

An overview of OSRL

C-NLOPB Spill Prevention and Response Forum
'Working on the Water'

Mark Cockram – 14th January 2021

Introduction - Overview of OSRL

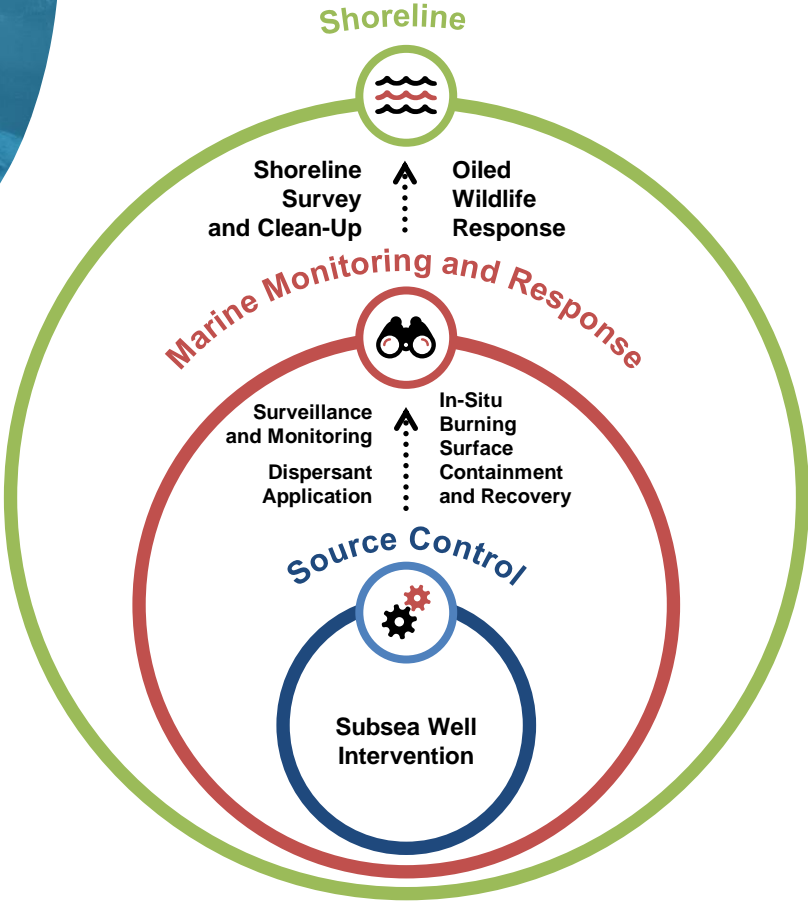
Largest
International
industry funded
cooperative

Owned by major oil
& gas production /
transportation
companies

Trained and ready to
respond effectively
globally



Providing a Complete Response





Subsea Well Intervention Services (SWIS)

Development over time

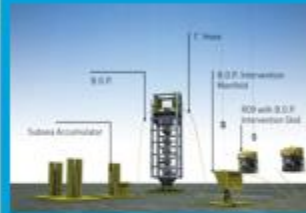
SWRP Project → SWIS Equipment

2012 Capping Stacks



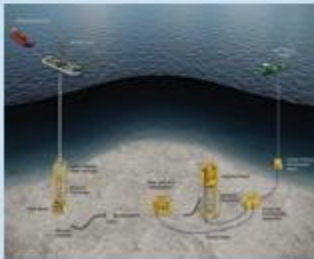
- 4 No. strategic locations globally (Brazil / Norway / Singapore / South Africa).
- 2 No. 15K PSI rated (Ram Based) & 2 No. 10K PSI rated (Valve Based).

2013 Subsea Incident Response Kits



- 2 No. strategic locations globally (Brazil / Norway).
- Site survey / Debris Clearance / BOP Intervention / Subsea Dispersant Injection Equipment.

2015 Containment System



- 3 No. containment legs strategically located globally.
- Integrated system w/ Capping Stacks.
- Connectors / FLETs / Flowlines / Flowspool (Riser Bases).

