



# ISCO NEWSLETTER

The Newsletter of the International Spill Response Community

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[info@spillcontrol.org](mailto:info@spillcontrol.org)

<http://www.spillcontrol.org>



## ISCO & THE ISCO NEWSLETTER

The ISCO Newsletter is published weekly by the International Spill Control Organisation, a not-for-profit organisation supported by members in 45 countries. ISCO has Consultative Status at IMO, Observer Status at IOPC Funds and is dedicated to raising worldwide preparedness and co-operation in response to oil and chemical spills, promoting technical development and professional competency, and to providing a focus for making the knowledge and experience of spill control professionals available to IMO, UNEP, EC and other organisations.

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ISCO is managed by an elected executive committee members of which are **Mr David Usher** (President, USA), **Mr Matthew Sommerville** (Secretary, UK), **Mr Marc Shaye** (USA), **Mr Dan Sheehan** (USA), **M. Jean Claude Sainlos** (France), **Mr Kerem Kemerli** (Turkey), **Lord Peter Simon Rickaby** (UK), **Mr Li Guobin** (China), **Captain Bill Boyle** (UK) and **Mr John McMurtrie** (UK)

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## International news

For more information on the events featured below, click on the banners



## EUROPE: NEW UPGRADE OF CECIS MARINE POLLUTION SOFTWARE TOOL GOES ONLINE

April 13 – The Common Emergency Communication and Information System for Marine Pollution (CECIS MP) is an online application to facilitate coordination of requests for and offers of assistance during maritime incidents and accidents.

It is managed by the European Commission's Directorate General for European Civil Protection and Humanitarian Aid Operations (DG ECHO) and is available to authorised users of the 34 participating states of the Union Civil Protection Mechanism as well as to EMSA. It is also open to third countries sharing a regional sea basin with the EU. EMSA was substantially involved in developing and populating a new upgraded version of the CECIS MP resources database which was launched in late August.

The system now contains georeferenced and more detailed information on EU/EFTA member states' and EMSA's resources (vessels, specialised equipment and dispersant stockpiles) and provides for improved search functionality. It has the potential to serve as a single database of pollution response capacity for European and regional purposes and therefore simplify reporting obligations to member states. *EMSA Newsletter* [Read more](#)

## ISIS STILL STEALING, SPILLING AND SMUGGLING OIL THROUGHOUT IRAQ

April 11 - While Iraqi forces took back much of the region in early 2015, the militants have retained a foothold in the more remote parts, such as the provinces of Salahuddin and Diyala. The black-clad jihadist army can access these areas from its last major Iraq stronghold of Hawija near the oil-rich city of Kirkuk.

It is in these areas that the terrorists are reported to have orchestrated a massive oil spill spanning thousands of acres southbound from the Hamrin Mountains and into emancipated territory, where it is even flooding into the streets of villages just northeast of Tikrit, according to Iraq oil report and satellite imagery of the area. *Fox News* [Read more and watch video](#)

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## International news (continued)

### HAZARDOUS CHEMICAL INCIDENT TRAINING EVENT HELD FOR LATIN AMERICAN, CARIBBEAN FIRST RESPONDERS

September 14 - A training event focusing on hazardous chemical incident response was recently held for Latin American and Caribbean first responders in Rio de Janeiro, Brazil, managed by the Organization for the Prohibition of Chemical Weapons (OPCW).

Part of the Exercise of Assistance and Protection for Latin America and the Caribbean (EXBRALC II 2017), the course served as an addendum to two previous training courses recently held in Uruguay and Argentina.

"The exercise was not only comprehensive but also represented a superb opportunity to share our experiences and demonstrate what we have achieved as group of Latin American countries and the Caribbean," Major Victor Ibanez Valencia, a member of the Peruvian Marine Corps, said. *Homeland Preparedness News* [Read more](#)

### SPILLRESPONSECON – NEW INTERNATIONAL AND USA SPILL RESPONSE CONTRACTS – PRESENTATIONS

You can hear more about the final versions of the new ISCO-BIMCO spill response contracts from Tony Paulson, Chairman of the ISCO-BIMCO drafting sub-committee at the 20th Annual Salvage & Wreck Conference taking place in London on 6-8 December. [More info](#) ISCO Secretary, Matthew Sommerville will also be presenting a paper on SPILLRESPONSECON during the October 30 – November 2 IOPC Funds Meetings in London.

## International news (continued)

### INTERNATIONAL SPILL ACCREDITATION ASSOCIATION – NEW WEBSITE LAUNCHED AND ANNOUNCEMENTS OF UPCOMING EVENTS

#### New Web Site

The new ISAA web site should be running by 18<sup>th</sup> September. This will give a list of all ISAA accredited companies and the disciplines in which they are accredited. Members are requested to check their entries and advise John Dawes by email of any changes which need to be made. New web site address: [www.isaa.org.uk](http://www.isaa.org.uk)

#### ISAA Stand at Expo 2017

You are welcome to visit the ISAA stand No: C4126 at the Contamination Expo which is being held at the ExCel exhibition centre in London on 27<sup>th</sup> and 28<sup>th</sup> September. The exhibition is being run at the same time as Flood Expo and Marine & Coastal Civil Engineering. For directions to the exhibition go to the ExCel web site. Learn more about the spill contractor's accreditation scheme and how it can benefit your business and the environment.

