

MOBEX Cayenne 2013: Lessons Learned & Response Enhancements Derived from the International Mobilization, Preparedness & Response Exercise in French Guiana

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ABSTRACT 322298:

Oil Spill Response Limited (OSRL) and Clean Caribbean & Americas (CCA) conducted the first International Mobilization, Preparedness & Response Exercise (MOBEX) since the 2010 Gulf of Mexico “Macondo” incident and since the merger of CCA and OSRL in January 2013. The exercise was hosted by Shell Exploration & Production France SAS (Shell E&P), the operating partner of the Zaedyus joint venture drilling prospect offshore French Guiana. It was the first MOBEX to support a deep water exploratory drilling scenario. MOBEX Cayenne 2013, was conducted in French Guiana, May 15-17, 2013, and included the following five foundational exercise components found in all MOBEXs:

- Tabletop Exercise (Simulation)
- Mobilization of Tier 1 and 2 (Shell), and Tier 3 (OSRL) response equipment and personnel
- Conference and Technical Seminar
- Equipment Deployment Demonstration
- Delegate Exchange/Forum

A number of planning activities, and MOBEX itself, contributed to enhancing the overall oil spill preparedness capability in the operating area. Planning activities included coordination visits and meetings with operators and governmental authorities, familiarization with sensitive environmental resources, logistics planning within the international, national and local infrastructure, expansion of indigenous response capability through training of local responders and vessel operators, and familiarization with governmental policies and procedures across a wide range of issues. This paper discusses oil spill preparedness and response lessons learned and enhancements derived from the planning and conduct of MOBEX Cayenne 2013.

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CCA, and now OSRL, has conducted a triennial International Mobilization, Preparedness & Response Exercise (MOBEX) since 1995 in a variety of Caribbean and Latin American countries (see Table 1). These exercises have progressed under a wide range of simulated operating scenarios, governmental regulatory regimes, logistics infrastructures, and language and cultural environments. Each MOBEX is similar in five fundamental components; a tabletop simulation exercise, tiered mobilization and deployment of response resources, a Preparedness Conference and a Technical Seminar, and a best practices forum for exchanges between government and industry delegates. Nonetheless, each MOBEX is also radically different in its practical conduct and outcomes, reflecting wide range of petroleum industry operations and the great diversity of the Caribbean and Latin American preparedness and response challenges.

Table1. MOBEX Venues, Scenarios, & Languages (1995-2013)

| Year | Location | Simulated Operating Scenario | Language |
|------|--------------------|---------------------------------------|------------|
| 1995 | Freeport, Bahamas | Transshipment Terminal, Shipping | English |
| 1998 | St. Kitts | Products Terminal | English |
| 1998 | Bermuda (Exxon) | Products Terminal | English |
| 2001 | Dominican Republic | Crude Terminal, Refinery | Spanish |
| 2005 | Martinique | Crude Terminal, Refinery, Shipping | French |
| 2007 | Panama | Panama Canal | Spanish |
| 2010 | Manaus, Brazil | Amazon River, Shipping, Refining | Portuguese |
| 2013 | French Guiana | Deepwater Exploration | French |
| 2016 | TBD | | |

Planning for MOBEX Cayenne 2013 began in 2011. The exercise was specifically designed to support a deep water exploratory drilling scenario in a relatively remote location (from the OSRL Fort Lauderdale base). It was intended to showcase CCA/OSRL's response capabilities, identify strengths and weaknesses, and where possible, in the course of planning,

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preparation, training, and conduct, take actions to enhance local response capabilities. The broad objectives that have been common to all MOBEXs include:

- Expand Awareness of Oil Spill Preparedness & Response Issues
- Promote Local & National Contingency Planning
- Exercise Tier 1,2, & 3 Response with Company & Government
- Mobilize OSRL Equipment/Personnel across International Borders
- Integrate Tier 3 resources into the Company & National Response System
- Educate & Train Company & Government Personnel
- Develop Relationships with Government Agencies and NGO'S
- Identify Problem Areas & Improve Response Plans and Mechanisms

MOBEX Cayenne 2013 was sponsored in French Guiana by Shell E&P France SAS, and included the participation of the Shell Americas Response Team. Under a Shell designed tabletop simulation exercise, Shell mobilized Tier 1 and Tier 2 resources in Cayenne, while activating OSRL in the Fort Lauderdale, Florida, USA, and Southampton, UK. A total of 17 OSRL Technical Advisors and Response Specialists deployed to Cayenne, along air mobile response equipment from the OSRL Base Fort Lauderdale by an Atlas Air B747 jet cargo aircraft.



A chartered Atlas Air B747 transported OSRL Tier 3 equipment from OSRL's Fort Lauderdale base. The aircraft departed Miami International Airport to Cayenne-Felix Eboué airport, French Guiana, in advance of the exercise.