2018 Offset Installation Equipment (OIE)



Services funded through new drilling activity – **Legacy wells covered automatically.**

SWIS Services

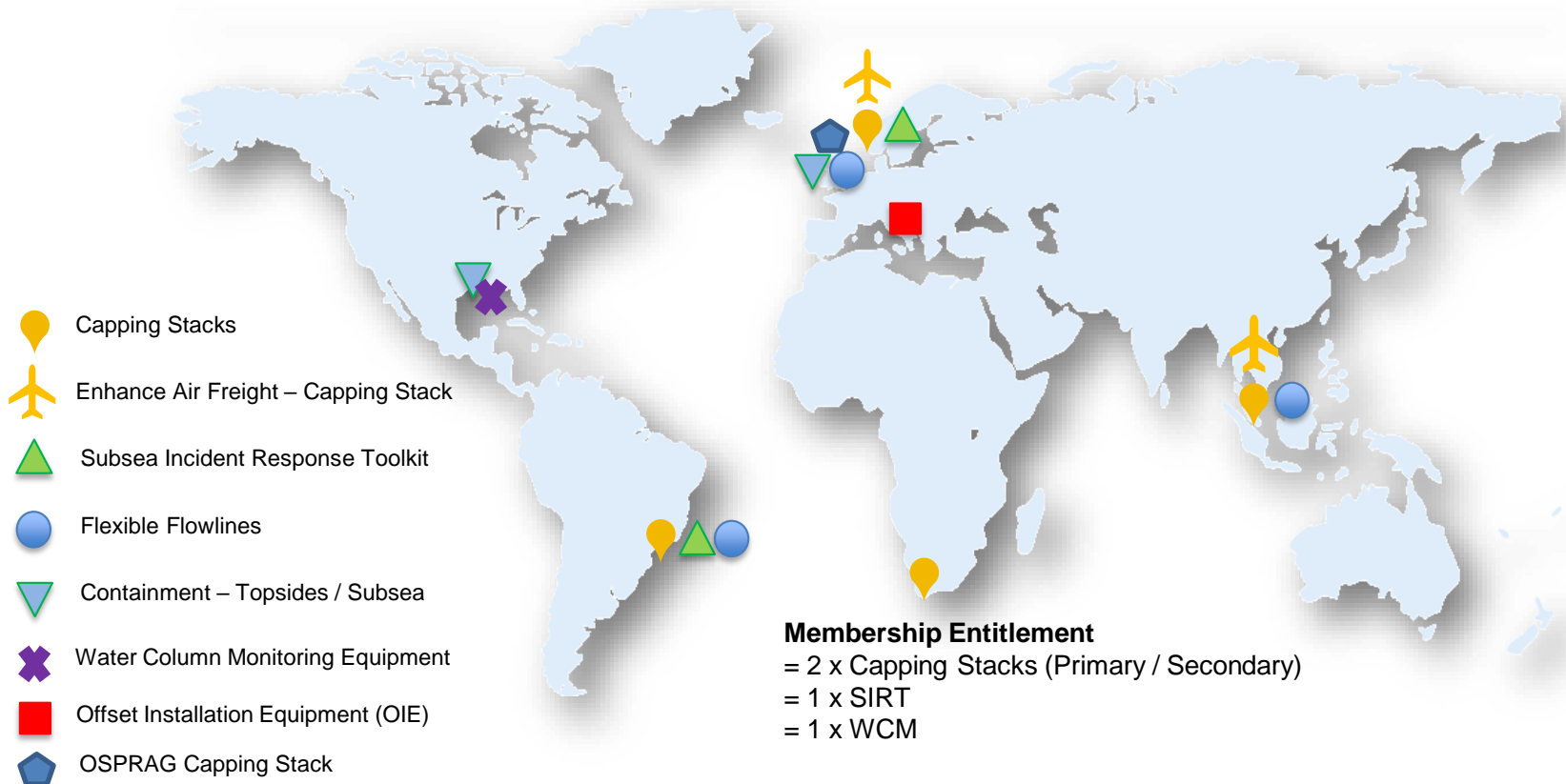
3 No. Supplementary Services

- **Capping & SIRT** (inc. Water Column Monitoring)
- **Containment System**
- **Offset Installation Equipment**

As required to support Subscribers drilling activities;

Short-term Membership – 6 months for a Single Well
Long-term Membership – All Qualifying Wells 5 Year Agreement