#### Spill Seminar in Dublin

The next ISAA spill response seminar is being held at The Carlton Airport Hotel in Dublin on 12<sup>th</sup> October. For a full seminar program and booking form please email: [johnadawes@btinternet.com](mailto:johnadawes@btinternet.com)

#### Christmas Meeting and Lunch at Hillsborough

It is hoped that the ISAA Christmas Lunch for members and invited guests will this year be held at Hillsborough, Northern Ireland on 12<sup>th</sup> December. This will be preceded by a normal members meeting and the lunch will be followed by an after luncheon speaker. A full business agenda will be issued in due course but if you would like to attend, please email: [johnadawes@btinternet.com](mailto:johnadawes@btinternet.com) so that we can book an appropriate number of places for lunch. Following the business meeting there will be a presentation to John McMurtrie on his retirement from ISAA administration.

## International news (continued)

### EUROPE: EMSA RESPONSE VESSEL ENGAGED IN FISHERIES CONTROL IN THE MEDITERRANEAN OPERATED BY EFCA



Interagency cooperation between EMSA and the European Fisheries Control Agency (EFCA) was taken a step further following a request for an inspection vessel by EFCA. EMSA identified the Aegis I vessel as the most suitable option for EFCA's needs, given the vessel's characteristics and usual area of operation. The Aegis I is being deployed south of Sicily (Italy) for daily activities that include patrolling and at sea fisheries inspection, as well as maritime surveillance in the event of a potential search and rescue incident. This cooperation was made possible thanks to the latest amendment to EMSA's founding regulation (Regulation (EU) 2016/1625) which is designed to pave the way for increased cooperation among the agencies through shared resources. Following the vessel preparations for fisheries control

and other coast guard-related tasks, the Aegis I began operating under EFCA's direction on 4 August 2017 for a renewable short term contract. *EMSA* <http://www.emsa.europa.eu/>

## Incident reports

### NIGERIA: SHELL, REGULATORS DISAGREE AS OIL SPILL RAVAGES BAYELSA COMMUNITY

September 4 - Oil spewing from equipment belonging to the Shell Petroleum Development Company (SPDC) has ravaged parts of Tein-Biseni environment, Biseni, Yenagoa Local Government Area.

A report compiled by the Environmental Right Action/Friends of the Earth (ERA/FoE), showed that while Shell believed the spill was caused by sabotage, other stakeholders including regulators and the community argued it resulted from equipment failure. *The Nation* [Read more](#) [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

### AUSTRALIA: RESIDENTS WARNED TO AVOID CREEK AFTER CHEMICAL TESTING AFTER SPILL REVEALS HIGH LEVELS OF PFAS

September 5 - NARANBA residents are being urged to avoid certain parts of Lagoon Creek after a chemical spill at a nearby business spread to the -natural environment.

A container being handled at Toxfree's Narangba waste management facility on April 28 dropped, spilling about 250 litres of liquid waste into an adjacent -property. The waste, which included firefighting foam containing perfluorooctane sulfonate (PFAS) substances, drained into nearby Lagoon Creek. *Courier Mail* [Read more](#) [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

### EGYPT: OVER 400 METER OIL SPILL IN HURGHADA

September 9 - Director of Red Sea Protected Areas Directorate, Ahmed Ghallab said Saturday that an oil spill occurred in the Abu Galawa area north of Hurghada. The spill was reported by diving trips organizers in the popular diving spot. Ghallab said that the spill stretched over 400 meters, and researches have been dispatched to contain it before it reaches the shores of tourist resorts. *Egypt Independent* [Read more](#)

### PAKISTAN: 'OIL SLICK' ON KARACHI BEACH: HERE'S WHAT THE EXPERTS SAY

September 9 - Celebrations turned 'sticky' on the third day of Eid when more than a four-kilometre stretch of Clifton Beach was covered by an 'oil slick.' It wasn't long before fear and panic spread among residents living on the beachfront, who were the first to witness the oily sludge. Adding to the panic was expert disagreement on the substance that caused the contamination.

"When we visited the site, our very first observation was that this was not an oil spill," Dr Samina Kidwai from the Department of Biological Oceanography at NIO explained to Geo.tv. *GEO.tv* [Read more](#)



## Incident reports (continued)

### USA: HURRICANE HARVEY – MORE SPILL REPORTS



Photo: Vehicles sit amid leaked fuel mixed in with flood waters caused by Tropical Storm Harvey in the parking lot of Motiva Enterprises LLC in Port Arthur, Texas, U.S. August 31, 2017. REUTERS/Adrees Latif/File Photo

September 7 - In scathing lawsuit, first responders describe vomiting, gasping at chemical plant fire [Denver Post](#) \*

September 9 - Fuel tank failures spill 145,000 gallons during Harvey [KRISTV.com](#) \*

September 11 - U.S. Coast Guard, EPA cleaning up a dozen Texas chemical spills after Harvey [Reuters](#)

September 11 - Feds working on dozens of chemical spills in Texas [RT.com](#)

September 11 - Giant Oil Spill in Texas after Harvey Flooding [Newser.com](#)

September 12 - Harvey floodwaters trigger largest gasoline spill to date [New York Post](#)

September 15 - Oil and chemical spills from Hurricane Harvey big, but dwarfed by Katrina [Reuters](#)

September 15 - Oil/Chemical Spills from Harvey Are Big, but Dwarfed by Katrina [Maritime Global News](#)

[\* Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

### CHINA, HONG KONG: OIL LEAK FROM HATO-HIT SHIP IN DISCOVERY BAY SPARKS CONCERNS



September 11 - On August 23, the small container feeder, which was not loaded at the time, drifted into the area near the Discovery Bay marina at the height of Typhoon Hato. Fierce winds and raging waves forced the vessel into a sea wall, prompting the crew to abandon ship.

