China have raised serious concerns over the vulnerability of our environment to similar incidents. Such unfortunate spill incidents and the challenges the world had in responding to them should serve as a reminder to all stakeholders that no effort/resources should be considered as sufficient in oil spill management. To this end, I commend the efforts of the National Oil Spill Detection and Response Agency (NOSDRA) as well as the invaluable cooperation of our development partners, the International Maritime Organisation (IMO) and the International Petroleum Industry Environmental Conservation Association (IPIECA) for organising this workshop.

At this juncture, I want to assure you that the Federal Government is fully committed to protecting the integrity of our environment. This is evident from recent efforts which include amongst others, the inauguration of the Sub-committee on Clean-up and Remediation of the Niger Delta Region, comprising of all stakeholders in the oil and gas industry; and Presentation of an Environmental Sensitivity Index Maps (ESI) to Stakeholders. The Maps captured sensitivities stretching from Calabar to Badagry and 50Km inwards from the Shoreline. In this regard, all oil companies are hereby directed to purchase the ESI maps from NOSDRA and develop their respective tactical/operational maps to aid their oil spill response strategies. Furthermore, oil companies should fully integrate and utilise the platform provided by trajectory modelling tools in their response strategies to marine oil spills; this becomes very relevant, considering the fact that most oil and gas operations in Nigeria is moving offshore. The informed utilisation of trajectory models would aid responders to predict direction and speed of spill movements.

Furthermore, the Federal Government would ensure host communities are sensitized regularly on the dangers associated with oil facilities' vandalism; this would ensure the frequency of oil spill incidents due to sabotage is reduced and oil companies are not overwhelmed by numerous incidents necessitating response at the same time. The



Federal Government would also fully support NOSDRA and ensure the outcome of this workshop is fully implemented to achieve some of the requirements under the Oil Pollution Preparedness and Response Cooperation Convention (OPRC 90). These requirements include “have contingency plans for all countries; get clarity in roles and responsibilities for oil spill response; support countries in developing their own national response system”, etc.

Distinguished colleagues, the threats posed by oil spills to our common existence are real. Every effort we put forth therefore, to combat these menace would secure our resources now, and those of the future generation. I urge all of you to participate actively in all deliberations in this workshop and make meaningful contributions.

Once again, I thank our development partners such as IMO, IPIECA, GI-WACAF, the oil companies, the media, our colleagues from other ministries and parastatals, NGOs, and many others who have always supported our common interest, which is the protection of the environment.

I wish you a successful deliberation. Thank you.

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**WELCOME ADDRESS BY THE AG. DIRECTOR GENERAL/CHIEF EXECUTIVE, NATIONAL OIL SPILL DETECTION AND RESPONSE AGENCY (NOSDRA) DELIVERED BY MR. I.O. MUSA DIRECTOR OIL SPILL RESPONSE, NOSDRA**

I am delighted to welcome you all to this occasion of the National Workshop on Oil Spill Trajectory Modelling and National Dispersant Use Policy. The National Oil Spill Detection and Response Agency (NOSDRA) was established by the NOSDRA Establishment Act No. 15 of October, 2006 by the Federal Government, in its bid to ensure the implementation of the National Oil Spill Contingency Plan (NOSCP) and further monitoring of operations of oil companies in compliance with international best oil-field practices. The establishment of the Agency was premised on the need to have a multi-sector implementation strategy with a strong co-ordinating centre whose event response operation would not be hampered by red-tape bureaucracy when the need for a speedy response to oil spill detection and response arises. The mandate of the Agency amongst others include safe, timely, effective and appropriate response to major or disastrous oil pollution; identification of high risk areas as well as priority areas for protection and clean-up; maximization and effective use of the available resources of corporate bodies, international bodies and government in implementing appropriate spill response and provision of support for research and development in the methods, materials and equipment for oil spill detection and response.