Global Coverage – Subsea Hardware

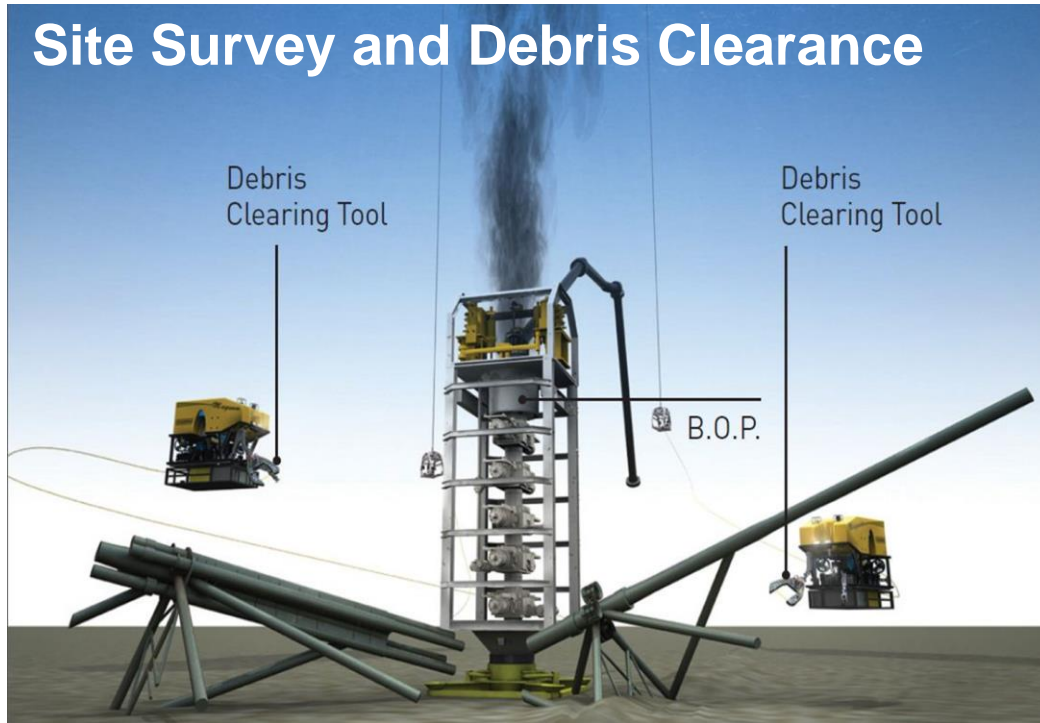




Subsea Incident Response Toolkit

Subsea Incident Response Toolkit (SIRT) – First Response

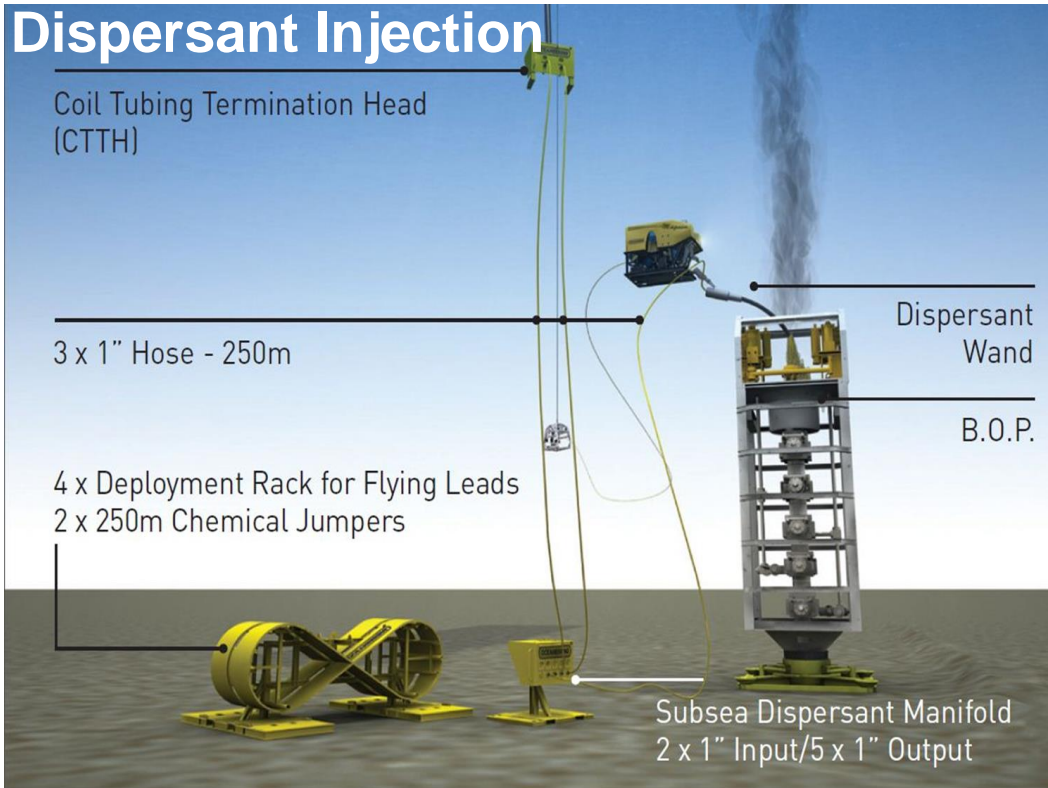
Site Survey and Debris Clearance



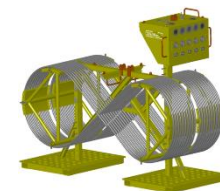
- Each toolkit contains various tools for removing debris to allow access for dispersant applications and work on Blow Out Preventers (BOP), etc.
- This also includes tools for site surveys prior to commencement of work, e.g. 2D and 3D sonar.

