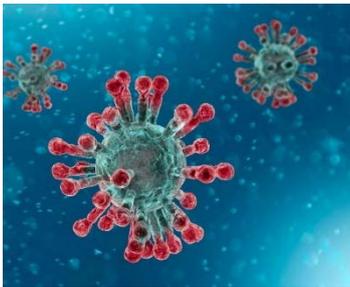


**MEMBER TABLE TOP EXERCISE:**  
*Integration into Member's Virtual IMT during COVID-19*

Date: 23<sup>rd</sup> April 2020



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<b>Distribution list</b>	OSRL Staff, OSRL Members, OSRL website

## 1. EXECUTIVE SUMMARY

Exercise Details	
<b>Date</b>	23 <sup>rd</sup> April 2020
<b>Location</b>	OSRL Member's Virtual Incident Management Team (IMT) via Microsoft Teams platform.
<b>Focus Area</b>	Participate in Member exercise assessing OSRL's ability to manage, respond and sustain a response to an oil spill incident and verifying virtual incident management team communication arrangements.
<b>Number of Participants</b>	18 (13 from Member company, 2 OSRL, 3 other stakeholders)
<b>Scenario/Scope</b>	A vessel collision scenario within Singapore Strait with ruptured tanks, causing the release of 10,000 tonnes of crude oil into water. There were no reported injuries onboard, therefore search and rescue was not tested in the exercise.

Exercise Objectives	
<ol style="list-style-type: none"> <li>1. Explore Member and stakeholders' ability to respond to an oil spill incident with parallel efforts in place to manage COVID-19 situation.</li> <li>2. Together with stakeholders, identify obstacles to the response in the face of the restrictions in place due to COVID-19.</li> <li>3. Test Microsoft Teams as common operating platform for Member's IMT to manage the incident.</li> </ol>	

Exercise Completion	
<b>Objectives Achieved?</b>	Yes
<b>Safety Remarks</b>	This was a table-top exercise conducted via a virtual meeting, hence there were no operational safety concerns. The limited duration of the exercise meant there were limited safety considerations necessary relating to well-being and stress management within IMT environment.
<b>Major Findings</b>	<ol style="list-style-type: none"> <li>1. Successful integration into Member's IMT, remotely and virtually, to provide technical advisory support throughout the exercise.</li> <li>2. Existence of Singapore Country Response Plan gives assurance to Member that OSRL has pre-considered response capabilities during this outbreak period.</li> <li>3. How to maintain information confidentiality in virtual world [not explored].</li> <li>4. Involvement of key stakeholders in the exercise, including lead government agency for spill response in Singapore's territorial waters.</li> <li>5. Identifying relevant stakeholders for a transboundary spill involving multiple jurisdictions, in this case, Malaysia and Indonesia.</li> </ol>
<b>Debrief Date:</b>	23 <sup>rd</sup> April 2020

## 2. INTRODUCTION

Exercises and drills are an integral part of OSRL's internal Assurance Plan which encompasses all aspects of response and is typically broken down into five capability elements:

Capability Element	Description
<b>People</b>	Ensuring that the right people, with the right skills are in the right place at the right time.
<b>Process</b>	To provide procedural mechanisms that maximise the effectiveness and efficiency of capability.
<b>Equipment</b>	Ensuring that the right tools for the job are available, effective and maintained to the right standard.
<b>Aviation</b>	Ensuring aviation services are fit for purpose and fully integrated.
<b>Logistics</b>	To ensure that mobilisation can be mounted to any global location at short notice with minimal delay.

OSRL seeks to exercise alongside Members whenever possible. The current circumstances and restrictions imposed to the movement of personnel and face-to-face interaction have added a different dimension to typical exercises, with a key focus area being to demonstrate OSRL's readiness and ability to respond to incidents despite COVID-19 challenges. The exercise initiated by Member on the 23<sup>rd</sup> April ran within a time span of 3 hours and successfully covered all five elements with OSRL Duty Manager and Technical Advisor providing full support via Member's virtual platform.