The mainland China-owned and Togo-registered M/V Yu Hai 1 vessel has been stranded at the location since, prompting calls from worried residents for the Marine Department and contractor to speed up salvage and cleaning efforts.

Last week, the 70-metre long cargo ship began sinking. A black substance believed to be fuel oil was also seen seeping out of it and into the sea

According to the ship's official register, there are some 50 tonnes of heavy marine fuel and gas oil carried on the vessel. Only the masts and bridge can be seen now, the rest of it is underwater. [South China Morning Post](#) [Read more](#)

## Incident reports (continued)

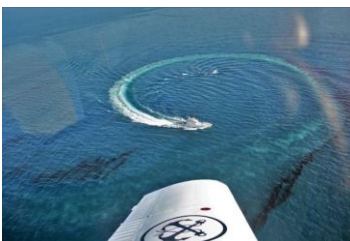
### UK: EXPLOSIVE DEVICE FOUND NEAR NORTH SEA PLATFORM

September 11 - An explosive ordnance, thought to be a depth charge, has been found on the seabed near the Ninian Central Platform in the UK sector of the North Sea.

The unexploded ordnances projected blast radius is not expected to endanger the platform itself, but does pose a serious threat to several pieces of subsea infrastructure. According to a leaked risk assessment document, the device was located by an ROV during a survey of the Strathspey pipelines. It was described as being "consistent" with a depth charge and was projected to have an explosive load equivalent to around 130 and 150kg of TNT. *Oil Industry News* [Read more](#) [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]



### GREECE: TANKER WITH 2500 TONS OF FUEL SANK OFF PIRAEUS UNDER UNCLEAR CIRCUMSTANCES



*Photo: An oil slick can be seen in the water near where the tanker Agia Zoni II sank on Sunday. Photo: Hellenic Coast Guard*

September 10 - Product tanker AGIA ZONI II reported water ingress, sinking, early in the morning Sep 10 at anchorage west of Piraeus, with some 2500 tons of fuel on board, and two crew. Tanker reportedly sank, two crew were rescued, anti-pollution plan activated, with tugs, anti-pollution boats and floating crane deployment.

*Maritime Bulletin* [Read more](#)

*Editor: The development of this serious spill is being widely reported. A selection of updates is given below. Click on the names of the publications to read more.*

September 10 - Small tanker goes down in Saronic Gulf carrying fuel [Ekathimerini](#) \*

September 11 - Salamina mayor speaks of eco disaster after tanker sinking [Ekathimerini](#) \*

September 13 - Large Oil Spill Washes Ashore in Greece after Tanker Sinks [gCaptain](#)

September 14 - Greek oil spill spreads to Athens Riviera [Reuters](#)

September 14 - Greece struggles to mop up oil spill; critics demand more [The Gazette](#)

September 15 - Once-azure Greek coastline blackened by oil spill (DRONE VIDEO) [RT.com](#)

September 15 - Oil spill forces Greek authorities to close beaches near Athens [Ekathimerini](#) \*

[\* Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

### BANGLADESH: TANKER ASTRAL EXPRESS AGROUND IN CHITTAGONG

September 14 - Tanker ASTRAL EXPRESS in the morning Sep 14 ran aground in Karnaphuli river, Chittagong, while maneuvering to dock at oil jetty, with 27000 tons of diesel fuel on board. Tanker's cargo is to be lightered into barges.

*Maritime Bulletin* [Read more](#)

### EAST CHINA SEA: TANK CONTAINERS WITH NITRIC ACID DAMAGED IN STORM

September 15 - Container ship DONG FANG FU while en route from Shanghai to Taichung port, Taiwan, was caught in rough weather in East China Sea, 6 tank containers with nitric acid shifted and were battered in severe pitch and roll. Container ship changed course and arrived at Keelung port at night Sep 14. She was berthed, early in the morning crew smelled acid smell and immediately alerted authorities. Chemical factory technicians were called, to treat leakage. *Maritime Bulletin* [Read more](#)

### NEW ZEALAND: CAUSE OF JET FUEL LEAK NOT KNOWN YET

September 16 - The discovery of a jet fuel leak on a Northland section of the pipeline from the Marsden Pt oil refinery to Auckland has forced the evacuation of a couple from their home. Refining NZ spokesman Greg McNeill said a pressure drop on the refinery to Auckland multi-product pipeline, that runs 170km to Wiri, was detected at 2.30pm on Thursday. The leak was discovered about 8km south of the refinery at Marsden Point near Ruakaka. *N.Z. Herald* [Read more](#) [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]



## BAHRAIN HOSTS INTERNATIONAL ENVIRONMENTAL WORKSHOP



September 13 - CEO Dr Mohammed Mubarak Bin-Dinah of the Supreme Council for Environment (SCE) said oil spills are the most conspicuous forms of damage to the marine environment, which must be addressed for the amount of harm they cause for months or even years, pointing out Bahrain's efforts to preserve the marine and coastal environment.

This came during the opening of the two-day international workshop organized by the US Navy Department in cooperation with the Marine Emergency Mutual Aid Center (MEMAC) entitled (Defence Environmental International Cooperation). *Bahrain News Agency* [Read more](#)

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## NIGERIA: OIL SPILLS: UNDP, GROUP SEAL PLAN TO CLEAN UP IMPACTED COMMUNITIES

September 10 - The United Nations Development Programme (UNDP) in conjunction with the Foundation for Youth Development (FYD) has carried out an evaluation of soil sampling and analysis test results in two oil-spill impacted communities in Ohaji – Egbema Local Government Area of Imo State.