Subsea Incident Response Toolkit (SIRT) – First Response

Dispersant Injection



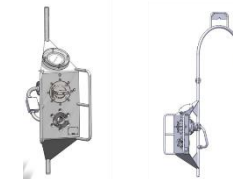
Coil Tubing Termination Head



HFL Rack & Leads



Dispersant Manifold

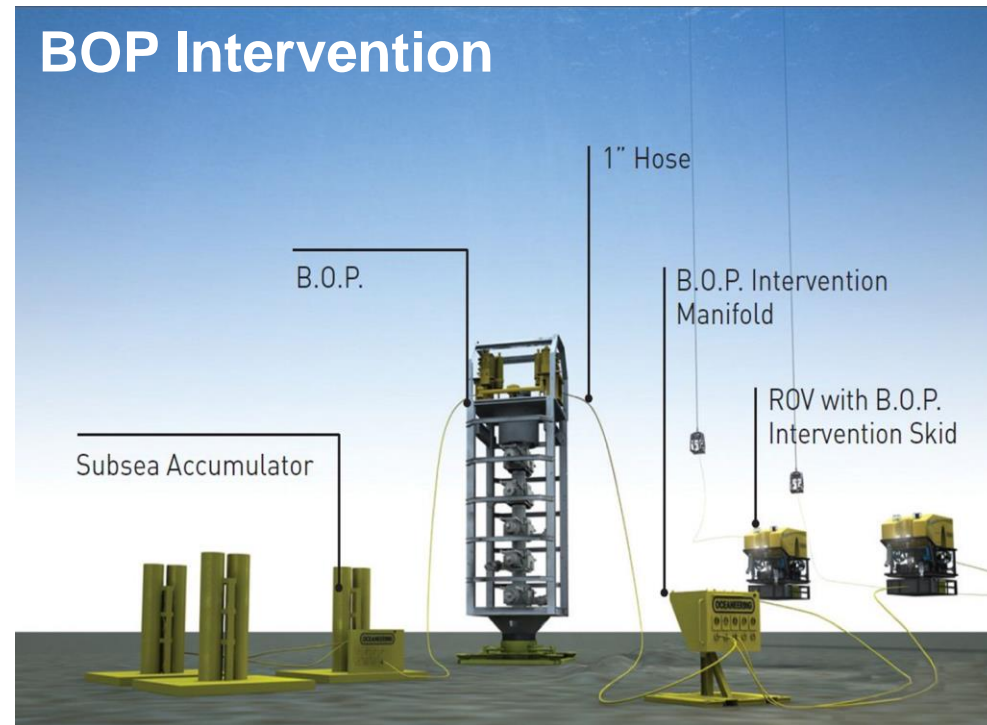


Dispersant Wands

- System allows for the subsea application of oil dispersant at the source. It may create safer surface working conditions for response personnel and may help to enhance the degradation of oil.

Subsea Incident Response Toolkit (SIRT) – First Response

- ◆ In the unlikely event that the rig fails to close the BOP, emergency BOP intervention is required.
- ◆ ROV mounted intervention skids.
- ◆ Subsea accumulation.
- ◆ BOP Intervention manifold.
- ◆ Nitrogen Charge (Norway) & Generator kits (Brazil)



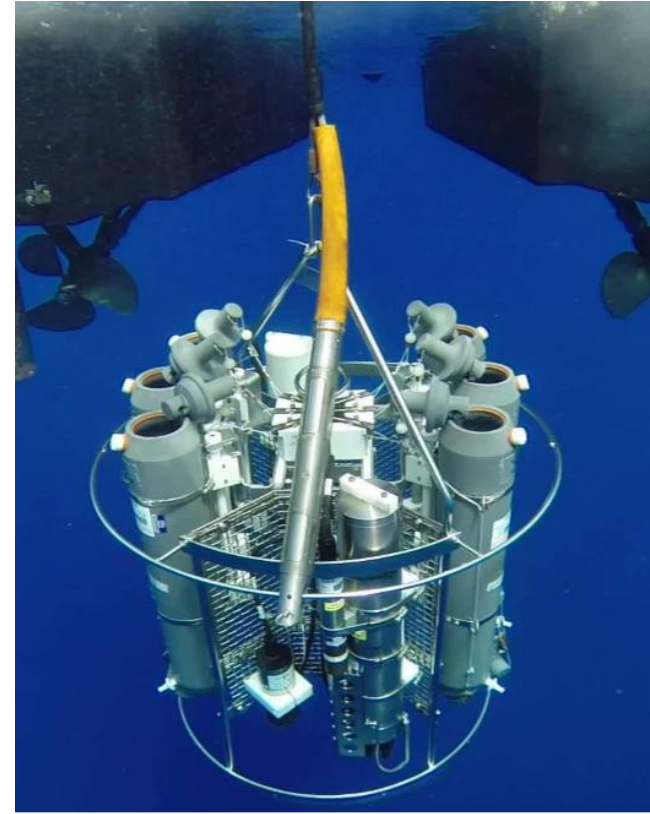
Subsea Incident Response Toolkit (SIRT) – First Response