Neither OSRL nor Member were physically mobilised during the exercise. This was to protect personal health and safety while maintaining compliance with respective government advice on social distancing during this pandemic. As such, the physical elements relating to the mobilisation of resources were not tested in this table top exercise.

## 3. EXECUTION

### *Scene-setting*

The exercise started at UTC+00:00 with all participants calling onto the virtual IMT meeting invite set-up by the Member. The IMT lead proceeded to thank all participants for joining the exercise, and waited for a brief period for another participant to join in. After all participants were on the virtual session, the IMT lead proceeded with an introduction session, starting with his team members reporting to UK office and then his colleagues in Singapore. Following this, external participants such as Oil Spill Response Limited (OSRL), Singapore government lead agency and other related stakeholders introduced themselves. The IMT lead then proceeded with the initial exercise brief, covering the objectives for the exercise. From the briefing, all participants were informed that a Member-owned vessel had encountered an incident whilst transiting Singapore Strait westbound resulting in an oil spill with no injuries to crew onboard. The IMT lead then explained the scope of the exercise, at the same time ran through the planning assumptions taken into consideration when designing the incident scenario. This set the scene for all exercise participants.

### *Activation of IMT and Stakeholders*

The exercise timeline started after all notification calls were assumed to have been made. The Member established a virtual IMT spanning their UK and Singapore offices. OSRL and the other external agencies were located in Singapore.

The IMT lead was based in the UK and explained for the wider stakeholders' benefit that the ICS framework is used by the Member for managing crisis and incidents, in part because it enables integration with other stakeholders' response structures and facilitates collaboration with virtual response teams and organisations supporting the incident under mutual aid arrangements where mobilised. Following this, The OSRL Technical Advisor and Duty Manager explained OSRL's notification and mobilisation procedures, clarifying that these are unaffected by COVID-19.

### *Is Response Still Possible?*

The exercise proceeded with an assessment of the incident and identification of challenges to be considered for managing the incident.

The representative from the lead government agency in Singapore gave an overview of the latest government guidance and restrictions applicable to operating and responding in Singapore. They provided assurance that their agency would act as bridge to various approving government agencies to bring additional resources in-country to sustain the response.

The IMT lead also acknowledged travel limitations for the deployment of additional responders into Singapore, constraints faced by local contractors or service providers during the Circuit Breaker period and the likelihood of delays compared with normal timeframes due to the constrained global logistics market for transporting additional equipment from other OSRL response bases to Singapore.

The Member also utilised the exercise to understand any impacts and mitigations due to COVID-19 in any of the activation protocols of stakeholders; the deployment of equipment and people to site; the 4Cs (command, control, coordination and communication); and infield strategies such as surveillance, aerial dispersant application (C130 and B727), offshore containment and recovery, shoreline assessment and clean-up, oiled wildlife response and salvage operations.

### *Introduction of OSRL Singapore Response Plan*

OSRL took the opportunity to introduce the OSRL Readiness Dashboard, a platform that is updated on near real-time basis for Members to have a quick overview of the status of people, equipment and services globally. A presentation on the Singapore Country Response Plan was given by OSRL, including a summary of the restrictions in place and the amended actions OSRL had developed for the COVID-19 pandemic.

OSRL also presented and explained the initial modelling results which predicted potential shoreline impacts in Indonesia/Malaysia. This meant that the exercise would also consider the mobilisation of response resources into Indonesia and Malaysia.

Summarised in *Table 1* below are the key areas discussed relating to OSRL's response capability.