Prior to the commencement of MOBEX, a one-day of on-water training took place with three commercial shrimp boats, dispersant spray systems, Current Busters®, boom, skimmers, and other equipment provided by OSRL Fort Lauderdale. Conference topics on OSPR included presentations by the French government and French Navy officials on the POLMAR system of response and their role in that system. Shell and other preparedness and response experts made presentations on ICS, local marine environmental sensitivities, and French sources of OSRP expertise and scientific support (Ceppol, Cedre). The Technical Seminar focused on Dispersant Use Decision-making, Subsea Capping, In-Situ Burning, and Response in Mangroves. Over 100 French and foreign oil industry, government officials, responders and observers participated in MOBEX Cayenne 2013.

In addition to the broad MOBEX objectives, a number of collateral benefits accrued from the preparations and lessons learned. In many cases these were immediately translated into preparedness and response enhancements and are detailed below:

Familiarization with Oil Operations:

Effective preparedness and response improves when responders have a reasonable awareness of oil operations and the attendant risks and response options. MOBEX planning begins with an introductory visit to the “sponsoring” oil company as a precursor to an introductory meeting with government officials. This provides an opportunity for Tier 3 planners and responders to gain first-hand knowledge of oil operations, type(s) of oil involved, possible spill scenarios, risk assessments, trajectory analyses, oil spill contingency plans, and the key people and policies in the oil operator's organization. After several planning and coordination visits, CCA/OSRL and Shell E&P France personnel had melded into a well-functioning team for addressing OSPR in French Guiana.

Familiarization with Governmental OSPR Authorities & Policies:

The next tangible step to conducting an international OSPR exercise is to gain government approval and active planning participation. Governments have concerns about oil spills, but also concerns as to how it will be involved in the response. The government and regulatory regime define the nature of the relationship between the spiller/responders and itself, and the parameters of authority that will govern a real spill and the exercise. In this regard, each MOBEX is unique and unlike any predecessor MOBEX. Tier 3 responders necessarily integrate into the National Response framework as it exists at a point in time. Through a Memorandum of Agreement (“Convention” in French) between the Prefect of the Guiana/Guyane Region and CCA, the parameters of the exercise were clearly articulated, and importantly included the role of government in facilitating many aspects of the exercise, such as customs and immigration clearances of OSRL equipment and personnel.

MOBEX Martinique 2005 was conducted under the French POLMAR system of response, and actively included French Navy resources in the planning and execution of the exercise. A spill in French Guiana would also fall under the French POLMAR system, but in the

post-Macondo environment, the French Navy's "exercise" role was more as an independent observer and oversight authority. French Navy resources were exercised separately concurrent to MOBEX planning and preparation, but due to local imperatives, were not integrated directly into the MOBEX equipment mobilization and deployment. The French Navy conducted Vessel of Opportunity (VOO) training with local fishing vessel operators and CCA/OSRL capitalized on the French Navy's groundbreaking initiative. The training of VOO operators by both the French Navy and CCA/OSRL was an enhancement to basic response capability pre-exercise.



Sixteen large fishing vessels similar to Gulf of Mexico shrimpers are based in Cayenne. Vessel of Opportunity (VOO) training was initiated by the French Navy and followed-up by CCA/OSRL during the preparatory/planning phase of MOBEX. Three vessels were utilized in MOBEX.

Familiarization with Environmental risks, sensitivities, and national & international aspects of OSPR in the Guianas region:

Based on the location of the simulated incident, contingency plans forecast offshore movement of oil northward towards Suriname, Guyana, and Trinidad. The simulated trajectory rapidly drove the response towards the use of dispersants far offshore. Contingencies were also made for shoreline protection/impact in coastal mudflats and mangroves northwards and the operator's contingency plan included placing a stockpile of shoreline response equipment in Suriname. Additionally, the proximity of Brazil, with a vast amount of response equipment, was considered a potential additional source of equipment (and personnel). In the preparation and planning phase of the exercise, Petrobras was contacted and administrative channels were created for possible mutual aid and assistance. Logistics for such support was discussed between CCA/OSRL and Petrobras representatives for provision of assistance from Petrobras' excess stockpiles in Brazil. With OSRL now operating the former CCA base in Fort Lauderdale, a single call to Fort Lauderdale also put other OSRL global equipment and personnel resources

from the UK, Bahrain, and Singapore available to the operator. Prior to the CCA-OSRL merger, this would have required a separate and effort draining activation and mobilization chain.