- Stored in containerised configuration for rapid mobilisation globally.

Water Column Monitoring Equipment

- ◆ Equipment & expertise to deliver a “turn-key” Water Column Monitoring.
- ◆ Included in Capping & SIRT Supplementary Agreement
- ◆ Stored in Houston with TEI.
- ◆ Maintained by CSA.





Capping Stacks

Capping Stacks – Primary Source Control Devices



SWIS Capping Stack



OSPRAG Capping Device



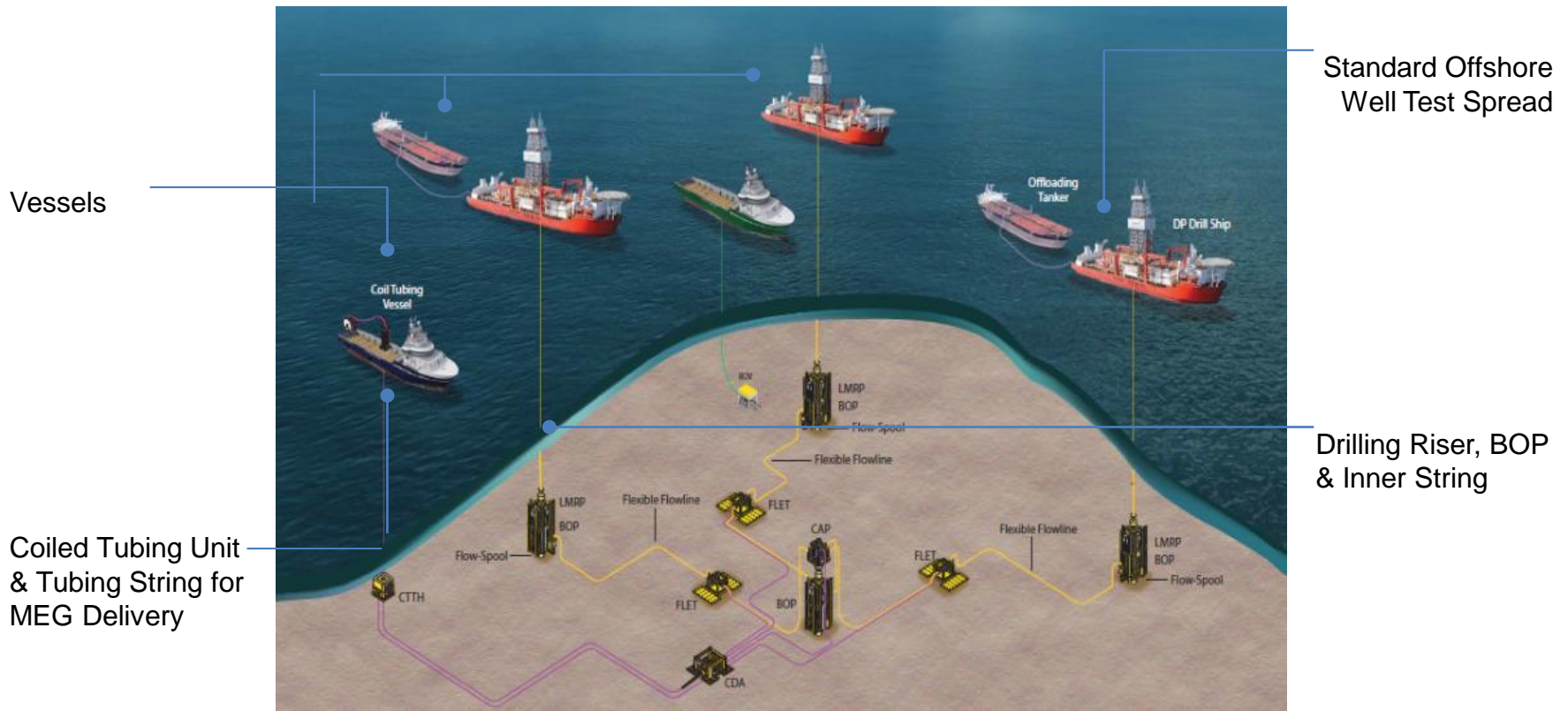
Air Freightable Capping Stack – Norway & Singapore (2021)