The programme was conducted under an on-going community based intervention project, which seeks to clean-up and remediate hydrocarbon impacted farmlands in the communities through sustainable bio-remedial and agro-forestry programs. *The Nation* [Read more](#)

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## NIGERIA: FG: ILLEGAL REFINING THREATENING \$1BN OGONI CLEANUP

September 10 - The Federal Government says the activities of illegal and artisanal oil refiners are threatening the \$1 billion Ogoni cleanup project in Rivers State.

Addressing State House reporters at the weekend, the coordinator for the Hydrocarbon Pollution Remediation Project, (HYPREP), Marvin Dekilby, said if not stopped, such activities could cause recontamination after the ongoing remediation. Dekilby stated that the HYPREP had begun to engage with the artisanal oil refiners with a view to checkmating their activities. *Daily Trust* [Read more](#)

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## NIGERIA: NIGER DELTA CRISES: STAKEHOLDERS MEET IN ONDO TO STRATEGISE ON SOLUTIONS

September 10 - In efforts to tackle the challenges and obstacles to the development of the Niger Delta region, stakeholders held a consultative forum to identify and evolve strategies of overcoming them. This took place on Friday in Akure at the on-going National Council on Niger Delta (NCND) organised by the Ministry of Niger Delta Affairs, in collaboration with the Ondo State Government. *Nigerian Tribune* [Read more](#)

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## SOUTH KOREA: PRES. MOON ATTENDS CEREMONY CELEBRATING 10TH YEAR OF OVERCOMING SOUTH KOREA'S WORST OIL SPILL

September 15 - In December 2007, South Korea suffered the worst oil spill in its history when the MT Hebei Spirit, carrying a quarter-million tons of crude, was hit by a barge. And on Thursday, ten years later, a special ceremony was held near the site of the spill in Taean, Chungcheongnam-do Province, to celebrate the nation overcoming the disaster. President Moon himself was there, and he commended more than 1.2 million volunteers who rolled up their sleeves to wipe off every oil-covered pebble on the beach. *Arirang* [Read more](#)

## News reports from around the world (continued)

### UK: REVIEW OF VAPOUR CLOUD EXPLOSION INCIDENTS [INCLUDING BUNCEFIELD]

September 16 - Following the Buncefield explosion, a large body of published research has improved scientific understanding of the release event, the flammable cloud formation and the explosion. This report describes work done by HSE with US safety regulators to consolidate previous research and to incorporate recently published analysis into a single, systematic review of historical incidents.

Important new conclusions have been reached that a high proportion of large vapour cloud explosions occur at nil or very low wind speeds. In these conditions, the dispersion from large and medium scale releases will be gravity-driven and the vapour cloud will continue to grow as long as it remains undetected. Large vapour clouds will almost always ignite, the probability of a severe explosion event is very high, especially for gasoline. *UK Govt. HSE* [Read more](#)

### USA: MICHIGAN - IN-SITU BURN WORKSHOP FOR STRAITS OF MACKINAC

September 15 - On August 30, Regional Response Team (RRT) Region 5 held a site specific in-situ burn (ISB) workshop in Mackinaw City, Michigan.

The goal of the workshop was to discuss the feasibility of in-situ burning as a response technique in the Great Lakes region, specifically the Straits of Mackinac. Participants included federal, state, and local agencies and industry. *NOAA OR&R* [Read more](#)

### USA: MICHIGAN - ENBRIDGE ENERGY CONDUCTING OIL SPILL CONTAINMENT TRAINING

September 11 - Enbridge Energy conducted a training exercise today in Delta County - on containing a Great Lakes oil spill.

The training was at Basic Marine in Escanaba, with crews working on new skimmers and booms which could be used to clean and contain any possible oil spill. Exercises like this are performed on an annual basis 'just in case' of any issues with oil and gas pipelines running under the Straits of Mackinac. *Upmatters.com* [Read more and watch video](#)

### YEMEN: YEMEN'S HOUTHİ LEADER THREATENS TO ATTACK SAUDI OIL TANKERS IF KEY PORT ATTACKED

September 14 - Yemen's Houthi leader Abdel-Malek al-Houthi said on Thursday his group could target Saudi oil tankers should Saudi Arabia attack Yemen's main port at Hodeidah.

"We could target Saudi oil tankers and we could do anything, we have not done this before," he said.

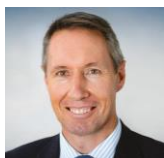
In a televised speech, the leader also said his group's ballistic missiles were capable of reaching the United Arab Emirates' capital of Abu Dhabi and anywhere inside Saudi Arabia.

It was unclear whether the Houthi group has the capability to carry out its threats.

Abdel Malek also said that they had successfully test fired a missile toward Abu Dhabi earlier this month and said the United Arab Emirates was no longer safe country. He gave no further details and there has been no indication by the UAE of any missiles landing on their territory. *Reuters* [Read more](#)

## People in the news

### NEW ZEALAND: NEW CHAIRPERSON FOR MARITIME NZ



August 2017 - The new chairperson of the Maritime NZ Authority, Blair O'Keeffe, says the regulation and response agency plays a critical role in safeguarding New Zealand's seas and waterways. With seven years as the CEO of Wellington's CentrePort until 2015, Blair brings a good understanding of safety management in a maritime setting to his new position. He also has broad management and operations experience after 17 years around the globe with BP. *Maritime NZ* [Read more](#)

