



Australian Government
**Department of Industry, Science,
Energy and Resources**

Oil Spill Response Exercise

2019

Evaluation of the Department of Industry, Science, Energy and Resources procedures during a simulated offshore petroleum incident.

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Introduction

The Department of Industry, Science, Energy and Resources Offshore Petroleum Incident Coordination Framework is exercised regularly to test procedures, refresh and enhance participants' knowledge of preparedness arrangements and identify opportunities to improve competency and capability. This is done in preparation for the unlikely event of an offshore petroleum incident occurring in Commonwealth waters.

In September 2019, the department ran Oil Spill Response Exercise 2019 (Exercise 2019). Exercise 2019 ran in conjunction with Shell Australia's Exercise Mirda Djimbu and the Western Australian Department of Transport's (WA DoT) Exercise Browse Challenge. These exercises tested the response to a simulated event of uncontrolled flow of gas and condensate into the sea and an explosion that resulted in a number of injuries and fatalities at Shell's Floating Liquid Natural Gas (FLNG) facility, Prelude. Parks Australia and the Australian Maritime Safety Authority (AMSA) also participated in Exercise 2019.

Exercise 2019 was a real time, strategic level, functional exercise focusing on the practical implementation of Commonwealth, state and industry emergency management arrangements in response to a Tier 3 offshore marine oil pollution incident. Tier 3 oil pollution incidents are those that, due to their scale and likelihood to cause major impacts, may call for substantial further resources from a range of national and international sources.

The exercise was run concurrently over two time zones; Australian Eastern Standard Time (AEST) and Australian Western Standard Time.

Ahead of Exercise 2019, the Offshore Resources Branch ran a small internal capacity-building program to increase understanding of the offshore petroleum incident coordination framework and the fundamentals of crisis response and management.

This report provides high level recommendations and proposed actions to assist the department to improve procedures to be followed in the event of a significant oil spill response.

Background

The department has responsibility for resources policy matters for the Commonwealth Government and for the legislation that regulates the environment, safety, well integrity and resource management of the offshore petroleum industry within Commonwealth waters¹: the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGGS Act) and associated regulations.

The Australian Government Crisis Management Framework designates the department as the lead Commonwealth agency in the event of an incident involving an offshore petroleum

¹ Commonwealth waters extend seaward of 3 nautical miles from the territorial sea baseline (also referred to as the low tide mark) to 200 nautical miles (the limit of Australia's Exclusive Economic Zone).

facility in Commonwealth waters. The Minister with responsibility for resources is designated as the lead Commonwealth Minister.

The OPGGS Act establishes the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) as the primary regulator for offshore petroleum activities in Commonwealth waters.

The regime places the onus on the petroleum company (the titleholder) to manage marine pollution risks and requires that all petroleum activities have an Environment Plan including an Oil Pollution Emergency Plan (OPEP) accepted by NOPSEMA before any activity is able to commence.

In the event of an offshore petroleum incident, NOPSEMA has a range of powers including a power to give directions to a titleholder to prevent, eliminate, mitigate, manage and remediate the effects of the escape of petroleum. However, NOPSEMA did not participate in Oil Spill Response Exercise 2019.

Under the OPGGS Act, if there is an escape of petroleum resulting from a petroleum activity, the titleholder bears the responsibility for carrying out the operational response. This includes stopping and containing the spill, cleaning up escaped petroleum, remediating any environmental damage and conducting environmental monitoring.

This approach is common for the global offshore oil and gas industry, but presents a unique situation within Australia, where emergency management processes are usually led by either state and territory governments, or operational agencies within the Commonwealth Government who take responsibility for emergency response and reporting. For offshore petroleum incidents under Commonwealth jurisdiction, the titleholder fills this role.