**Table 1 - Member Request with OSRL Amended Approaches**

Member Request	Element	Restrictions in Place	OSRL Amended Approach
Health and Safety of Responders	Safety	Government enforcement of enhanced safety measures for workplaces to prevent spread of COVID-19.	OSRL has developed a COVID-19 Safety Management Plan for operations in Singapore which was shared.  During a response, OSRL would input into and work under the Member's safety plan and protocols in addition to following any additional OSRL-specific requirements.
Mobilisation of Response Team	People	Singapore responders working in spilt teams.  Government temporary restrictions on non-resident's entry into the country including 14-day Stay-Home Notice (SHN).	Use of split team to mobilise first wave of responders (including 5x5 Technical Advisory service) for IMT and field-based roles  Second wave of responders identified early on (local and overseas responders). Travellers into Singapore to serve 14-day SHN prior to the start of their rotation shift.
Mobilisation of Dispersant Aircraft	Aviation	Air operations largely unaffected.	Mobilise IAR C-130. IAR confirmed no restriction for aircrew. B727 is ready for support if required as contingency, flight time shared.  Local aircraft charter for surveillance/ as spotter planes remained operational.  Member support required for low level flight and dispersant spray application.
Mobilisation of Response Equipment	Logistics - Equipment	No impact for mobilisation of equipment within Singapore.  Importation of global response equipment may be delayed due to busy charter markets.	Mobilise from OSRL's sizeable Singapore stockpile as a first strike.  Additional resources from overseas to supplement first strike based on optimal routing and any capability gaps identified.
Offshore Response (Containment & Recovery)	People & Equipment	No restrictions in Singapore.	Mobilise OSRL's local Vessel of Opportunity (VOO) service providers.

			Mobilisation of offshore equipment unaffected.
Oiled Wildlife Response (OWR)	People & Equipment	No restrictions in Singapore.	Members have access to Sea Alarm and OSRL in-house expertise. Option for remote Technical Advice available.  Mobilise OWR equipment in Singapore. Source other equipment in-country using expert advice.
Shoreline Clean-up Assessment Technique (SCAT) and Shoreline Response  (including potential impacts in Malaysian and Indonesia)	People & Equipment	No restrictions in Singapore.  Government restrictions on foreign personal entry to Malaysia/Indonesia.  Movement of equipment overseas may be subjected to delays.	Mobilisation of shoreline and SCAT resources in Singapore unaffected.  Shoreline and/or SCAT response in Malaysia and Indonesia may be affected by entry restrictions. Member support for exemptions and clearance required.  OSRL has been engaging with PIMMAG - the Tier 2 OSRO in Malaysia - since the start of COVID restrictions to clarify how the two organisations would work together during a response.  A number of alternative response options are available including remote technical advice, adapted SCAT using UAVs and OSRL equipment being operated by responders from PIMMAG in case of delays bringing OSRL responders into Malaysia.

### *End of Exercise*

The exercise continued with the IMT lead then posing questions related to and engaging in discussions with other participating stakeholder to better understand how the Member would lead with the initial and scaled up response effort. When all queries were addressed, the IMT lead called for an end to the exercise at approximately UTC+03:00.

#### 4. LESSONS LEARNED

A key component from exercises and drills is the ability to glean key learnings from the experience for continuous improvement. Without a concerted effort to reflect on learnings and transfer knowledge across the organization, lessons may be lost, mistakes repeated and opportunities for improvement are missed. The following lessons were captured from the exercise on 23<sup>rd</sup> April, discussed during the debrief session with Member and all participating stakeholders.

S/N	Internal/External	Lesson Type	Description	Observation
1.	External	System/ Technology	Establishment of virtual IMT platform to manage an emergency incident in view of the pandemic situation.	Member identified Microsoft Teams as the common operating platform for IMT and stakeholders. Assumption was made where this platform is accessible to all stakeholders on the exercise day. There were some in some stakeholders being able to gain access to the system due to their parent organisation's IT policies. It is recommended that all participants login and flag any issues faced prior to the exercise day.
2.	External	System & Technology	All communications and information were shared verbally throughout the exercise. Confidentiality of information were highlighted to all at the initial brief.	Exercise did not cover file sharing platform among stakeholders. It is worth exploring for an encrypted platform to help protect sensitive/personal data against any intrusion. Some files may be too large to be sent as attachment in email. Adjusting the way MS Teams is used to take advantage of inbuilt file storage / retention / sharing would be a benefit during future exercises and responses. Refer to Appendix A for example of how OSRL uses MS Teams for its virtual EOCs that takes advantage of functionality.
3.	External	Process/ Procedure	Virtual IMT means heavy reliance on good internet strength and network connectivity for effective information transfer.	While this was not an issue faced during the exercise, it is worth highlighting that some participants may experience poor quality audio due to unstable