### IOPC FUNDS DIRECTOR HONOURED WITH GOLDEN ANCHOR MARITIME ACHIEVEMENT AWARD

September 12 - The Director, Mr José Maura, has been presented with a Golden Anchor Maritime Achievement Award during the 12th International Golden Anchor Maritime Achievement Awards Ceremony, Istanbul, Turkey on 8 September 2017. Mr Maura was honoured with the Award in recognition of his contribution to the maritime sector and competent management of claims of victims of oil pollution incidents worldwide. *IOPC Funds* [Read more](#)



## VOC REDUCTION AND OTHER CONSIDERATIONS IN THE APPLICATION OF OIL SPILL DISPERSANT

Part 2 of an article in 2 parts



Alun Lewis is an authority on oil spill dispersants and other technical aspects of oil spills such as oil 'weathering' and the fate and behaviour of spilled oil and aerial surveillance of oil spills. A graduate chemist, he worked at the BP Research Centre from 1967 until 1992, specializing in oil spill dispersants and other aspects of oil spill response from 1979 onwards. In 1993 he worked at the UK Government's Warren Spring Laboratory and then at SINTEF in Trondheim, Norway until 1997, continuing studies on oil weathering of the use of oil spill dispersants. Alun returned to the UK and worked for AEA Technology until becoming an independent oil spill consultant in 1998. Alun has worked with many organizations, both commercial and government, throughout the world, including IPIECA and OSPRI. He has presented on numerous oil spill response / dispersant training courses over the years.

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### *Foreword by Matthew Sommerville, Secretary of the International Spill Control Organization*

*ISCO as an organisation has an objective to share knowledge and one key tool in that is the ISCO news. The approximately 3000 people registered to receive ISCO news represent a wide range of organisations, interests, backgrounds and experience. As a result, while for some issues may be new, for others they see issues they long have strived to advance only continuing to revolve around polarised positions based on belief and imagination. While that might be good for those who enjoy pointless debate it does little to move the world on or to disseminate the knowledge that is already available from past incidents, experiments and the application of wider scientific principles. Linked to this, ISCO recently in newsletter 601 drew attention to a report related to dispersants. Based on the response from readers we saw again the potential for debate being generated by polarised pro- and anti-dispersant factions. Rather than respond to this and publish the comments we chose in the interest of providing knowledge to ask Alun Lewis, an internationally well-known and recognised Dispersants and Chemicals expert, to provide some input and knowledge for our readers. We hope this will help us move on from the 50 year old polarised debate on this tool, first used in the Torrey Canyon, and by applying knowledge allow us to plan to use it effectively, efficiently and where appropriate.*

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### **C. EVENTS REGARDING SSDI AT DEEPWATER HORIZON**

The situation regarding dispersant use at the *Deepwater Horizon* incident in 2010 as described in the Reddy and Arey article published in the ISCO Newsletter 601, "DID DISPERSANTS HELP RESPONDERS BREATHE EASIER AT DEEPWATER HORIZON?", and in the more complete version on the [Oceanus](#) web-site, was perhaps not as simple as it is portrayed in the articles.

Dispersant use had been pre-authorized and dispersants were being used 'conventionally', being sprayed onto the oil on the sea surface from aircraft, from April 22<sup>nd</sup> 2010 onwards and this continued until just after the oil release was stopped on July 15<sup>th</sup> 2010. By the end of April, the increasing volume of dispersant that was being used in this way caused the US EPA (Environmental Protection Agency) some concerns. Misinformation about the possible effects of oil and dispersants had been spread over the internet and contributed to concerns felt by some Gulf residents about the potential for human health effects on the general public. These concerns were unnecessary, but added to the mounting political pressure that is a feature of any large oil spill, particularly one in the USA. A better way of using dispersant, and preferably using less dispersant, was sought.

SSDI (Sub-Surface Dispersant Injection) was suggested because:

- It would deliver the dispersant directly to the oil at source, rather than waiting for the oil to reach the sea surface, spread out, fragment and then be sprayed with dispersant. SSDI would be a more precise and effective use of dispersant.
- SSDI could be conducted 24/7 without the night-time flying and weather restrictions imposed upon dispersant-spraying aircraft.

Tests of SSDI were conducted at the *Deepwater Horizon* site on April 30<sup>th</sup>, May 2<sup>nd</sup> - 4<sup>th</sup> and the 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> of May. The dispersant was injected for some time and then switched off. It was not, and is still not, possible to directly measure dispersant effectiveness at sea (with surface dispersant spraying or with SSDI). The effect of the dispersant had to be inferred by indirect means. The methods used included aerial photography on May 9<sup>th</sup> to May 12<sup>th</sup> and

VOC concentration measurements on various ships on the sea surface. The conclusion of these tests was that SSDI worked; subsea dispersant injection caused less oil to reach the sea surface and less VOC vapour to be present in the air. The EPA approved SSDI for use on May 14<sup>th</sup>.



The aerial photographs are reproduced with permission in the IPIECA/IOGP document “Dispersants: subsea application, Good practice guidelines for incident management and emergency response personnel” available at <http://www.ipieca.org/resources/?search=subsea%20dispersant%20>.

Tim Nedwed of ExxonMobil presented a paper at the 2017 International Oil spill Conference entitled “Overview of the American Petroleum Institute (API) Joint Industry Task Force Subsea Dispersant Injection Project” and this contains both the aerial photographs and the VOC measurements taken in 2010. The photographs provided evidence that SSDI significantly altered the fate of oil released during the incident. The VOC results clearly show that when the SSDI was turned off, the VOC in air concentration at the surface increased, but decreased when the subsea dispersant injection was restarted.