Containment Toolkit

Generic Containment Toolkit

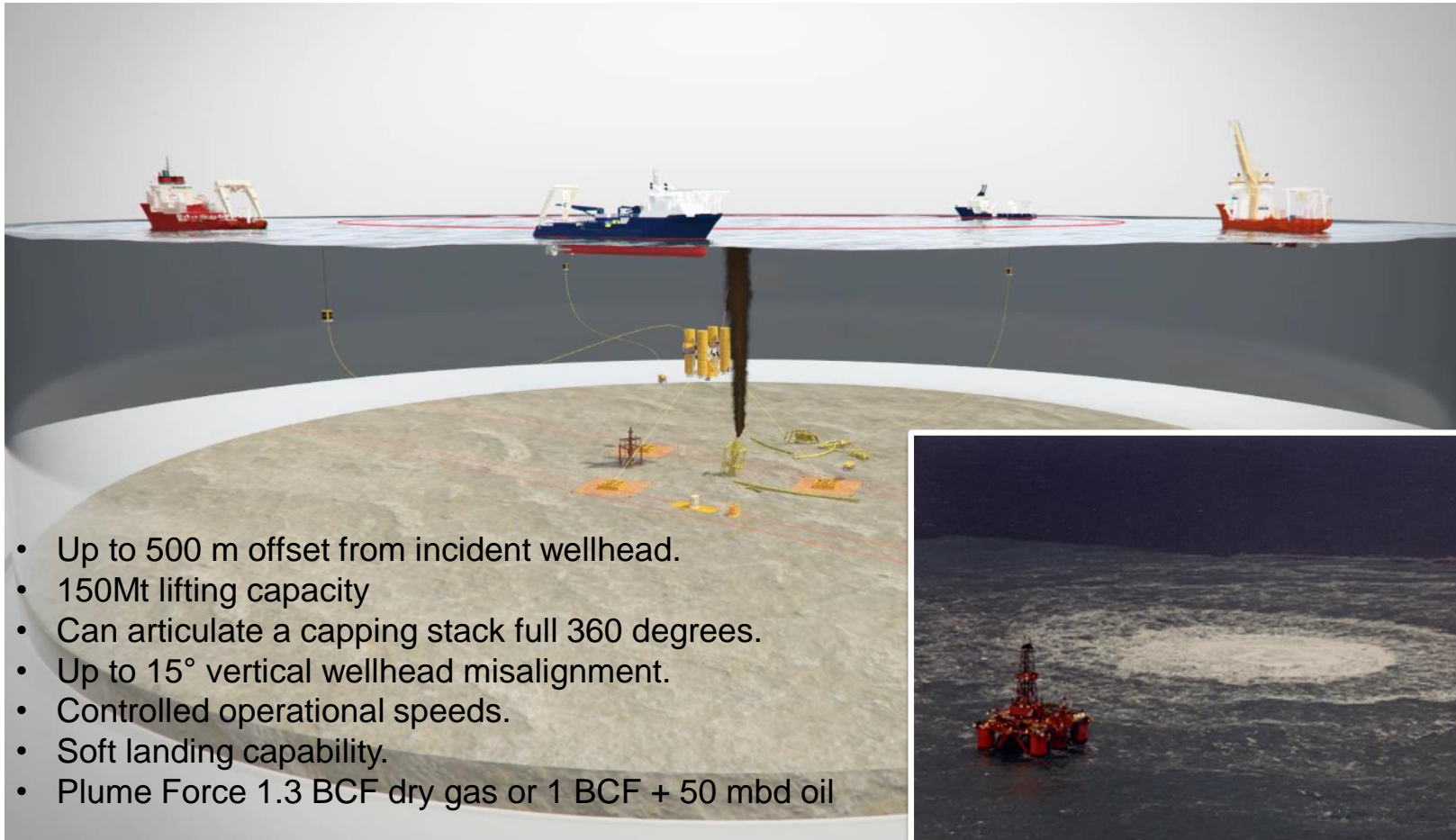


Maximum Flow rates: Capping stack 100,000 barrels / day. Each leg 33,000 barrels / day.