				network signal. Important messages or information may be lost if that happens.
4.	External	Process/ Procedure	Member facilitated an introduction session at the start of exercise to welcome and introduce everyone and the role they play within virtual IMT.	Beneficial and should always be done, especially when involving external stakeholders that may not be familiar with each other before the exercise.
5.	External	PPE	In a prolonged response, OSRL was asked on the OSRL stockpile of COVID-19 PPE (surgical and N95 masks, sanitisers (soap or equivalent) and thermometers) as well as the replenishment plan for subsequent rotations. Member also posed a question on how PPE for contractors and volunteers involved in shoreline clean-up activities would be sourced.	COVID-19 PPE is available for all OSRL responders. With the current stockpile, OSRL is able to sustain (at least) the first two rotations (6 weeks) with the assumption of 18 OSRL responders and 12 externally-hired contractors deployed to the incident site. OSRL does not foresee issues with COVID-19 PPEs replenishment for its own personnel and direct contractors. Clarified that sourcing of PPE supply for non OSRL responders/subcontractors is responsibility of Member or the responding organisations.
6.	Internal	Process/ Procedure	Successful integration of OSRL into Member's virtual IMT.	OSRL was familiar with the MS Team platform having used it within our virtual Emergency Operations Centres since Feb 2020 (refer to <i>Appendix A</i> ). Since then we have used it successfully in exercises, drills and incidents. OSRL does not foresee issues for Duty Manager and Technical Advisor to support Member and its stakeholders, remotely and virtually, throughout the exercise or a real event.
7.	Internal	Process/ Procedure	Sharing of Singapore Country Plan incorporating safety measures and identifying operational impacts/gaps to remain response ready during this pandemic.	Existence of Country Specific Response Plan gives assurance to Member and stakeholders that OSRL continues to take all possible steps to ensure continued ability to respond with challenges in place due to COVID-19 restrictions.
8.	Internal	Process/ Procedure	Utilising a common operating platform among OSRL duty team members to share information and collate exercise-related data prior to the exercise.	An oil trajectory skeleton model was input prior to the exercise, logistics options from relevant bases were considered and consolidated on a table with manpower rotation plan for responders prepared

				with considerations in place covering health and safety measures in place for COVID-19.
9.	Internal	Safety & Welfare	It is challenging to monitor concentration, fatigue and stress on a virtual working platform.	Consider establishing work-rest patterns for virtual IMT and implement it during exercises. OSRL to nominate one staff member (normally Technical Advisor) to remain attentive to the call at all times, enabling Duty Manager to leave call at appropriate points to delegate actions to Duty Team, before re-joining.
10.	Internal	Process/ Procedure	Member was interested in the waste management plan for the exercise with the current restriction where only essential services are allowed operation during the Circuit Breaker period.	OSRL highlighted that waste management services are not affected, and communications were established with contractors for assurance. OSRL can consider including waste management section in Country Response Plans for countries where we have existing knowledge of waste management infrastructure.

## 5. CONCLUSION

With reference to the objectives of the table top exercise, the conclusions that can be drawn from the exercise are:

- Member has assurance that OSRL remains ready and is able respond to and sustain an incident during the on-going COVID-19 pandemic. The preparedness work developed around the Singapore Country Response Plan including identifying amended approaches to on-going evolving regulatory restrictions provided the Member with confidence that OSRL can respond within the COVID-19 restrictions.
- The successful use of Microsoft Teams as the virtual IMT platform during the table top exercise demonstrates a viable and effective solution towards remote management of an incident during the COVID-19 period. Some opportunities to leverage the strengths of the platform identified.
- Involvement of key stakeholders from multiple organisations in the exercise is good practice and allows issues and obstacles to be identified, worked through and for learnings to be shared across organisations who would work together during a response.

