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EXERCISE WESTWIND – A COLLABORATIVE OIL SPILL RESPONSE BY OIL & GAS OPERATORS AND AGENCIES.

Jessica Miller and Nick Quinn, Australian Marine Oil Spill Centre, Victoria AUS

Abstract

On June 9th, 2015, ACME Oil Company's rig suffered a dynamic positioned 'run-off'. The mobile drilling unit lost its station above the wellhead and a loss of well control was experienced. "A massive environmental emergency unfolded…affecting pristine coastline and masses of wildlife". Incident Management and Field Response Teams were activated in a multi-agency operation, bringing together 200 personnel from 16 oil and gas companies and 18 government agencies and third party providers. Source control, aerial, offshore, nearshore, shoreline and oiled wildlife response capabilities were deployed and national/international support was utilised.

Jointly managed by the Australian Marine Oil Spill Centre (AMOSC), the Australian Maritime Safety Authority (AMSA), the Federal Department of Industry and Science, and the Western Australian Department of Transport - Exercise Westwind was a successful multi-faceted marine spill response, demonstrating Australia's collective Industry/Government capacity to respond to a large, offshore loss of well control incident in a remote and isolated location.

ACME Oil Company was a fictitious company formed to enable the amalgamation of Australian petroleum companies to exercise industry arrangements under one 'banner' during the exercise period. ACME Oil Company had its own set of credentials, company website and Oil Pollution Emergency Plan. The company also held real time memberships with a

number of service providers including AMOSC, Oil Spill Response Ltd, Trendsetter Engineering International, Oceaneering Australia and addenergy. Representing an innovative approach to spill response exercising, ACME Oil Company was a valuable and critical aspect to industry and governments participation under a non-attributable banner. Additionally, it enabled safe, widespread lessons to be observed, allowed for real-time testing of arrangements and provided a safe environment for regulators, stakeholder and industry inter-play.

The exercise was an efficient and practical solution for Industry titleholders and their third party supporting organisations, to test shared response resources and to ensure Industry arrangements for responding to oil pollution are in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

This paper will discuss the development program behind the exercise and the experience of managing an exercise of this nature. It will highlight the successes including the creation and implementation of a fictitious company and the extensive collaboration between the industry and government personnel involved. It will also look forward – where are we 11-months later?

Can the history of exercising and/or response help us improve for the future - implementation of change and continued testing is critical in furthering our oil spill response capability and capacity.

Exercise Westwind – Operational Phase Two

1. The Initiative

Following the International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (ORC 90) and in particular Article 6, Exercise Westwind represented the annual exercise of the National Plan for Marine Environmental Emergencies (NatPlan) conducted in two phases (Strategic & Operational) in May/June 2015. It was the first Australian NatPlan exercise to test emergency arrangements to an Industry led response to a level three (Tier 3) loss of well control from an offshore platform. It also heavily reflected the National Plan (NatPlan) principles of shared responsibility for preparedness and response to oil spills in the full spirit of the OPRC 90.

The strategic phase (being Phase 1) was led by AMSA and exercised a high level of communication and coordination between multilevel government organisations and agencies from across Australia, including the Federal Government's Offshore Petroleum Incident Coordination Committee (OPICC) and an Industry Crisis Management Team (CMT).

The operational phase (Phase 2) was led by AMOSC and focussed on operational control and command of industry arrangements in responding to a loss of well control event. Over nine months, AMOSC supported by a multi-company Industry exercise writing team, developed the operational phase of Exercise Westwind.

This phase was to fully test the operational strategies deployed though the Incident Management Team (IMT) based in Perth, combined with tactical operations conducted in source intervention, aerial surveillance, fixed wing aerial dispersant application, offshore, nearshore, shoreline and oiled wildlife response in Exmouth.

Exercise Westwind enabled industry to demonstrate its collective capability through the activation of the spill response arrangements with support from the NatPlan. Phase 2 brought together over 200 personnel from 16 oil and gas companies and 11

national/international agencies and organisations, as well as the activation of the Fixed Wing Aerial Dispersant Capability and the mobilisation/deployment of mutual aid vessels and equipment in a multi-agency operation. Exercise Westwind was a successful multi-faceted multi-agency marine spill response, demonstrating Australia's collective Industry/Government capacity to respond to a large, offshore loss of well control incident in a remote and detached location such as Exmouth, Western Australia.

2. Exercise Design and Delivery

Exercise Westwind provided Industry and Government with an opportunity to breakdown the 'complexity' of Australia's preparedness response arrangements and represent a 'simple' and robust demonstration of response capability to an offshore marine pollution incident.

Exercise Westwind – efficient and practical solution to exercise shared resources and demonstrate response capability.

2.1 Resourcing – Industry Ownership

A strength of Exercise Westwind was the aptitude of the personnel involved, including the exercise writing team, the participants and stakeholders engaged.

Planning & Facilitation

AMOSC coordinated the planning and delivery of the exercise with assistance from Industry, AMSA, Federal Department of Industry and Science and WA Department of Transport.

