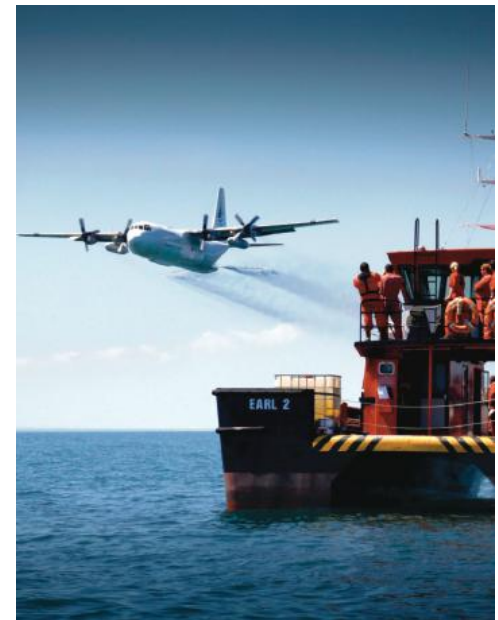


Subsea Well Response Project: Collaborating to enhance international subsea well incident intervention

| www.oilspillresponse.com : www.subseawellresponse.com |



Highlights

- SWRP planned an **integrated intervention system** for **international use**
- System includes **capping stacks** and subsea **dispersant hardware**
- SWRP and **Oil Spill Response Ltd** are collaborating to make the equipment available to industry
- **Industry can access equipment** via membership of OSRL and a supplementary agreement
- First equipment **ready for response**
- Equipment stored in **four international locations** from 2013

The challenge

- Industry must be prepared to respond in the event of a future serious subsea well control incident
- Industry must demonstrate its ability to operate safely and responsibly
- International response capabilities are needed
- State-of-the-art response tools must be available

Subsea Well Response Project

- Nine leading oil and gas companies
- Not-for-profit joint initiative
- Working to enhance the industry's capabilities to respond to an international subsea well control incident
- Formed on the recommendation of OGP's Global Industry Response Group (GIRG)

SWRP's guiding principles:

1. Prevention is paramount
2. Working with regulators
3. Enhancing industry response capabilities
4. Rapid reaction on an international scale

SWRP's objectives

Design a capping toolbox with a range of equipment to allow wells to be shut in

Design additional hardware for the subsea injection of dispersant

Assess and implement deployment option

Further assess the need for and feasibility of global containment solutions

**International
response**

Faster reaction

**Reduced
environmental
impact**

The industry working together

OGP's Global Incident Response Group

PREVENTION

Better capabilities and practice in well engineering design and well operations management



Wells Expert Committee (WEC) – a permanent entity within OGP.

INTERVENTION

Improved capping response in the event of an incident and to study further the need for – and feasibility of – global containment solutions



RESPONSE

Effective and fit-for-purpose oil spill response preparedness and capability



Governments, regulators, NOIA, OSROs and industry initiatives

Equipment

Integrated subsea intervention system

Integrated Intervention system includes:

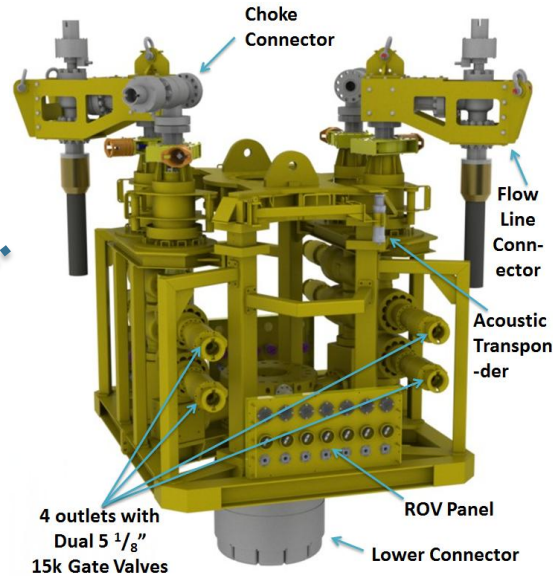
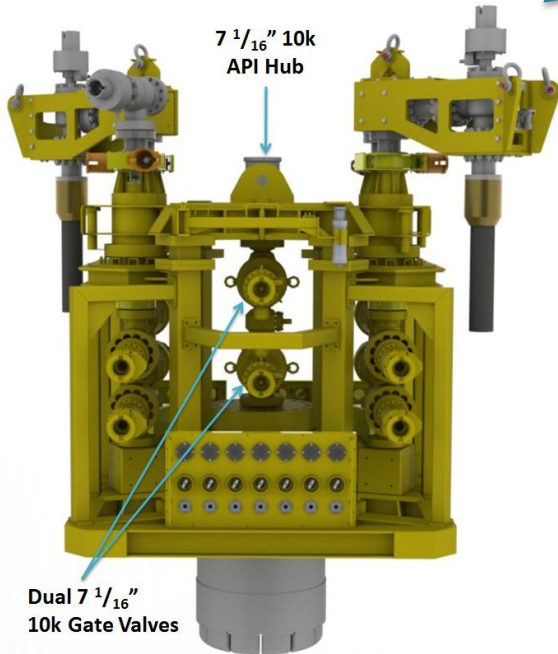
Four capping stack toolboxes

