

GIWACAF Webinar #3 – Oil Spill Contingency Planning

Oil & Gas Industry in Angola

Tania Augusto
EM EP & R Senior Advisor



Industry Oil Spill Response Planning & Preparedness

1. Regulatory Requirements – Industry regulations and NOSCP
2. Industry Operations Risk Assessment
3. High risk scenario studies
4. Preparedness and Response Tiered Concept
5. Outline Oil Spill Response Strategies
6. Available resources
 - ❑ In-House required resources as per regulatory requirements and studies
 - ❑ In country resources (NOSCP) and Industry Mutual Aid Agreement
 - ❑ Oil Spill Response Organizations (OSROs)
7. Training and Exercise
8. Case Study – Angola Coastal Sensitivity Mapping

Industry Oil Spill Response Planning & Preparedness

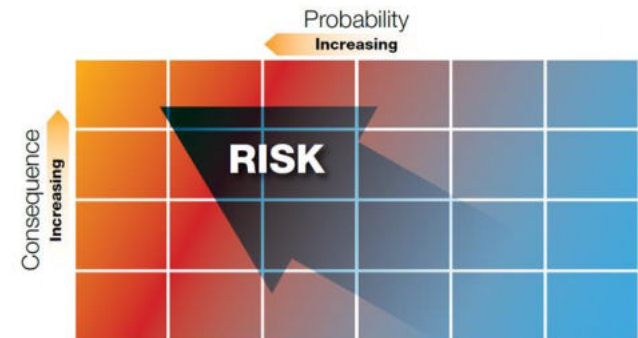
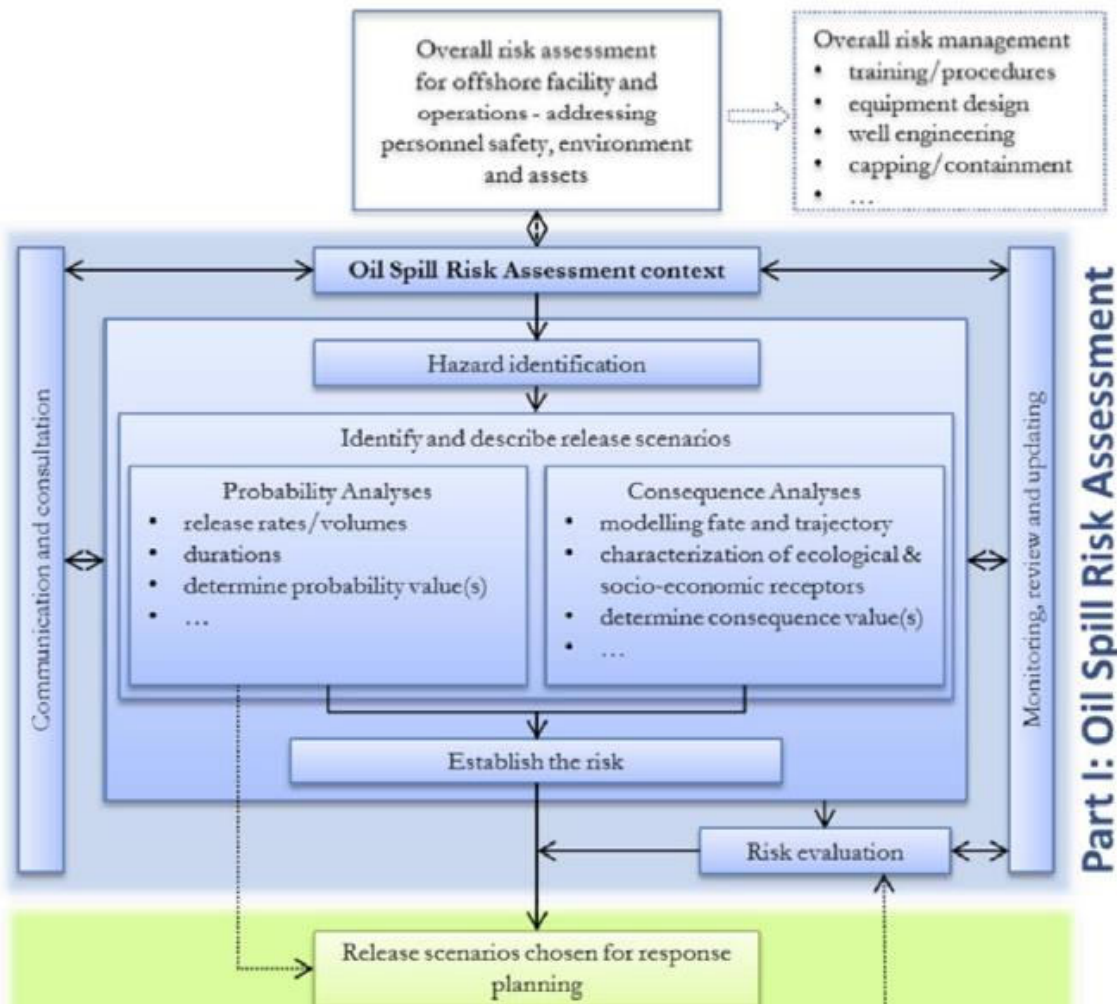
1. Regulatory Requirements – Industry regulations and NOSCP