Participation

Two hundred oil spill response personnel from Industry, NOPSEMA, AMSA, Commonwealth/Regional agencies and National/International organisations (presented below) engaged at the operational level (80 people) in the IMT and a tactical level (120 people) through offshore and onshore equipment deployments and field based operations. Personnel included company CEO's, environmental managers and spill response specialists. A critical feature of this exercise involved these participants demonstrating strong leadership, ownership and a willingness to create a response culture during a time of low oil prices and reduced offshore activities.

Engagement

Real assets including people, equipment, aircrafts and vessels were vital to the realism of the exercise and tested out the links between the IMT and the field (being an 800nm difference). There were a significant number of contributions provided by key management personnel across industry and government to support the exercise. Real-time engagement with source control call-off contractors including Trendsetter Engineering International, Oceaneering Australia and addenergy were immensely beneficial with participants gaining exposure to technical elements including simulations with live ROV survey inspections being 'conned' around the subsea space.

Exercise Westwind Participants

2.2 Exercise Design

1: EXERCISE SCOPE	**Aim:** To exercise the response arrangements to a Level 3 oil spill resulting from drilling activity on the Arya Oceanier Well. **Objectives:** 1. Exercise the operational management, of a Level 3 incident, involving a multi-jurisdictional and cross-sectoral incident control centre. 2. Exercise the tactical deployment of resources and response personnel in response to a Level 3 incident. Each objective had supporting Key Performance Indicators (KPIs) used to determine whether objectives were achieved or not.	**2: SCENARIO**	**Scenario**: 'The Arya Oceanier Mobile Offshore Drilling Unit lost positioning power, detaching from its blowout preventer, causing oil to release into waters 20 kilometers north of North-West Cape'. Used real-time, sub-sea ROV survey simulations to notify participants of the event.
3: SCHEDULE OF EVENTS	Mapping of key events, time-frames, actions and supporting material. **Schedule of Events** **Who:** Ex Control, participants, external stakeholders, evaluators and observers. **Included:** Personnel management, briefings, logistics, resources, key-events – expected outcomes, ex control actions and inject prompts. Dynamic EAP document used during the development phase and as a delivery framework during the exercise.	**4: INSTRUCTION**	**Participant Instruction –** 'Putting the puzzle together' **Included:** Exercise Context (Aim, Objectives) Stakeholders ACME Oil Company Resources/Documentation Administration/Logistics Exercise Risk Assessment Rules of Engagement Roles and Responsibilities
5: RESOURCES/LOGISTICS	**Personnel** Exercise Control, Participants – AMOSC Core Group, National Response Team, ACME Incident Management Team, Industry Personnel, National/International supporting agencies, Commonwealth/State agencies, Regulators, Local and Regional Stakeholders, Evaluation Team. **Equipment/Assets** AMOSC/Industry, AMSA NatPlan, State Agencies, Service Contracts, Helicopters, Fixed Wing Aircraft, Rig supply and local marine vessels, Logistics support, Facilities and Welfare.	**6. EXERCISE ENABLER**	**Pre-Exercise Enabler** Create opportunities for personnel to establish 'familiarity' amongst the ACME Oil Company, People and Plans. Pre-exercise training workshops were conducted to; Establish team dynamics Share skills and experiences Gain clarity around the exercise instruction ACME Response Structure – roles/responsibilities Exercise Resources – OPEP, IT and Communications Plans Stakeholder Engagement

2.3 ACME Oil Company – Applicability to the rest of the Industry

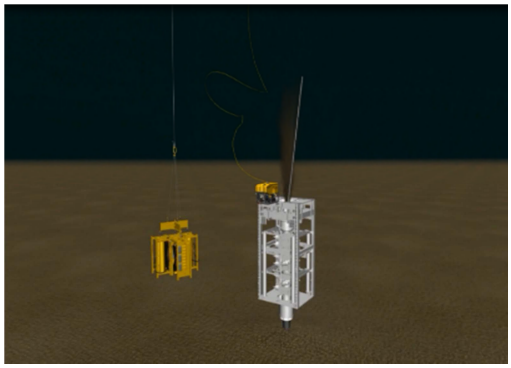
ACME Oil Company was a fictitious company formed by AMOSC to enable the amalgamation of 16 Australian petroleum companies to exercise industry arrangements under one 'banner' during the exercise period. ACME Oil Company had its own set of credentials, company website and Oil Pollution Emergency plan (that was accepted by the offshore Regulator NOPSEMA for the exercise).

The company also held real time memberships with a number of service providers including AMOSC, Oil Spill Response Ltd, Trendsetter Engineering International, Oceaneering Australia and addenergy Ltd.

Representing an innovative approach to spill response exercising, ACME Oil Company was a valuable and critical aspect to industry and governments participation under a non-attributable banner. Additionally, it enabled safe, widespread lessons to be observed, allowed for real-time testing of arrangements and provided a safe environment for Regulator, stakeholder and industry inter-play. ACME Oil Company and its supporting framework/documentation now provides a familiar and robust template for future national plan and joint company exercises.