Following the Montara Commission of Inquiry, to ensure that the Commonwealth Government has an agreed approach to coordination and communication in the rare event of a future offshore petroleum incident, the Offshore Petroleum Incident Coordination Framework (the Framework) was developed, and was put in place in January 2015. The Framework sets out the roles and responsibilities of Commonwealth agencies and establishes the Offshore Petroleum Incident Coordination Committee (OPICC) as a central point of coordination to be activated in the event of a significant offshore petroleum incident.

Where an incident poses threats of national or international significance, such as impacts on multiple jurisdictions, implications for other nations, multiple casualties and/or economic impacts on other industry sectors (such as fisheries and tourism) a whole-of-government crisis coordination response will be undertaken.

In this situation the department remains the lead agency, but with significantly more assistance from the Australian Government Crisis Coordination Centre (CCC). A whole-of-government crisis committee such as the Australian Government Crisis Committee (AGCC) will be convened, based out of the CCC and co-chaired by the department. The department will retain responsibility for building and maintaining situational awareness, contributing

subject matter expertise and will also contribute to the communications and planning activities being led out of the CCC.

Previous Exercises

The department is committed to exercising its oil spill response arrangements every two years. The first exercise, 'Exercise Westwind', was carried out in 2015 and 'Exercise Ningaloo Challenge' was held in 2017.

These exercises have resulted in a number of learnings, recommendations and subsequent changes to the Framework. These amendments have refined the role and function of the Offshore Petroleum Incident Coordination Committee (OPICC), including in relation to whole-of-government crisis committees to prevent duplication of roles and responsibilities. The Framework provides information about the specific responsibilities of the OPICC and participating agencies, and the circumstances under which those responsibilities are triggered.

The updated framework also formalises arrangements for better engagement with the Australian Government Crisis Coordination Centre, to ensure that its crisis management expertise and infrastructure is utilised, while the Department of Industry, Science, Energy and Resources still maintains a lead role.

To read about previous exercises, please see the [Exercise Westwind 2015 Evaluation Report](#)² and the [Exercise Ningaloo Challenge 2017 Evaluation Report](#)³.

Aim and Objectives

The aim of the department's Exercise 2019 was to test and evaluate the current plans, processes and capabilities of the department by participating in a coordinated response by the Commonwealth Government, Western Australian Government and offshore petroleum industry to a simulated offshore petroleum incident.

The department set the following objectives for the exercise, against which the performance of the department's Response Team and liaison officers (LOs) were assessed:

1. Test the department's ability to use relevant information from a variety of sources to deliver targeted key messages to appropriate stakeholders through effective methods of communication.
2. Test the effectiveness of the department's media management including responding to media enquiries and drafting of media releases.
3. Test the effectiveness of the Liaison Officer (LO) role and the department's ability to effectively communicate between external LOs and the Response Team.
4. Test the ability of the department to deal with conflicting expert sources of information and build situational awareness during an incident.

² Exercise Westwind 2015 Evaluation Report: <https://www.amsa.gov.au/marine-environment/incidents-and-exercises/exercise-westwind-2015-evaluation-report>

³ Exercise Ningaloo Challenge 2017 Evaluation Report: <https://www.industry.gov.au/data-and-publications/exercise-ningaloo-challenge-2017>

5. Evaluate the department's internal capacity and resilience to managing the incident.

Exercise Roles

Response Team

This team was based in the department's offices (Industry House, Canberra) and led the department's strategic response to the incident. Responsibilities of the Response Team were to:

- build and maintain situational awareness on behalf of the Australian Government
- provide accurate and timely information to the Executive and the Minister's Office
- liaise and communicate with various stakeholders
- provide policy advice on relevant topics
- respond to requests for information
- respond to media inquiries
- provide input into daily crisis committee meetings (to be held nationally).