Legislation	
National	International
General Environmental Law 5/98 of June 19, 1998	Oil Pollution, Preparedness, Response and Cooperation Convention (OPRC) Regulations 1990
Decree on Environmental Protection for Petroleum Industry 39/00 of October 10, 2000	Convention for the Prevention of Pollution from Ships (MARPOL 73/78), Annex 1, Regulation 26
Executive Decree 11/05 of January 12, 2005	Civil Liability Convention (CLC, 1992)
Presidential Decree 141/12 ARTICLE 43 (Approval of chemical products for combating pollution)	International Oil Pollution Compensation Fund (IOPC Fund 1992)
Resolution nº 87-A/08 of December 22nd National Contingency Plan Against Oil Spills at Sea”	Convention on Liability and Compensation for Damage caused by the carriage of Hazardous and Noxious Substances (HNS 1996)
Presidential Decree 117/20 Approves the General Regulation to Assess the Environmental Impact and the Environmental Licensing Procedure	

Industry Oil Spill Response Planning & Preparedness

1. Operations Risk Assessment

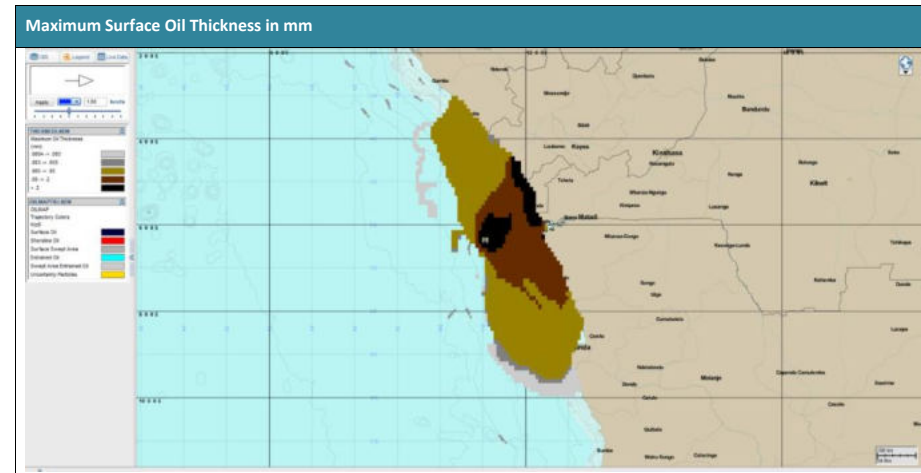
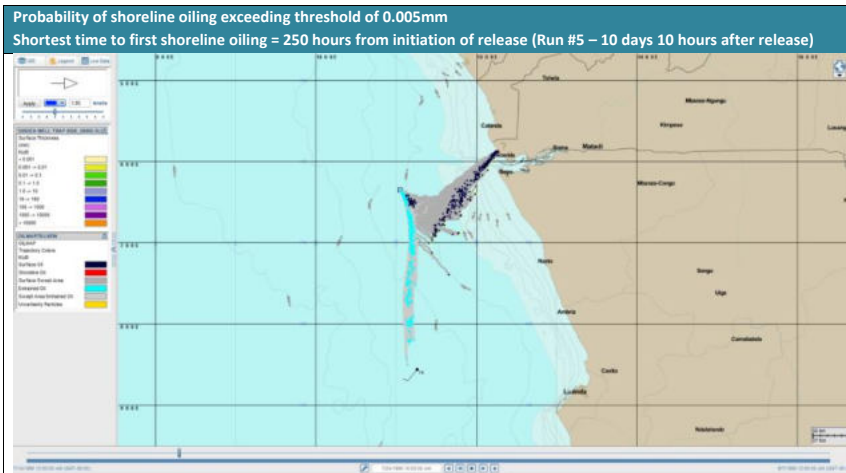
Overview of the oil spill risk assessment and response planning process



Industry Oil Spill Response Planning & Preparedness

3. Hypothetical High Risk Scenario – OILMAP spill trajectory modeling

- Subsea Well Uncontrolled Crude Release of 10,000 bbl. per day
- The oil spill modeling provides a useful indication of which areas are at risk of oiling in the event of a spill, based on environmental data and oil properties, predicting probability, timing and oil thickness that will impact areas at risk