Two subsea dispersant hardware kits

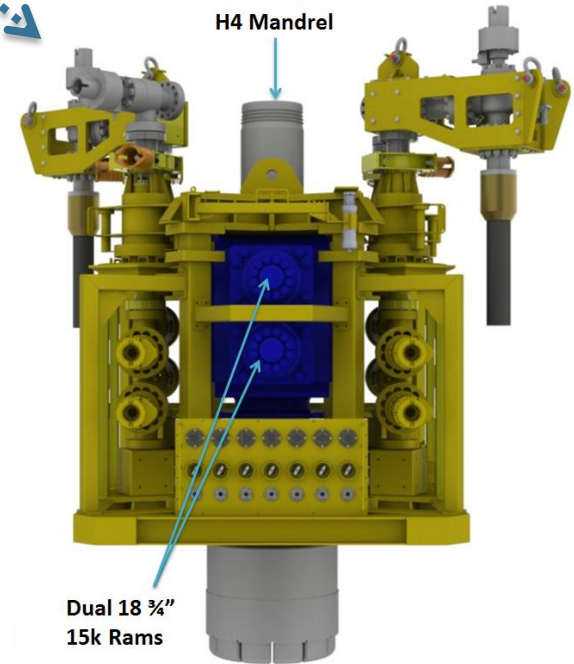
- Available for the majority of **international** subsea wells
- Designed for subsea use up to **3000m water depth**
- Transportable by **sea and/or air**
- Ready for use from **beginning of 2013**
- **Stored in four international locations** from 2013: Norway, Singapore, South Africa, and Brazil
- Manufactured by **Trendsetter Engineering** and **Oceaneering**

Standardised capping systems

Dual 7 1/16" 10k Gate Valves on Main Bore



Dual 18 3/4" 15k Rams on Main Bore



Common 15k System

The integrated intervention system includes four capping stack toolboxes:
2 x full bore 15k capping stacks
2 x reduced bore 10k capping stacks

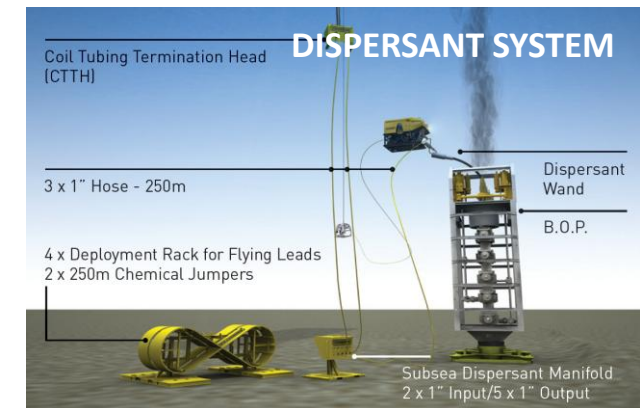
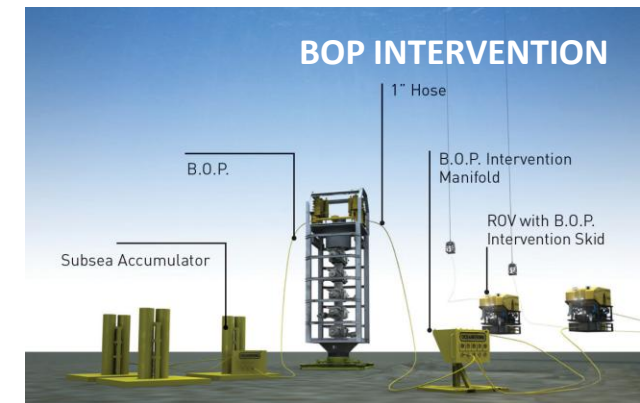
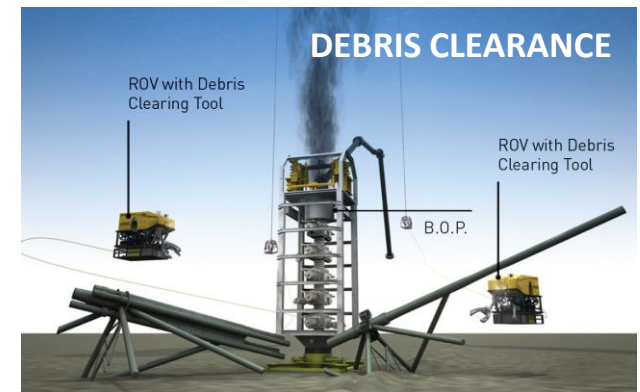
Capping Stack Toolbox - Fabrication

Trendsetter Engineering Inc.