Liaison Officers

LOs were deployed to Perth to be a conduit between the department and the relevant incident management team (IMT). Responsibilities of the LOs were to:

- act as a communication channel between the external organisations and the department
- assist with building and maintaining situational awareness
- identify key individuals within external organisations who may provide relevant information during the incident response
- facilitate the efficient and timely exchange of information between the external organisation and the Response Team
- follow up on requests to or from the Australian Government for information or support
- maintain awareness of the external organisations activities and priorities and convey this to the department
- assist the department to prepare briefing materials and talking points
- assist the external organisation in making contact with, and making formal requests to, Australian Government agencies
- participate in meetings and provide regular written and verbal updates to other department LOs and the department's Response Team
- represent the department at external meetings to convey Australian Government activities and priorities.

Exercise Overview

Exercise 2019 ran across two stages. Stage 1 simulated the immediate response to the incident in which the department ran a two-hour internal workshop to test its initial steps after being notified of the incident. Stage 1 focused on assessing the value of existing guidance materials in supporting staff to establish situational awareness, identify relevant materials and stakeholders and determine next steps.

Stage 2 simulated Days 7 and 8 of the incident and associated response. It focussed on the major offshore petroleum incident response for the loss of well control that occurred in Stage 1. This stage simulated a full-scale response that included the titleholder and State and Federal governments. In Stage 2, the department established a Response Team in Industry House and deployed three liaison officers to Perth; two to the Shell Australia Incident Management Team (IMT) and one to the Western Australian Department of Transport (WA DoT) IMT. During Days 7 and 8 of Exercise 2019 the Response Team engaged with the Manager of Crisis Preparedness and Response at AMSA, who provided feedback and advice on the department's approach and actions during the exercise.

A summary of the exercise, including an overview of the incident scenario and department's exercise response actions is outlined below.

Exercise Day 1, Wednesday 11 September 2019

On 11 September 2019, the department was notified by the titleholder (Shell Australia) of an uncontrolled flow of gas and condensate into the sea and an explosion that resulted in a number of injuries and fatalities at Prelude, a Floating Liquid Natural Gas (FLNG) facility. Shell conducted a major medevac response and began undertaking action in response to the unfolding incident.

Exercise Day 7, Wednesday 18 September 2019

The department commenced its involvement in Stage 2 of Exercise 2019 at 08:30 AEST on 18 September 2019. By this stage, Shell had implemented its OPEP, prioritising the mobilisation of surface dispersant and six people from the Australian Institute of Marine Science to support response efforts.

The department was notified via situation reports (sit reps) from both Shell Australia and WA DoT that the titleholder's supply of dispersant was expected to be exhausted by the following day. However, Shell were able to source additional dispersant with the assistance of AMSA.

It was expected the spill would impact Browse Island by 20 September 2019 and the Bonaparte Archipelago by early October. Barriers were placed north of Browse Island and Shell conducted baseline monitoring to assess response options going forward. The initial Browse Island response contingent commenced operations including site setup, a pre-impact shoreline assessment and wildlife capture and relocation.

In addition to the well condensate, it was reported that there was also a significant heavy oil spill from the supply vessel on which dispersants were not effective. Ten tonnes of this

heavy oil was expected to reach land on both Browse Island and mainland WA. AMSA advised that having been in the water for a period of time, it would turn 'tar-like' and start to sink and while it would still wash up on beaches, it would not be 'sticky'.

LOs reported that the focus of WA DoT was managing the impacts on Browse Island and the Bonaparte archipelago. WA DoT were clear that they were solely focused on state waters, acknowledging that anything in Commonwealth waters was under the jurisdictional responsibility of the Commonwealth Government, and the operational response was being handled by Shell.

All 110 persons on board the Prelude facility were transferred to appropriate care facilities or nominated destinations. As a result of the incident 22 injuries and 1 fatality were reported. The injuries and fatality were managed in accordance with Shell's medical evacuation plan.

Shell advised that there were 12 whales approximately 200km from the incident site and their wildlife action plan was put in place.

The AGCC convened in the evening and classified the incident as a crisis. The department provided input to the meeting agenda and co-chaired the meeting.