Industry Oil Spill Response Planning & Preparedness

4. Preparedness and respond tiered concept

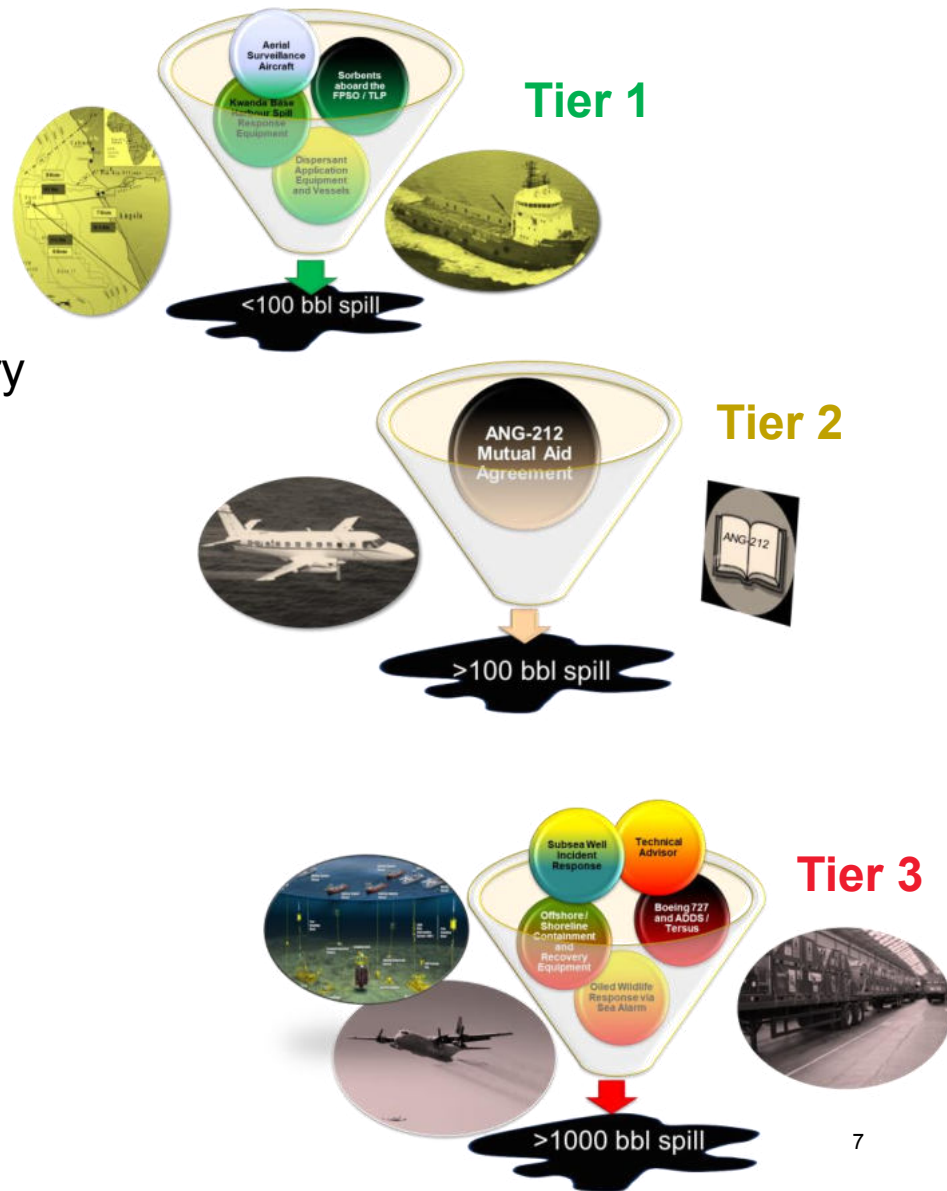
Tiered Preparedness and Response, as defined by the International Petroleum Industry Environmental Conservation Association (IPIECA)

Tier 1		Tier 2		Tier 3	
☐ Spill occurs within immediate site proximity	☐ Minor / slight environmental impact	☐ Local site resources (Tier 1) are NOT sufficient to combat response	☐ Potential impact to sensitive areas	☐ Regional resources (Tier 2) are NOT sufficient to combat spill	☐ Significant shoreline impact expected
☐ Local site resources (dispersant application systems) are sufficient to combat spill	☐ Source of spill has been stopped	☐ Regional resources (Tier 2) are sufficient to combat spill	☐ Local / national media attention	☐ International Tier 3 resources are required	☐ Loss of production for more than 1 week
☐ Spill size* <100 bbls	☐ Loss of production for 1 day or less without disability	☐ Spill size* is >100bbls,<1000 bbls	☐ Loss of production between 1 day and 1 week	☐ Spill size* >1000bbls	☐ International media attention
☐ No immediate concern over shoreline impact	☐ Spill involves a single Lost Time Incident (LTI) without disability	☐ Danger of fire or explosion	☐ Spill involving a single LTI with disability	☐ Major release, uncontrolled well blowout	☐ Spill involves multiple injured people
	☐ No media interest	☐ Not able to respond to spill immediately	☐ Spill occurs within Block vicinity	☐ Major spill extends beyond site vicinity	☐ Spill involve a minimum single fatality
	☐ Able to respond to spill immediately				☐ Potential to impact to other countries
					☐ Persistent damage
Tier 1 Resources		Tier 2 Resources		Tier 3 Resources	