The EPA issued a Directive and a series of addendums to BP. The Directive, issued on May 10<sup>th</sup>, 2010, required BP to implement a monitoring and assessment plan for both surface and subsurface dispersant applications. An addendum (issued on May 14<sup>th</sup>, 2010) provided specific details of the monitoring plan. This included using UV fluorimeters, LISST (and optical laser diffraction instrument) droplet sizing and water sampling to monitor hydrocarbon concentrations in the water column. The oxygen content at depth was also monitored to indicate any oxygen drop caused by the biodegradation of the dispersed oil.

The EPA issued a Directive to BP on May 26<sup>th</sup> requiring them to decrease the overall volume of dispersant by 75% and cease the surface use of dispersant, except in rare cases. SSDI was limited to a maximum 15,000 gallons of dispersant per day. That would have produced a dispersant treatment rate with a DOR of approximately 1:150 at an estimated oil release rate of 50,000 barrels /day. Some oil continued to reach the sea surface. Nobody knows whether increasing the dispersant treatment rate would have prevented all the oil from reaching the sea surface. Aerial spraying of dispersants and SSDI continued until the oil flow was stopped on July 15<sup>th</sup> 2010.

#### D. OIL SPILL RESPONSE AND ACADEMIC SCIENCE

The role of academic scientists in conducting studies into various aspects of oil and gas releases and the effect of dispersants was greatly expanded by the establishment of GoMRI (Gulf of Mexico Research Initiative) during the *Deepwater Horizon* incident. On 24<sup>th</sup> May 2010, BP - with a great deal of ‘encouragement’ from the US Government - committed \$500 million over a 10-year period to create a broad, independent research program to be conducted at research institutions primarily in the US Gulf Coast States. The money has nearly been all spent; the final round of GoMRI grants will be awarded this month (September 2017) and the studies will be completed in two years.

The study that underlies the Reddy and Arey articles was partially funded by GoMRI and the scientific paper: Jonas Gros, Scott A. Socolofsky, Anusha L. Dissanayake, Inok Jun, Lin Zhao, Michel C. Boufadel, Christopher M. Reddy and J. Samuel Arey. “Petroleum dynamics in the sea and influence of subsea dispersant injection during Deepwater Horizon” is available at:

<http://www.pnas.org/content/early/2017/08/23/1612518114> (Obtaining access to the paper requires payment.)

Hundreds of scientific papers have been published about GoMRI-funded studies in the past 7 years. Some of these studies have been very useful and reinforced the accepted wisdom about oil spills and oil spill response and, perhaps, expanded our understanding.

However, copious funding does not ensure good science. Some of the findings from some of the GoMRI-funded studies have been at odds with previous knowledge and experience. This has often been the result of poor experimental design and execution; faulty ‘simulations’ of the conditions that actually prevailed during the Deepwater Horizon incident is a pitfall of more than one study. In other cases, lacking a sound background in, or understanding of, the behaviour of spilled oil or other aspects, studies have become constructions of conjecture and speculation that apparently require almost endless further funding for clarification to be achieved.

Returning to the Reddy and Arey articles: Describing the aerial photography and VOC measurements taken to assess whether SSDI was being effective at the time of the incident (and described in the 2017 IOSC paper by Tim Nedwed), the *Oceanus* article says: “*These air-quality measurements were neither comprehensive nor meticulous enough to reach the high bar needed for a scientific experiment*”. The authors, being academic scientists, aspire to a high level of scientific accuracy and precision of measurements made. These comments seem to indicate is a slight disapproval, perhaps a criticism, about the (non-scientific) measurements that were made. But a very fundamental truth is that a large oil spill is **not** a scientific experiment and this is very applicable to the *Deepwater Horizon* incident. This is acknowledged in the article: “*Unlike typical scientific experiments, these spontaneous experiments were unplanned and unreplicable, scientists were not allowed the time to design and implement robust experiments to measure the impacts of the dispersant injection.*” There is an obvious desire for the incident to have been treated as a scientific experiment, but also the acknowledgement that it was not.

## Contributed article (continued)

In a scientific experiment, it is normal to minimise the variables and carefully measure everything that can be determined. One of the main factors that determined the eventual outcome at the *Deepwater Horizon* incident was the flow rate of oil and gas and the total amount of oil released into the Gulf of Mexico. The FRTG (Flow Rate Technical Group), a group of scientists and engineers from the United States federal government, universities, and research institutions was created in May 2010 to produce an official scientific-based estimate of the flow of oil. This was not known at the time of the incident and it proved to be very difficult to pin down. It is still not known with any reasonable accuracy.

The US Government's Justice Department lawyers took expert advice and concluded that 4.29 million barrels of oil had been released. BP's lawyers took other expert's advice and concluded that 2.45 barrels had been released. The one number that was known with accuracy was the 810,000 barrels that were recovered at the wellhead and taken on board a tanker. That reduced the estimates of the amount of oil that had entered the water to 3.38 million barrels (US Justice Department) and 1.64 million barrels (BP). A judge was directed to adjudicate and concluded that 3.19 million barrels of oil had been released into the water. GoMRI-funded studies reported in various scientific papers have used a variety of estimates of the amount of oil released into the Gulf of Mexico, typically 4.9 million barrels, but as high as 6.9 million barrels.

If such a basic fact about the *Deepwater Horizon* incident is still unknown with any reasonable level of accuracy, it is difficult to see how studies can be translated into scientific studies that can produce results that accurately reflect what occurred at the *Deepwater Horizon* incident.