The department discussed the steps that would be needed to establish of a Commission of Inquiry under part 9.10A of the OPGGS Act, once the emergency had been dealt with.

The Response Team worked on establishing its situational awareness and monitoring media coverage of the incident, provided both verbal and written briefing to relevant executive staff throughout the day, responded to requests and questions from other Commonwealth agencies, the Minister's Office and non-government organisations, and responded to media enquiries. A QTB was also drafted, as it was a Parliamentary sitting week – the QTB with talking points served as the 'single source' of information for the Resources Minister.

Day 8, Thursday 19 September 2019

The department commenced its second day of involvement in Exercise 2019 at 09:00 AEST on 19 September, 2019.

The Prime Minister and the then Minister for Resources and Northern Australia gave a press conference at 1330 AEST to provide an update on Australian Government actions. The department provided talking points to the Minister.

To address calls for a media statement the Response Team provided talking points to the Communications Branch on the press conference and the government's efforts to minimise environmental harm resulting from the incident.

The WA Premier published a media release outlining the incident and WA DoT's response efforts at 16:30 AEST.

Subsea modelling conducted by Shell showed 85 per cent of released gas condensate remained in the water column, with only 15 per cent reaching the sea surface. The majority

of the gas condensate in the water column was trapped 100m below the sea surface, where it would undergo dissolution and bio-degradation processes.

Surface spill modelling found low concentrations of condensate within the vicinity of Browse Island, but indicated there was potential for Browse to be impacted on the morning of 20 September 2019. A 3 nautical mile exclusion zone was imposed by WA DoT around Browse Island, except for response vessels.

Four birds were found on North East Browse Island, one was deceased, one was heavily oiled and two were lightly oiled. Two birds were captured and taken on board one of the support vessels.

The remaining wells were shut in and Prelude ceased production.

One protestor vessel was observed leaving Broome port in the morning heading towards Browse Island. The vessel name and number of protestors on board was not known. Green Peace vessel MV Esperanza left Singapore and sailed towards Prelude field estimated to arrive the morning of 19 September 2019. WA DoT were notified and they reported the vessel to WA Police Service. Two vessels manned by WA Police were tasked with patrolling a 1km exclusion zone around the Prelude facility. Alternative options were investigated for patrolling the exclusion zone, including private contractors and assistance from Maritime Border Command.

Dispersant operations were stopped with the focus now on containment and recovery.

The AGCC convened again in the evening. The department provided input to the meeting agenda and co-chaired the meeting.

The Response Team continued to update its situational awareness and monitor media coverage of the incident, again conducted both verbal and written briefing for relevant executives throughout the day, responded to requests from other Commonwealth agencies and the Minister's Office, and responded to media enquiries. With assistance from AMSA, the Response Team carried out an analysis of the political, economic, social, technological, legal, environmental and organisational factors of relevance to the incident, in order to examine the risks to be addressed and opportunities for action.

This was the final day of the exercise.

Evaluation and Recommendations

Observations and feedback were collected from the Response Team and LOs at daily debriefs as well as a final debrief held after the conclusion of the exercise. The information has been considered and evaluated in relation to the exercise objectives, and six recommendations have been identified.

Objective 1: Test the arrangements and processes in place for the department to build and maintain situational awareness during large-scale offshore petroleum incidents, through receiving and analysing information provided by relevant stakeholders.

Overall, the arrangements and processes in place to build and maintain situational awareness within the department were found to be effective and collaborative which enabled the team to establish and maintain good situational awareness. The inclusion of LOs for the first time during Exercise 2019 provided a direct line for communication and information sharing between external stakeholders and the department. However, it was observed that having multiple methods of information sharing was counterproductive, due to the rapidly evolving nature of the incident and numerous sources of information.

Objective 2: Test the processes in place for the department to effectively communicate this information to relevant stakeholders.