Industry Oil Spill Response Planning & Preparedness

5. Oil Spill Response Strategies

- A. Monitor, Evaluate and Sample
- B. Dispersant Application
- C. Offshore Containment and Recovery
 - Source Control Subsea Well Intervention
- D. Shoreline Protection and Clean up
 - NEBA (*Net Environmental Benefit Analysis*)
- E. Waste Management



Industry Oil Spill Response Planning & Preparedness

6. Available resources

6.1 In-House required resources as per regulatory requirements and studies

One set of containment & recovery
(SONANGOL)



Some set of clean-up operation (CVX)



Industry Oil Spill Response Planning & Preparedness

6. Available resources

6.1 In-House required resources as per regulatory requirements and studies

Dispersant Spraying System – spray (ExxonMobil)



Shoreline protection equipment (TEPA)



Some Containment & recovery sites (BP)

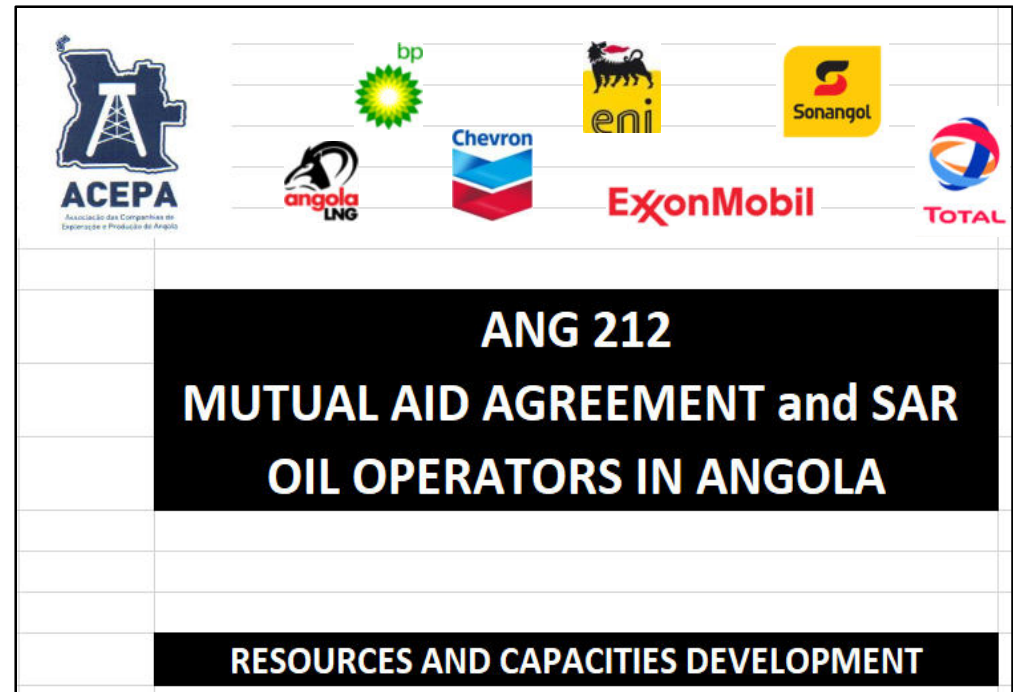


Industry Oil Spill Response Planning & Preparedness

6. Available resources

6.2. In country resources

National Oil Spill Contingency Plan and Industry Mutual Aid Agreement



Industry Oil Spill Response Planning & Preparedness

6. Available resources

6.3. Regional resources and OSROs

- West Africa dispersant stockpile
- West Africa Surveillance Plane (WASP)
- GIWACAF
- Oil Spill Response Organizations (OSROs):
 - ❑ OSRL
 - ❑ AMBIPAR
 - ❑ LAMOR



Industry Oil Spill Response Planning & Preparedness

7. Training and Exercise

- **Training & Competency Matrix** to ensure ER personnel are skilled and competed to perform their ER positions as per plans
- Oil spill response exercises / drills are performed regularly to ensure:
 - personnel training in the ERPs and procedures,
 - proficiency in executing the ERP and test equipment's functionality
- **Industry Joint exercises** are conducted to test mutual aid agreement
- Participation in **Government OSR training and exercise**
- Lessons learned from exercises are used to enhance Emergency Response plans and capabilities



THANK YOU