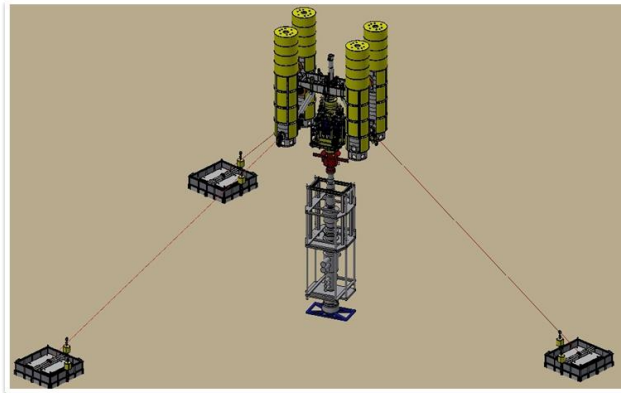
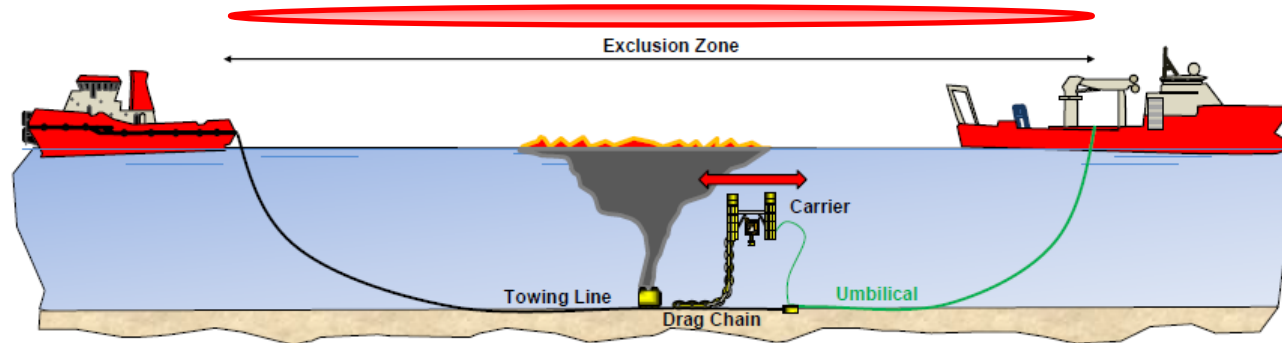


Offset Installation Equipment

Basis of Design for OIE Solution



Vessel Carrier Operations



- Global carrier movements – via vessels outside the exclusion zone.
- Carrier utilised to place DMAs into pre-determined locations around the incident well.
- Carrier moves in close proximity of the incident well via mooring winches connected to DMAs.



Support Services

SWRP Master Response Guidelines

Doc Title Master Guide to Subsea Well Capping and Containment Response Planning

Doc No SWR-PR-AA-PRO-10000-000

Revision	Status	Date
4	Final Issue (FIS)	29/11/17
3	Final Issue (FIS)	01/06/16
2	Final Issue (FIS)	19/06/15
1	Final Issue (FIS)	31/01/15

SWIS Library

CAPPING

CONTAINMENT

OIE

SIRT

SUBSEA WELL CONTAINMENT

SWIS LIBRARY REGISTER

CAPPING ANALYSES FILES

AUDITS

DEPLOYMENT & INSTALLATION

EXERCISE DOCUMENTATION

STAF MEETINGS & PRESENTATIONS

STAF PROJECT REQUEST

- Industry created documentation. (IOGP 594 / 592)
- SharePoint - Electronic Documentation Management System.
- OSRL SWIS Integrated Planning service (SCERPs, etc.)

Vessel selection & tracking

SEA Response Vessel Selection & Tracking Tool

The screenshot displays the SEA Response Vessel Selection & Tracking Tool interface. The top left corner shows the 'Sea/response' logo and a user profile 'Chira Lund'. The interface is divided into several sections:

- Location Filter:** Includes a 'Radius' slider set to 500 and 'Positions Received In Last' options for 24 Hrs, 48 Hrs, 72 Hrs, and > 72 Hrs.
- Missions:** A dropdown menu is set to 'Capping Stack Installation Vessel - CSV'.
- Type:** Set to 'CONS'.
- Sub Type:** Set to 'Multi-Purpose Support'.
- Compensation Type:** Set to 'Active Heave'.
- Crane capacity:** Set to '250 - 400'.
- ROV On Board:** Set to 'Yes'.

The main map area is titled 'Map View' and shows a world map with various vessels marked by icons. A 'Locations' panel on the left lists categories and specific locations:

- Favourites:** (empty)
- Well:** (empty)
- OSRL - Capping Stack Systems:** 10k PSI CSS Salkhana Bay, 15k PSI CSS Rio, Singapore, Stavanger.
- OSRL - Containment Toolkits:** (empty)
- OSRL - Offshore Installation Equipment:** (empty)
- OSRL - Subsea Incident Response Toolkit:** (empty)

The bottom of the map shows 'Showing 44 vessels' and a 'Google' logo. The map includes a coordinate input field and a search bar for locations.