Participating in joint exercises allows Members and OSRL to test internal and cross-organisation processes and communications, in addition to developing and strengthening relationships with stakeholders. The benefit of practicing in an exercise setting allows all parties to identify challenges and valuable learnings from the experience which can be addressed in peace time and applied when managing a real response.

## 6. APPENDIX A – Preview of OSRL Virtual EOC platform on MS Teams

**SG EOC - Week 17** Posts Files General Info EOC Maximo FCM Portal [REDACTED] TTX 1 more +

### Duty Team Week 17 (Team A)

IM - Thomas Heng [5653]  
DM - **Samantha Chong** [5691]  
Plan - Grace Jiang [5668]  
Ops - Carolyn Kee May Wyon [5692]  
Logs - Sean Beeton [5715]  
DSC / TA - Dion Darren Soyza [5635]  
STB - Yvette Lim [5664]

Project code is PRJ00002 for time sheet.  
There will be no costs involved for this exercise.

### Spill Information

- Link to exercise folder created for this exercise.
- [REDACTED] collided with another vessel in position [REDACTED] when approaching Singapore Strait.
- Vessel is 100k dwt with about 70k metric tonnes crude oil.
- Two cargo tanks ruptured, 10k tonnes crude oil released.
- Vessel is disabled.
- No injuries on board.
- Call scheduled [REDACTED] 1500hr.

Figure 1: Clear allocation of roles in MS Teams virtual Emergency Operations Centre (EOC).

**SG EOC - Week 17** Posts Files General Info EOC Maximo FCM Portal [REDACTED] TTX 1 more +

### Planning

Link to modelling folder.

#### 1st Run

- Model run done on 23 April at 3.30pm
- 10,000 tonnes of crude spilled [REDACTED] at 3pm GMT + 8
- Model oil: Arabian Light Crude
- Metoccean data: Wind data from zygrib, Hindcast current data
- Oil spill likely to move along the Malaysia-Indonesia maritime boundary and potentially reach Bintan shoreline.
- Oil likely to hit Pedra Branca (SG), Middle Rocks (Malaysia) and the South Ledge (only visible at low tide) before going towards Bintan, Indonesia.

**03:00 PM (GMT+08:00) 28 April 20**

Parameter	Value
Oil Surface	1500.00
Subsurface	0.00
Area	0.07.22
Speed	0.00
Total Released	1000.00
Top Speed	0.00

#### 2nd Run

- Worst case scenario of 70,000 tonnes of crude oil.
- Similar results as first run.

Figure 2: Oil spill trajectory result for the exercise scenario.

SG EOC - Week 17 Posts Files General Info EOC Maximo FCM Portal [REDACTED] ITX Blueprint +

### Logistics / GLT

- Link to Logistics Support folder.
- Link to 50% and 100% Singapore load list here.
- For offshore response, take note of VOO considerations for sea condition at Pedra Branca.
- Global aircraft availability is fluid due to the high demand for chartered cargo flights, as a result there will be delays when chartering aircraft. As an estimation it will take 5-7 days to charter and organise flight permissions for aircraft, this can be reduced further with the provision of an emergency letter from the government.
- Current availability for cargo aircraft is limited to larger planes particularly the AN124, passenger aircraft are also being utilised (B777 pax) however larger items such as boom reels can't be transported by them however shoreline equipment has been determined appropriate
- Trucking from Singapore to Malaysia will require a special permit from the Malaysian government as currently only essential goods are crossing the border.