Subsea dispersant equipment

- Subsea application of dispersant at a wellhead is an integral part of capping operations:
 - Creates safer surface working conditions for response personnel
 - Enhances the degradation of the oil
- Subsea dispersant hardware kits include:
 - Tools for site surveys
 - Debris clearing equipment
 - Flying leads, distribution manifold and dispersant wands
 - High, high volume accumulators
- OSRL will hold strategically located global dispersant stockpiles, access to which is subject to separate and additional arrangements (not included within the intervention system subscription)



Subsea Dispersant Hardware Kit

Fabrication Acceptance Tests at Oceaneering



Subsea Dispersant Hardware Kit

Oceaneering – Site Integration Testing



Storage Locations

International delivery & storage

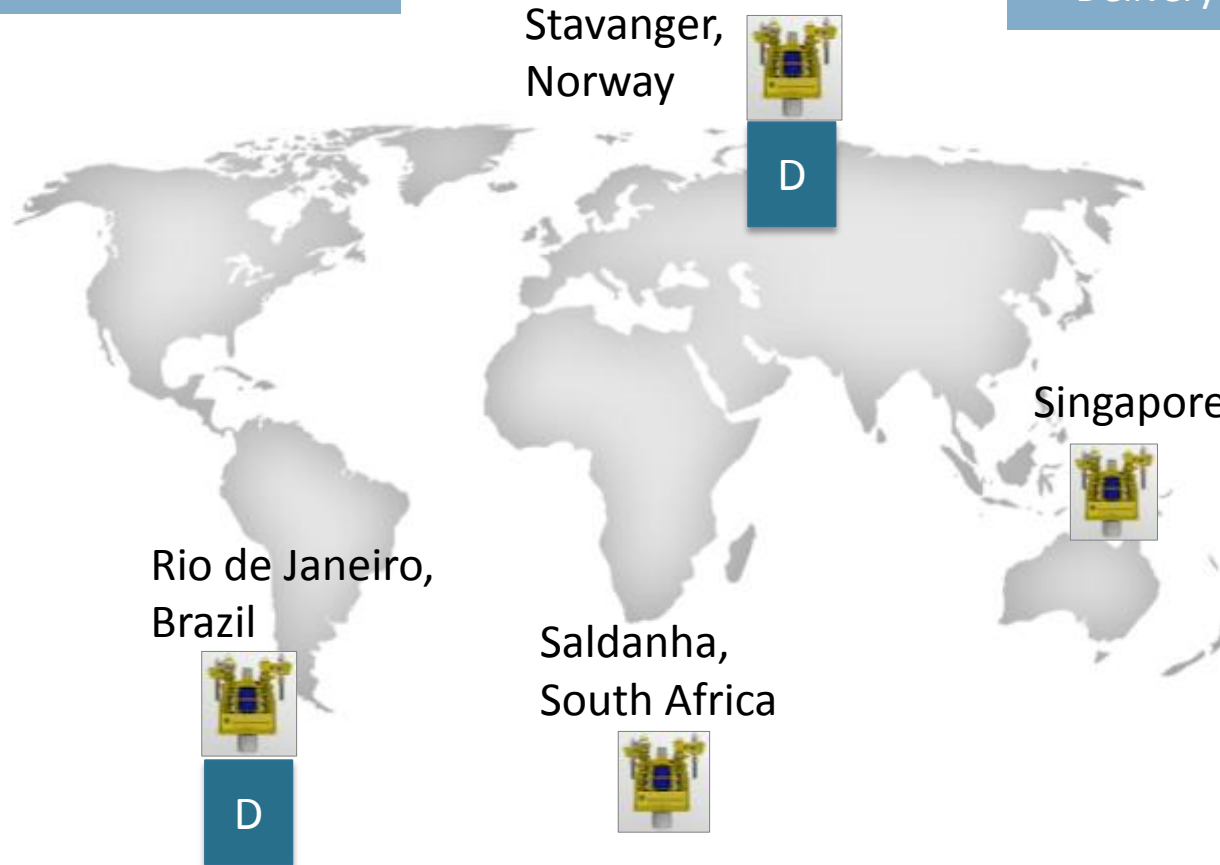
4 x capping stack toolboxes

(2 x 10k / 2 x 15k)