In the aftermath of previous large oil spills, such as the *Torrey Canyon* (1967), *Amoco Cadiz* (1978), *Exxon Valdez* (1989), *Sea Empress* (1996), *Erika* (1999) and *Prestige* (2002), scientific programmes (of varying size and cost) have been instigated to try and improve the response to future oil spills. The amount of money and effort expended on the GoMRI science programme is, by far, the largest so far. As the programme draws to a close, it will be interesting to see what useful 'new knowledge' about oil spill response will be revealed.

## ISCO news

### ISCO WELCOMES ANTIPOLLUTION GREECE AS A NEW CORPORATE MEMBER

Antipollution was founded by the descendants of the first people to operate at the port of Piraeus and provides 24/7 Oil Spill Response, Port Reception Facilities, Waste Management and other Environment Protection Services at all major Greek ports. The company's website is at <http://antipollution.gr/en/home>

## Links for recent issues of other publications (in alphabetical order)

<a href="#">AMSA Aboard</a>	News from the Australian Maritime Safety Authority	December 2016
<a href="#">ASME EED EHS Newsletter</a>	News and commentary on HSE issues from George Holliday	Most recent issue
<a href="#">Bow Wave</a>	Sam Ignarski's Ezine on Marine & Transport Matters	Current issue
<a href="#">Cedre Newsletter</a>	News from Cedre in Brittany, France	June 2017
<a href="#">CROIERG Enews</a>	Canberra & Regions Oil Industry Emergency Response Group	Current issue
<a href="#">EMSA Newsletter</a>	News from the European Maritime Safety Agency	September 2017 issue
<a href="#">Environmental Technology Online</a>	Environmental Monitoring, Testing & Analysis	September 2017 issue
<a href="#">IMO News Magazine</a>	News from the International Maritime Organization	Autumn 2017 issue
<a href="#">IMO Publishing News</a>	New and forthcoming IMO publications	August 2017
<a href="#">Intertanko Weekly News</a>	International news for the oil tanker community	September 15, 2017
<a href="#">JOIFF "The Catalyst"</a>	Int'l Organisation for Industrial Hazard Management	Q3 2017 issue
<a href="#">Maritime Executive Magazine</a>	Often contains articles of interest to the spill response community	July-August 2017
<a href="#">MOIG Newsletter</a>	News from the Mediterranean Oil Industry Group	July 2017 issue
<a href="#">NOWPAP Quarterly</a>	News from the North West Pacific Action Plan	Quarter 1, 2017 issue
<a href="#">Ocean Orbit</a>	Newsletter from the International Tanker Owners Pollution Federation	August 2017
<a href="#">OCIMF Newsletter</a>	News from the Oil Companies International Marine Forum	August 2017 issue
<a href="#">Pollution Online Newsletter</a>	News for prevention & control professionals	September 13, 2017
<a href="#">Safe Seas, Clean Seas</a>	Quarterly Newsletter from Maritime New Zealand	August 2017 issue
<a href="#">Sea Alarm Foundation Newsletter</a>	Oiled wildlife Preparedness and Response news from Sea Alarm	Spring 2017 issue
<a href="#">Technology Innovation News Survey</a>	News from US EPA – Contaminated Site Decontamination	July 16-31, 2017
<a href="#">Transport Canada Newsletter</a>	News and articles re transport of dangerous goods in Canada	December 2016 issue
<a href="#">UK NCEC</a>	News from the National Chemical Emergency Centre	July 2017 issue
<a href="#">USA EPA Tech Direct</a>	Remediation of contaminated soil and groundwater	Sept. 1, 2017
<a href="#">USA EPA Tech News &amp; Trends</a>	Contaminated site clean-up information	Spring 2016 issue
<a href="#">WMU Newsletter</a>	News from the World Maritime University	December 2016

Your editor depends on regular receipt of updated links for listed publications. If these are not received, relevant entries may be discontinued