SWIS Mutual Aid Framework Agreement (MAFA)

- ◆ Recognised by SWIS Subscribers that mutual aid of personnel could be required in an incident particularly if a sustained response is required.
- ◆ SWIS MAFA is now live for SWIS Subscribers.



Global Subsea Response Network (GSRN)

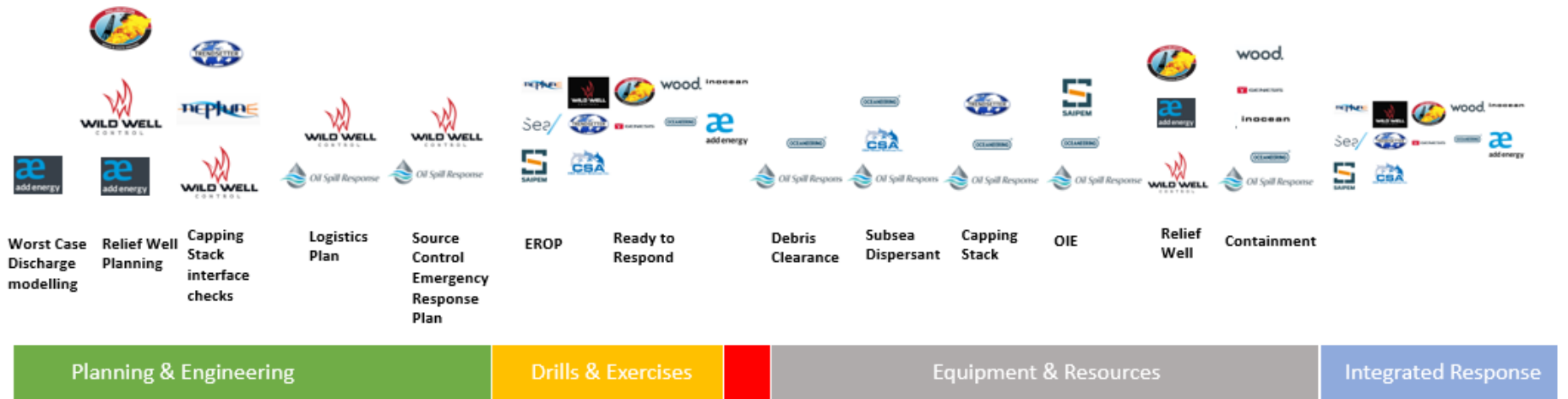
- No one company can provide the answer – planning or in a response.
- A global network of specialists providing an integrated capability for response planning and emergency response. (12 Active Participants).



MORE ANNOUNCEMENTS PENDING...



End to end capability



PLANNING : ENGINEERING : PREPARATION

SCERP

- Capping stack selection
- CS / BOP interface checks
- CS mobilisation & deployment
- Logistics execution plan
- CS landing assessment
- Site Survey
- BOP intervention
- Subsea dispersant
- Water column monitoring
- Debris clearance
- Relief Well Plan
- Well kill
- Containment (optional)
- OIE (shallow water)
- Response organisation
- SIMOPS

EROP

- Desktop
- Understand R&R
- Identify interfaces
- Clarify ownership
- Develop road map
- Cost estimation
- RTM's

READY TO RESPOND (R2R)

- F2F or Virtual real time test
- Embed lessons
- Activate & assess
- Coach & mentor

GSRN in a Response



If requested by the Incident Owner, OSRL can facilitate engagement between the Incident Owner and the GSRN partner to provide response support through established framework agreements (Personnel, equipment and services outside of the OSRL SWIS services)



Each GSRN partner will require a signed agreement with the Incident Owner for provision of their services
The agreements are held by OSRL and are executed between the Incident Owner and GSRN Partner at the time of need
The OSRL "response" agreements do not supersede existing agreements that the incident owner may already have in place with GSRN participants



OSRL are not a contract party

Next Steps

- ◆ Additional GSRN members
- ◆ Exercise & Demonstration of Global Subsea Response Network (GSRN)
- ◆ APAC Regional Forum (Completed Q4 2020) – Integrated Planning Services & Response
- ◆ EMEA Regional Forum (Q2/3 2021) – Integrated Planning Services & Response
- ◆ Combined GSRN EROP 2021

<https://www.oilspillresponse.com/services/>

<https://vimeo.com/483069515/3f29e7c434>