Opportunity to address Dispersants and In-situ burning Decision-making with Government and Regulatory Authorities:

The MOBEX conference was opened by the President of the Regional Council and was attended by key OSPR authorities in the government. The Technical Seminar addressed Dispersant Use & Decision-making and In-situ Burning, providing all concerned an opportunity to gain a deeper understanding of the science and operational experiences of dispersants and in-situ burning as gained from the Macondo response. US responders and a US National Oceanographic & Atmospheric Administration (NOAA) representative who served as a Scientific Support Coordinator in the Macondo response provided important insights and perspectives on the decision-making and use of dispersants and in-situ burning during the Macondo response. This enabled local authorities to better assess the applicability and efficacy of these response methods in the French Guiana operating environment. While France has traditionally not included In-situ burning in response planning, following these presentations, authorities attending the Technical Workshop indicated that the Macondo case made further investigation worthwhile.

Opportunity to identify, assess and train local vessel fleet:

In addition to training, and ultimately testing VOO operators during the deployment phase of MOBEX, as part of a logistics visit, CCA/OSRL personnel identified and categorized local vessels that could possibly employed in a spill response. Vessels were identified for their potential use and sea keeping capability according to an informal system of classification:

MOBEX Vessel of Opportunity Survey

| Type | Number | Response Function |
|--|--------|---|
| Offshore: 5 day GoM Shrimpers | 16 | Offshore support, boom vane, current buster, spray systems |
| Nearshore: 1-2 day Fishing boats > 8m | 6 | Spray systems, logistics, nearshore boom |
| Protected Waters Skiffs, <8m | 10 | Logistics runs, shallow water, deployment of sorbent boom along mangroves |
| Small Indigenous Wood fishing craft | n/a | NOT SUITABLE FOR RESPONSE |



OSRL and local responders prepare a Current Buster for VOO training prior to the MOBEX on-water equipment deployment demonstration.

Identification of local, national, regional OSPR resources and/or service providers

Be it an exercise or a real response, finding a local company, organization, or individuals who can source and procure needed goods and services is essential to a successful response operation or exercise. MOBEX provided CCA/OSRL the opportunity to work with and educate some of Shell's local vendors on the requirements of OSRP. Typically working with Shell's agent in the Port of Cayenne, CCA/OSRL was able to procure cranes, forklifts, food, porta-potties, and other essentials in an expedited manner. CCA/OSRL personnel utilized interpersonal skills developed over many years of international operations to work cross-culturally with local counterparts. Language barriers, although existing, were overcome with the aid of in-house English-Spanish-French OSPR Lexicon.

Familiarization with national and local customs, immigration, and working permit laws and regulations, agencies and requirements:

The equipment mobilization from Fort Lauderdale was accomplished by air through Felix Eboué International Airport in Cayenne. After clearing customs, equipment was staged at the Port du Degré des Cannes in Cayenne, where equipment was inventoried, assembled, and deployed for training and for the field deployment phase of MOBEX. Access to port by OSRL responders and MOBEX delegates and observers was controlled by the French government in compliance with the International Maritime Organization's International Ship & Port Facility Security Code (ISPS). Protocols were established with port security authorities to grant access to responders and observers while maintaining appropriate compliance. While this appears to be a minor matter, access to government facilities by responders can become a major "show-stopper"

during a response. As mentioned previously, the government played an essential role in providing airport landing permits, customs and immigration clearances, working permit regulation interpretations, security, and access arrangements.

HSES, Focus on Safety, Safety, Safety!!!

The health, safety and security of all involved in MOBEX was the number one priority of the exercise. Neither CCA/OSRL personnel nor MOBEX observers had the in-country HSES expertise and experience that Shell had. As a condition for participation in MOBEX, CCA mandated that all involved in MOBEX were required to comply with Shell's HSES guidance, Life-Saving Rules, Journey Management Plans, vaccination guidelines. MOBEX Cayenne 2013 was conducted without a significant HSES incident, due the designation of a dedicated OSRL HSES Manager who worked closely with Shell's HSES advisors through all phases of the exercise.

CONCLUSION:

MOBEX Cayenne 2013 was intended to demonstrate CCA/OSRL's capability to respond to an oil spill incident in French Guiana. However, the exercise is not merely a demonstration of static capability. Rather, it is a dynamic, capacity building and developmental activity. Throughout the almost two year planning process, the level of preparedness and the capability to respond effectively to an oil spill grows. MOBEX Cayenne on May 15-17, 2013, is best viewed as the culmination of efforts that benefit from iterative improvements during the planning process. MOBEX serves as a means of introducing people and building relationships, sharing experience, knowledge, science, technology, and best practices, exercising decision-making, command structures, and conducting logistics and response operations under near real conditions. Be it in an emerging or mature oil operation, MOBEX helps creates a significant group of people in the government and industry with an enduring appreciation and knowledge for what is required for an effective response if needed. There are global generalities for all to share, as well as regional and national specifics that enhance OSRL's, French Guiana's, and Shell's preparedness and response capabilities.