Delivery January 2013 – Aug 2013

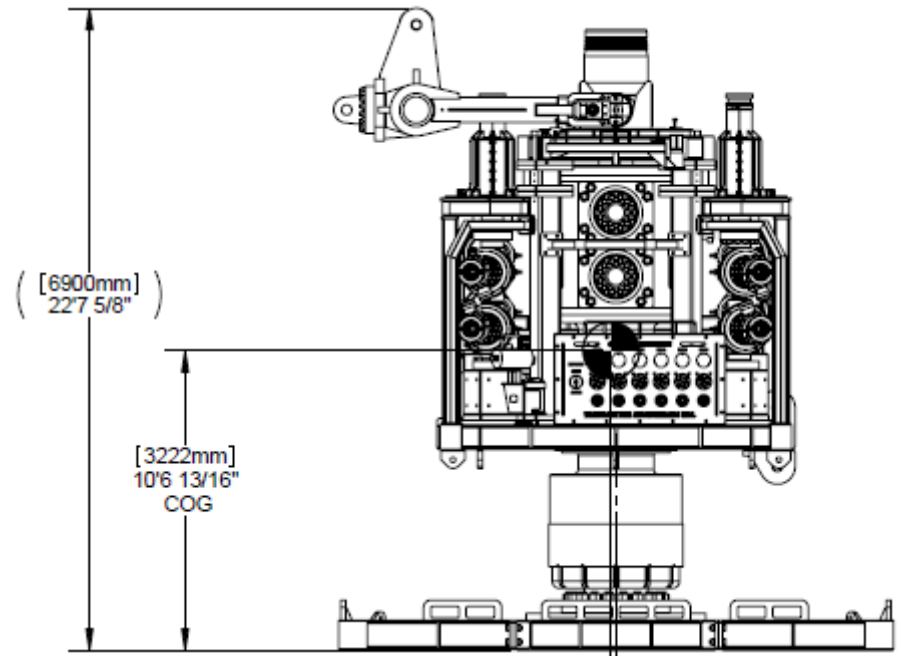
2 x subsea dispersant hardware toolboxes

Delivery December 2012



Storage configuration

- Cap stored fully assembled on Self Propelled Modular Transporter (SPMT)/trolley
- SPMT/trolley used to transport cap to quayside
- All bases have access to cranes capable of lifting 150 MT @ 20m



Norway – Tananger Offshore Supply Base

- Strategically placed within a major oil and gas port
- Cap stored on site with major service provider allowing access to on site logistics capability and additional services
- Close proximity to Stavanger & Oslo airports
- Fully operational by March 2013



Singapore – Loyang Offshore Supply Base

- Strategically placed in North Eastern part of Singapore
- Cap stored on site with major service provider allowing access to on site logistics capability and additional services
- Adjacent to Changi airport
- Co-located with new OSRL facility
- Fully operational by May 2013



South Africa – Saldanha Fabrication Yard

- Saldanha identified as possible future offshore oil and gas centre for South Africa
- Close proximity to Cape Town airport
- Fully operational by June 2013



Brazil – Angra dos Reis

- Currently finalising contracts
- Cap to be stored on site with major service provider allowing access to on site logistics capability and additional services
- Close proximity to Rio de Janeiro airport
- Fully operational by end 2013



Access & Engagement

Industry can access equipment via OSRL

- OSRL will make a new integrated intervention system available to the industry
- OSRL owns, stores and maintains the equipment

Oil Spill Response Ltd (OSRL)

- Largest global provider of oil spill response and preparedness services
- Attended nearly all the major oil spill incidents for the past 25 years
- Not-for-profit, industry-owned co-operative

Access the equipment

How to gain access:

- Oil and gas companies around the world have the opportunity to gain access to the equipment
- Access requires:
 - OSRL membership
 - Supplementary agreement, entry fee and annual per well fee
 - Meeting key criteria
- Contact swrp@oilspillresponse.com

Key benefits:

- Access state-of-the-art response equipment
- Establish a comprehensive contingency plan
- Be prepared for a variety of international scenarios
- Benefit from 25 years' OSR experience
- Demonstrate commitment to an environmentally-conscious oil industry

Industry access via OSRL

- Subscriptions now open for industry access via OSRL
- Early entry period until 31 March 2013
- Short Term Subscriber Agreement (STSA)
- Information packs available

Continued collaboration

- Engagement remains fundamental for the continuing success of the Project
- Maintain **open dialogue** with key stakeholders, actively engaging with regulators, NOIAs, OGP Wells Expert Committee, Oil Spill Response Joint Industry Project (JIP) and service companies
- Publicise the availability of the equipment to oil and gas providers **across the industry**
- Enlist subscribers to help **enhance incident response capabilities across the industry and around the world**

End of Presentation