2.4 Response Operations

SOURCE INTERVENTION	▪ Desktop planning for capping, relief well drilling and subsea dispersant application. ▪ Engagement with call-off contractors, Trendsetter Engineering International (TEI), Oceaneering Australia and addenergy	**AERIAL OBSERVATION**	▪ Multiple tasking's - AW139 Surveillance with Aerial Observers – coastline and offshore.
FIXED WING AERIAL DISPERSANT	▪ Activation and mobilisation of the FWAD Contract ▪ 1x AT802 air tractor undertaking aerial dispersant operations real-time at the request of the Incident Controller and under the direction of an Air Attack supervisor on board an AS350 Squirrel, with the Ningaloo Endeavour providing support as the rescue vessel. ▪ Spraying of water over a fluorescein dye target to simulate spraying of dispersant over surface oil.	**OFFSHORE RESPONSE**	▪ The following industry supplied mutual aid vessels were utilised: ▪ Mermaid Ranger - Current Buster ▪ MADDISON – Ro Boom ▪ FINE TIME – Skimming ▪ SOUTHERN SPIRIT – Elastec Wire Dispersant System; AFEDO Spray System
NEARSHORE, SHORELINE RESPONSE	▪ Shoreline pre-cleaning ▪ Protection and deflection booming ▪ Shoreline clean-up ▪ Staging Area facility setup, including Decontamination and Waste Management	**OILED WILDLIFE RESPONSE**	▪ Collection and transportation of oiled wildlife ▪ Oiled Wildlife Facility including, - Intake, Triage and Stabilisation areas, - 2x OWR containers used for rinse and washing operations, - 2x swim pools and bird housing areas. - 20 Animals impacted & collected, 14 birds and 1 Juvenile turtle treated, 5x Bird fatalities
PEOPLE MANAGEMENT	▪ Design and implementation of a QR Code Personnel Management System. ▪ Provided; Security, real-time IN/OUT per person per location and personnel data for the IMT to use for welfare and logistics support.		



SOURCE INTERVENTION

AERIAL OBSERVATION

FIXED WING AERIAL DISPERSANT

OFFSHORE RESPONSE

NEARSHORE, SHORELINE RESPONSE

OILED WILDLIFE RESPONSE

PEOPLE MANAGEMENT

Examples of the response operations during the exercise.

3. Observations and Lessons Observed

The exercise was an efficient and practical solution for Industry titleholders involved, to test shared response resources and to ensure Industry arrangements for responding to oil pollution are in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009. It also enabled government agencies to observe these Industry arrangements and in particular, have the entire gambit of response arrangements show-cased to prove the Industry resolve to successfully respond to a large marine oil spill.

Several milestones were observed from Exercise Westwind, including;

- High level communication between OPICC and CMT,
- Integration of personnel from 16 petroleum companies to respond as one IMT;
- Integration of source control aspects into a mainstream oil spill exercise,
- Activation and deployment of response contracts and mutual aid arrangements,
- Testing of the oiled wildlife capability recently developed by Industry and Government;
- Inter-play between regulators, industry, government agencies, stakeholders and international oil spill response organisations.

Exercise Westwind was a successful multifaceted marine oil spill exercise. In addition to the key achievements mentioned above, the exercise provided ample opportunities for lessons learned. These include;

- The ‘exercise fatigue ‘aspects of notional tabletop exercising impacted this exercise through the delay in participants coming to the realization (from the IMT perspective) that they were dealing with real assets and people in real-time.
- Familiarity with operational plans is essential – to ensure efficient implementation of first-strike actions.

- Common understanding of skills/support available through additional support – personnel underutilised.
- Further development of ACME Oil Company to include in addition to the OPEP, an overarching 'Environment Plan', more operational plans and refined processes and procedures – for use in future exercises.

Collectively, these observations and lessons learned will assist industry and government to improve their health, safety and environmental performance standards. Exercise Westwind brought personnel together with common training platforms, safety standards and objectives and enabled new response teams to form, respond and achieve a common aim.

4. Evaluation and Sustainability

An independent team of expert evaluators (from industry, emergency services and government) assessed the performance of Exercise Westwind based on the agreed exercise objectives/key performance indicators and captured debrief observations and participant feedback.

A specific debrief session was conducted immediately post exercise to capture the outcomes into a formal evaluation report under the National Plan Framework and distributed to all participants for greater awareness around observations and lessons learned. AMOSC also understands that most of the participating companies and organizations involved have held their own reviews of the exercise to learn and provide value into their own systems and/or processes.

Under the guise of Phase 2 of Exercise Westwind, industry successfully led an effective and coordinated response to a complex offshore petroleum spill scenario in a remote

location. Industry is required to assure the Regulator of their response preparedness capabilities and this is a critical element in both the industry and regulator confidences. Whilst this exercise showcased many response aspects, the greatest demonstration of capacity was around Industry and Government's ability to work collaboratively on a response that had the ultimate benefit to the Australian confidence.

In the future, the companies who acknowledge and implement the learnings from Exercise Westwind around collective and collaborative response will derive the most benefit from the exercise. Also, recognition by the Regulator of recent and ongoing Industry contributions to exercises like Exercise Westwind will greatly improve joint and collaborative exercising in the future.