The LOs contributed to the Response Team's ability to establish a good level of situational awareness and overall, the Response Team was able to effectively communicate this information to relevant stakeholders. However, there were times during the exercise when information the Response Team received was difficult to interpret or verify, and when processes to finalise and approve work took longer than expected. The nature of an offshore petroleum incident can change rapidly, meaning that delayed information sharing has the potential to result in decreased situational awareness and an information asymmetry between the department and external stakeholders.

Exercise Communications

There were many positive aspects of communication between the Response Team and LOs. Questions sent to LOs during the exercise were clearly articulated, collated and, when relevant, ranked by priority. Due to the frequency of meetings and the time difference between Canberra and Perth, emails were the primary form of information exchange so the clarity of written information was particularly important. LOs also noted that when the Response Team asked questions over the phone, they would follow up with an email to create a written record and to ensure that questions were well understood and information requirements clearly articulated. Additionally, the Canberra team was very responsive when contacted by LOs.

Some aspects of the communications that could be improved upon were identified. LOs reported that on day two of the exercise they didn't have a clear understanding of the needs, priorities and allocation of responsibilities within the Response Team. It was also difficult for the Response Team and the LOs to identify suitable times to speak to one another due to competing priorities, different time zones and the number of meetings

taking place in external IMTs and the Response Team. LOs reported some issues created by having multiple communication channels (multiple instant messaging groups, emails, phone calls and text messages, all needing to be monitored and responded to).

Recommendation 1: *The department should review response procedures and ensure clear information needs and deadlines are established for both the Response Team and for LOs. Information needs and deadlines should be regularly reassessed during an incident and revised if necessary.*

Multiple Information Channels

Emails, phone calls and an instant messaging application were used to maintain contact between the Response Team and the LOs throughout the exercise. This was the first time an instant messaging application was trialled as a communication tool and was intended to reduce email traffic and act as a fast, informal communication method between the Response Team and LOs.

Positive aspects of using the application were that it reduced email traffic for departmental staff and in the Exercise inbox and allowed the LOs to quickly and easily communicate informal requests. However, the Response Team often found it more difficult to consolidate the multiple streams of incoming information, causing some confusion.

Additionally, the number of information channels and the volume of messages received made it difficult for both the Response Team and the LOs to keep abreast of information and action requests while also addressing emails, text messages and phone calls.

Recommendation 2: *The information channels available should be assessed early on, and the most appropriate uses for each option made clear to all members of the Response Team and the LOs.*

Tasking, Capacity and Objectives

Following discussions on day one of the exercise it was agreed that a more effective and efficient way of tracking tasks and workload was required. The volume of requests and queries was such that it was not always clear to team members which tasks had been actioned or remained outstanding. Due to the numerous and competing priorities, some tasks were incomplete or overtaken by events.

The fast-paced, task-based nature of work during the incident response created a risk that Commonwealth and departmental objectives were not being met, such as:

- Building a complete picture of the incident and environment-scanning to identify strategic issues
- Guiding the Australian Government's strategic response to an oil spill
- Providing situational awareness to the public and other agencies
- Maintaining the reputation of the department and the Minister

Members of the Response Team also found that the workload and the rapidly evolving nature of the incident made it difficult to maintain accurate situational awareness.

Recommendation 3: *The department should review response procedures and consider frequent, short Response Team meetings to monitor staff capacity, track tasks and re-focus objectives; and a daily meeting between the Response Team and LOs to ensure a shared understanding of situational awareness and the department's priorities.*

Information Management

During the exercise the Response Team received a great deal of information from a range of sources and in a number of formats. A key responsibility of the Response Team is to assess that information, resolve any contradictions in that information (this is also referred to as deconfliction) and build situational awareness.

At the beginning of the exercise, a situational awareness log was maintained by the Response Team as information was received. However, over the course of the first day it was determined that the format of this information log was not very effective as it was difficult to identify important or conflicting information, and the contents could not be readily used for other purposes, such as briefing.