Trucking:

From / To	Singapore (staging area)	Malaysia (Sg Rengit)	Indonesia (Bintan)
Singapore (OSRL base)	To be confirmed with f.forwarder	3 hrs	Not a viable option
United Kingdom (East Midlands)	Not a viable option	Not a viable option	Not a viable option

Flight:

From / To	Singapore (staging area)	Malaysia (KLIA)	Indonesia (CGK Jakarta)
Singapore (OSRL base)	Not applicable	Not applicable	Not a viable option
United Kingdom (East Midlands)	Trucking is 3hrs, flight is 17hrs + 1 technical stop	Trucking is 3hrs flight is 19hrs + 1 technical stop	Trucking is 3hrs flight is 22hrs + 1 technical stop

Shipping:

From / To	Singapore (staging area)	Malaysia (KLIA)	Indonesia (Bintan)
Singapore (OSRL base)	To be confirmed with VOO	3-4 days for vessel availability (breakdown 1 day for container stuffing, 1-2 days for vessel prep & paperwork, 1 day for transport)	3-4 days (breakdown 1 day for container stuffing, 1-2 days for vessel prep & paperwork, 1 day for transport)
United Kingdom	Not a viable option	Not a viable option	Not a viable option

Figure 3: Logistics options and timings summarised for ease of reference.

SG EOC - Week 17 Posts Files General Info EOC Maximo FCM Portal [REDACTED] ITX Blueprint +

### Safety

For 5x5 reporting to [REDACTED] the following measures must be adhered to:

- Before travelling personnel are required to complete a self-assessment prior to attending site. Personnel who report or present with respiratory or flu symptoms are not permitted to travel.
- Ensure temperature check is being conducted before entering the site. Personnel will be denied entry if temperature goes above 38°C and personnel are to undergo testing or 14-day quarantine before reporting back to work.
- Reduce any physical contact by maintaining safe distancing of at least 1m from others. Additionally, avoid passing items (e.g. thumb drives/discs/papers), and opt for electronic data transfers wherever possible. If unable to do so, personnel are to sanitise hands after sharing/passing items.
- Possibility of using teleconferencing instead of physical meetings during response planning.
- Avoid touching the face, mouth, eyes and nose. Regularly wash hands with clean water and soap, or utilise alcohol-based sanitiser if soap is unavailable (especially before and after eating as well as after attending the toilet). Possibility of using teleconferencing instead of physical meetings during response planning.

For in-field personnel, please refer to guides in Health and Safety Measures (COVID-19).

### Spill Travel Booker

- Link to Logistics Service folder.
- COVID-19 requirements for personnel travelling to Singapore, Malaysia and Indonesia.
- Reference <https://www.fcctravel.com/en-uk/resources/blog/covid-19-travel-restrictions-and-bans> and <https://www.internationalisos.com/#> related documents from these 2 sites saved on client project folder.
- No personnel from Singapore Response on the isolation list as of 22 Apr.
- [REDACTED]
- No entry for non-citizen into Malaysia, Singapore and Indonesia. Companies located in the respective countries to can assist to check with the local immigration on special exemption and requirements (Visa, Health Declaration, other requirements etc.)
- Staff in Singapore on work/employment pass will need to seek approval MOM on re-entry into Singapore.
- All hotels in Singapore are identified as non-essential service now.

Flight Availability

From / To	Singapore (Changi Airport)	Malaysia (KLIA)	Indonesia (Jakarta)
UK (London)	23, 25, 27, 30 Apr (SIA)	23, 24, 25, 28 Apr (QA)	24, 27, 29 Apr (QA)
US (Los Angeles)	25, 27, 29 Apr (SIA)	24 Apr (QA)	25, 26, 28 Apr (QA)
Australia (Sydney)	25, 27, 29 Apr (SIA)	27 Apr, 1 May (MAS)	23, 28 Apr (QA)
Singapore	Not applicable	Consider ground transport ~2-3hrs to Johor Bahru, M'sia.	24, 26, 27, 29, 30 Apr (SIA)

Accommodation Arrangements

Figure 4: Safety measures and travel options for backfill responders.