## Upcoming events summary

COUNTRY	2017	TITLE OF EVENT	LOCATION
<b>For more information click on Title of Event</b>			
GABON	Sept. 19-22	<a href="#">National workshop on waste management</a>	Libreville
UK	Sept. 20-21	<a href="#">The Emergency Services Show</a>	Birmingham
NORWAY	Sept. 25-29	<a href="#">International Oil Spill Exercise SCOPE 2017</a>	Grenland Area
UK	Sept. 26-28	<a href="#">Industry Technical Advisory Committee (ITAC) Mtg.</a>	Plymouth
EQUATORIAL GUINEA	Sept. 26-29	<a href="#">National Workshop on Contingency Planning</a>	Malabo
UK	Sept. 27-28	<a href="#">Contamination Expo Series 2017</a>	London
FRANCE	Sept. 28	<a href="#">CEDRE Information Day – “Spills in Ports”</a>	Paris
USA	Oct. 2-4	<a href="#">Elastec Inland Spill Workshop (Focus on Rivers)</a>	Carmi, IL
CANADA	Oct. 3-5	<a href="#">40<sup>th</sup> AMOP Technical Seminar</a>	Calgary
TUNISIA	Oct. 10-11	<a href="#">Oiled Shoreline Clean-up W'shop &amp; Tier1 Exercise</a>	Sfax City
IRELAND	Oct. 12	<a href="#">International Spill Control Association Seminar</a>	Dublin
NORWAY	Oct. 17-19	<a href="#">NOSCA Seminar 2017</a>	Horten
CANADA	Oct.30-Nov.1	<a href="#">Arctic Shipping North America Forum</a>	Montreal
UK	Oct.30-Nov.2	<a href="#">IOPC Funds Meetings</a>	London
UK	Nov. 1-2	<a href="#">Offshore Decommissioning &amp; Operations Seminar</a>	London
CHINA	Nov. 1-3	<a href="#">Oceanology International China</a>	Qingdao
IVORY COAST	Nov. 6-9	<a href="#">GI WACAF Regional Conference</a>	Abidjan
UK	Nov. 11	<a href="#">UK Spill Spill Seminar</a>	Southampton
UAE	Nov. 13-16	<a href="#">Abu Dhabi Int'l Petroleum Exhibition &amp; Conference</a>	Abu Dhabi
AZERBAIJAN	Nov. 20-22	<a href="#">Oil Spill Control Caspian – Onshore &amp; Offshore</a>	Baku
UK	Nov. 29-30	<a href="#">11th Arctic Shipping Summit</a>	London
USA	Dec. 5-7	<a href="#">Clean Gulf Conference and Exhibition</a>	Houston, TX
UK	Dec. 6-8	<a href="#">Salvage &amp; Wreck Removal Conference</a>	London
UK (N. Ireland)	Dec 12	<a href="#">ISAA Christmas Meeting and Lunch</a>	Hillsborough
<b>2018</b>			
CANADA	Feb. 21-22	<a href="#">12<sup>th</sup> Arctic Shipping Summit</a>	Montreal
UAE	Feb 28 – Mar 1	<a href="#">Offshore Arabia Conference &amp; Exhibition</a>	Dubai
UK	March 13-15	<a href="#">2018 INTERSPILL Conference and Exhibition</a>	London
UK	March 13-15	<a href="#">Oceanology International 2018</a>	London
USA	April 4-5	<a href="#">Clean Waterways Conference</a>	St. Louis, MO
FINLAND	April 17-20	<a href="#">Arctic Shipping Forum</a>	Helsinki
UK	May 23-24	<a href="#">HAZMAT 2018</a>	Stratford on Avon
USA	June 19-21	<a href="#">Clean Pacific Conference and Exhibition</a>	Portland, OR
INDIA	July 5-6	<a href="#">Oil Spill India 2018 Conference &amp; Exhibition</a>	New Delhi
To request posting of an event of interest to the Spill Response Community please send details to the Editor			

## Company news from Corporate Members of ISCO

### FINNISH COMPANY COMES TO MURMANSK, SETS UP ARCTIC OIL SPILL RESPONSE UNIT WITH ROSNEFT

The Lamor company establishes a joint venture with the Russian oil company in Roslyakov, the formerly closed military town outside Murmansk.

The cooperation between the companies will include the manufacturing of equipment for oil spill preparedness, response and recovery. It will unfold in the premises of Shipyard No 82, an object over which Rosneft secured control in 2013.

The deal between Lamor and Rosneft was announced during the recent Eastern Economic Forum in Vladivostok. It comes on the basis of a cooperation agreement concluded between the companies in April this year.



## Company news from Corporate Members of ISCO (continued)



Photo: A first cooperation agreement signed between Lamor and Rosneft during the Arctic Forum in Arkhangelsk in April 2017. Photo: lamor.com

According to Rosneft, the deal will enable it to increase the level of Russian domestically produced equipment of the kind to at least 70 percent by year 2025.

In a statement from Lamor, company President and CEO Fred Larsen, underlines that “joint production with Rosneft takes our presence in the Russian market to another level”.

In 2013, Rosneft struck a deal with federal Russian authorities over the take-over of shipyard No 82 in Roslyakovo, the town located only few kilometers north of

Murmansk City. The objective was to establish a string of new industrial facilities for its offshore Arctic operations. The base would have the capacity to annually serve operations connected with as many as 70 geological exploration wells, the company told regional authorities. *The Barents Observer* [Read more https://lamor.com/](https://lamor.com/)

## ARCTIC TECHNOLOGY DEMONSTRATION 2017: SELF-PROPELLED SKIMMER : US COAST GUARD



The US Coast Guard Research and Development Center (RDC) explored technologies this past summer as part of its Arctic Technology Evaluation 2017.

After Action Report of the Oil Skimmer Test during 2017 Arctic Technology Evaluations aboard the CGC HEALY (full detailed report available upon request).

The first objective of this experiment was to test whether the efficiency of a user controlled self-propelled skimmer in ice is better than a skimmer that is dipped into the icy water by a crane.

The second objective was to determine if, comparing to the conventional skimmers, the maneuvering of the vessel is improved with this new skimmer technology.

RotoX skimmer was partially successful in achieving the first test objective in the ice infested waters of the Arctic as it was able to maneuver around the ice patches and access the areas that are not typically available to conventional skimmers. However, the cutting mechanism did not work as efficiently as expected (explained further in Aqua-Guard's summary of results). The second objective was also fulfilled as the skimmer was capable of operating and moving within the seventy feet range of the HEALY's stern independent of the ship's movement.

The sturdy design of the RotoX oil skimmer proved to be suitable for the Arctic environment withstanding encounters with ice flows and the accidental pummeling by the hull of the ship. The skimmer has plenty of buoyancy and once away from the ship, operated well. In choppy seas, the water came over the skimmer's sides, filling the oil collection port, but in the calm icy waters, the skimmer's performance was more than adequate.

One of the most impressive components of the skimmer was its thrusters. The powerful dual thrusters of the RotoX enabled the skimmer to move effectively away from the ship and travel between the broken ice. The skimmer was capable of driving into open pockets in the ice that would be otherwise hard to maneuver if the skimmer was constrained by the use of a crane. The skimmer was able to push ice out of its path and reach more places than a typical non-self-propelled skimmer. *Aqua Guard* [Read the complete text of this article http://www.aquaguard.com/](http://www.aquaguard.com/)

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