The Agency immediately swung into action that same year by forging a partnership with the International Maritime Organization (IMO) and the International Petroleum Industry Environmental Conservation Association (IPIECA). The Global Initiative for West and Central Africa (GI WACAF) Project was established as a partnership between IMO and IPIECA to enhance the capacity of 22 countries in the West and Central African region to prepare for and respond to marine oil spills through establishment of local partnership between the oil companies and the national authorities in charge of oil spill preparedness and response at national level. The project is a four-year program and is jointly funded by the IMO oil companies through IPIECA. The scope of the project includes to organise workshops, training, seminars and deployment exercises with national authorities in charge of oil spill response, in partnership with local business units. These activities are conducted each year in different locations within the region.

Since the inception of this project, IMO and IPIECA have worked closely with NOSDRA in the review and update of the National Oil Spill Contingency Plan (NOSCP) and the development of Environmental Sensitivity Index (ESI) Maps of the Nigerian coastline. In November 2009, the third GI WACAF Biennial Regional Workshop and Conference was held in Yaoundé, Cameroun from November 2 – 5, 2009. Some objectives of the Workshop included: to review the progress achieved since 2006 and exchange experiences; and, to identify objectives and the action plan at national and regional levels in order to strengthen oil spill response capability for the coming biennium. One of the conclusions reached at that Workshop was the need to organize the National Workshop on Oil Spill Trajectory Modelling and Dispersant Use Policy. In the course of this Workshop, participants are expected to critically review the national action plan for oil spill preparedness and response; and the existing National Policy on Dispersant Use in Nigeria. This forum is aimed at further enhancing our capacity in strategic oil spill preparedness and response; it is truly a welcomed initiative from IMO and IPIECA.

At this juncture, let me commend the efforts and collaboration of our development partners, IMO and IPIECA for their wonderful support to date on the strengthening of the capacity of NOSDRA for oil spill management in Nigeria. Let me also commend the efforts of industry operators will regularly co-operate with the Agency in these issues. We encourage you to continue to do so.

Ladies and Gentlemen, let me welcome all the stakeholders here present. Particularly let me welcome our distinguished representatives from the Honourable Minister Federal Ministry of Environment, Mr. John Odey, Directors from the Federal Ministry of Environment and other officials for supporting the Agency towards achieving its mandate.

Finally, I urge all stakeholders to participate actively and contribute meaningfully at this Workshop so that we can achieve best practices in oil spill management in our great nation, Nigeria.

Once again, on behalf of the Agency I welcome all participants and wish you successful deliberations.

Thank you and God bless.

## Annex 5: Assessment form

To measure the effectiveness of this training course we are interested in your feedback

Course Name:

Name:

Date:

Your role in a spill:

How would you rate the following? Where 0 = Strongly Disagree and 10 = Strongly Agree. To help us make the appropriate improvements in the future, please can you be as specific as possible.

Course Design	0	1	2	3	4	5	6	7	8	9	10
<i>a. Technical content was appropriate to the course</i>											
<i>b. The course materials were of an excellent standard</i>											
<i>Any specific comments about the course design;</i>											
Job Applicability	0	1	2	3	4	5	6	7	8	9	10
<i>a. The training course will help me improve my performance</i>											
<i>b. The course was relevant to my job</i>											
<i>Any specific comments about applicability of courses;</i>											
Facilitators Overall	0	1	2	3	4	5	6	7	8	9	10

a. Facilitators displayed flexibility in response to issues raised during the training course												
b. Overall, the facilitator was good												

Any specific comments about facilitators;

Facilities and Organisation	0	1	2	3	4	5	6	7	8	9	10
a. Training venues were suitable for the purpose											
b. Refreshments provided by were of a high standard											
c. (Where appropriate) Examples of spill equipment used were appropriate											

Any specific comments about facilities and equipment;

Overall Evaluation	0	1	2	3	4	5	6	7	8	9	10
a. Overall, I am satisfied with my experience											

Thinking about the course overall, were there any modules you found **particularly useful** for your role;

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Thinking about the course overall, were there any modules you found that **would not be particularly useful** for your role;

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**General Comments and Suggestions;**

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## Annex 6: Pictures

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