To address this, on the second day of the exercise the team created a consolidated briefing document containing up-to-date information about the incident and response, which was amended whenever new and verified information was received. The team found this system more effective, particularly as they were able to easily take those points and add them to briefs and responses to requests. This document also provided a better source of common understanding of the incident for the team.

Recommendation 4: *Establish a clear and effective process for information management within the Response Team, and consider appointing a designated information officer to monitor and manage all incident information received by the team.*

Recommendation 5: *The department should develop clear guidance for industry on what information is needed during an offshore incident and when it should be provided to the department.*

Liaison Officers

One of the major benefits of having LOs stationed within the IMTs of Shell and WA DoT was the ability to access timely and relevant information throughout the exercise. It was also a good opportunity for relationship-building with external stakeholders, through collaboration and information sharing.

While there was some initial confusion from external stakeholders about the role of the department's LOs during an incident, the LOs quickly established effective relationships within the IMTs they were assigned to. This allowed the LOs to assist the Response Team by contributing to situational awareness through updates and facilitating requests for information.

Deploying LOs allowed the department to have access to timely information, and to seek information from the most appropriate people when the Response Team members had questions. Overall, the LOs provided great insight into how the IMTs were working and were able to provide information that the department might have otherwise struggled to obtain.

Recommendation 6: *Work with stakeholders to increase awareness of the department's role and information needs in the event of an incident, and their understanding of the role of the LOs. The department should proactively engage with stakeholders to develop a shared understanding and a set of expectations for LOs during an offshore petroleum incident response.*

Conclusion

Oil Spill Exercise 2019 provided the opportunity to examine the operation of the department's Response Team and its communications activities during an offshore petroleum incident. It assisted the department to identify specific areas for improvement and provided direction on how more effective outcomes can be achieved.

While not directly linked to the objectives of this particular exercise, in assessing the response to this oil spill incident scenario, the department also identified that there may be opportunities to improve Australia's oil spill preparedness and response framework. For an incident in Commonwealth waters, the titleholder is responsible for managing the response to the oil spill as well as taking action to regain well control. To ensure that the response to a potential future incident is as effective as possible, the department should undertake a review of the roles and responsibilities of the titleholder and other stakeholders, and consider whether further improvements to the framework are required.

The department extends thanks to Shell Australia for initiating and planning the exercise and providing the opportunity for the department to test its communications arrangements.

The department also thanks WA DoT, Shell Australia and AMSA for their collaboration during the exercise and in particular, would like to thank Shell and WA DoT for allowing the department to have liaison officers stationed within their teams for the duration of the exercise.

The department is committed to participation in future exercises to ensure the Commonwealth Government, along with industry and state and territory governments, is ready and capable to effectively respond to an offshore petroleum incident.

Recommendations

Recommendation 1: The department should review response procedures and ensure clear information needs and deadlines are established for both the Response Team and for LOs. Information needs and deadlines should be regularly reassessed during an incident and revised if necessary.

Recommendation 2: The information channels available should be assessed early on, and the most appropriate uses for each option made clear to all members of the Response Team and the LOs.

Recommendation 3: The department should review response procedures and consider frequent, short Response Team meetings to monitor staff capacity, track tasks and re-focus objectives; and a daily meeting between the Response Team and LOs to ensure a shared understanding of situational awareness and the department's priorities.

Recommendation 4: Establish a clear and effective process for information management within the Response Team, and consider appointing a designated information officer to monitor and manage all incident information received by the team.

Recommendation 5: The department should develop clear guidance for industry on what information is needed during an offshore incident and when it should be provided to the department.

Recommendation 6: Work with stakeholders to increase awareness of the department's role and information needs in the event of an incident, and their understanding of the role of the LOs. The department should proactively engage with stakeholders to develop a shared understanding and a set of expectations for LOs during an offshore petroleum incident response.