



ISCO NEWSLETTER

The Newsletter of the International Spill Response Community
Issue 311, 28 November 2011

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News

IMO ASSEMBLY ELECTS NEW 40-MEMBER COUNCIL



The Assembly of the International Maritime Organization has elected the following States to be Members of its Council for the 2012-2013 biennium:

Category (a) 10 States with the largest interest in providing international shipping services:

China, Greece, Italy, Japan, Norway, Panama, Republic of Korea, Russian Federation, United Kingdom, United States.

Category (b) 10 States with the largest interest in international seaborne trade:

Argentina, Bangladesh, Brazil, Canada, France, Germany, India, Netherlands, Spain, Sweden.

Category (c) 20 States not elected under (a) or (b) above, which have special interests in maritime transport or navigation and whose election to the Council will ensure the representation of all major geographic areas of the world:

Australia, Bahamas, Belgium, Chile, Cyprus, Denmark, Egypt, Indonesia, Jamaica, Kenya, Liberia, Malaysia, Malta, Mexico, Morocco, Philippines, Singapore, South Africa, Thailand, Turkey.

The Council is the executive organ of IMO and is responsible, under the Assembly, for supervising the work of the Organization. Between sessions of the Assembly, the Council performs all the functions of the Assembly, except that of making recommendations to Governments on maritime safety and pollution prevention.

The newly elected Council will meet following the conclusion of the 27th Assembly for its 107th session.

NEW ZEALAND: RENA'S SALVAGE TEAMS FACE NASTY CONDITIONS



The Sea Tow 60 astern of Rena. Almost all containers have been removed from the stern. 23 November Image credit: Maritime New Zealand

November 21 - Salvors working on the crippled Rena in New Zealand removing the ship's cargo have been grappling with strong winds, and rotten food within the containers they are trying to remove. The teams have been fighting against the 40-knot gusts, and still managing to remove more than what was originally projected for the operation.

The teams removed 15 containers on Monday from the stern of the Rena, making the total of removed containers to 64, in addition to the 88 which had fallen into the ocean earlier in the vessel's grounding. There are still 1,126 containers that need to be removed from the ship, some of which are refrigerated containers holding rotting food. The containers filled with decomposing food were processed at the Port of Tauranga, along with all other removed containers, by container recovery specialists, Braemar Howells.

Maritime New Zealand salvage unit manager, Arthur Jobard, has said that the teams have done well to remove so many containers amid the dangerous weather conditions. He also reported that a warm water washing trial aimed at removing oil from nearby rocks has also been very successful. [Read more](#)

November 27 - [Following a period of rough weather] the crane barge *Sea Tow 60* was repositioned alongside the *Rena* today and salvors had removed 20 containers from the vessel by 4:00pm today. A total of 116 containers have now been removed from the *Rena*. There are favourable weather conditions forecast for the next few days.

The shoreline clean-up teams will resume work tomorrow in targeted areas. Warm water washing will take place at Mt Maunganui and general grooming and surf washing around Papamoa. [View media releases from Maritime New Zealand](#)

BRAZIL: CHEVRON OIL SPILL FALLOUT STILL BEING ASSESSED- EXPERTS

November 23 - Chevron Corp's efforts to contain an oil spill at its prospect offshore Brazil appear to have worked, but it is too early to say whether the accident is a major setback for offshore producers that push technological limits to tap crude, experts said....

....This week Brazil fined Chevron \$28 million for causing the spill, which the nation's National Petroleum Agency said reached 200 to 330 barrels of oil per day at its height. Chevron estimated a total of 2,400 barrels leaked....

....Chevron said the spill occurred because the company underestimated pressure in the reservoir and overestimated strength of the rock through which they drilled. The incident occurred on Nov. 7 after the drill bit hit an unexpected pressure spike, causing oil and drilling mud to rush up the wellbore, Chevron said.

Chevron shut a blowout preventer atop the well to stop the flow, but that force could have fractured brittle rock along the wellbore, giving oil a sideways route out to natural upward crevices, Van Nieuwenhuise said. Gulf of Mexico rock layers are generally more pliable, prone to give in a similar scenario, he said.

He said offshore producers study seismic and other data about rock layer formations before drilling to avoid pressure pockets. Sometimes engineers miss a pocket or it doesn't show up on the data. Saleri said companies manage unexpected kicks by circulating drilling mud, or a mixture of barite, clay and water that is heavier than oil, and perhaps cement to hold back the crude. Chevron said its mud was too light. "Particularly with gas pockets in shallow horizons, it happens everywhere both in the states and overseas," he said. "There are ways of responding to it. The blowout preventer is a step, but it is a last resort." [Read more](#)

CANADA: ALBERTA REGULATORS PROBE PIPELINE BREACH, 500,000 LITRES OF WATERY OIL SPILLED

November 24 - Regulators are investigating the cause of a breach in a pipeline that leaked a half million litres of watery oil in northwest Alberta.

The Energy Resources Conservation Board says some of the Oct. 7 spill from the Penn West Exploration (TSX:PWT) oil well line got into a creek south of the community of Swan Hills. The board says the company has since recovered more than five million litres of water that was contaminated by the spill and 2,300 tonnes of soil from the area. Calgary-based Penn West says the leak was from an emulsion line that carries unprocessed watery oil from old oil wells for processing. [Read more](#)

INDIA: PALM OIL SPILL IN SEA AS BARGE SINKS NEAR PORT

November 23 - Palm oil from a sinking barge spilled in the sea affecting coastal area between Nagapattinam and Vailankanni today, police said. The barge "World Bridge", carrying over 210 tonnes of palm oil sunk near Nagapattinam port after colliding with a rock due to rough tides. The palm oil from the sinking barge spilled on water surface, causing oil sheen in over a five km radius affecting coastal area between Nagapattinam and Vailankanni. [Read more](#)

AZERBAIJAN HAS ALL FACILITIES TO PREVENT OIL SPILL ON CASPIAN SEA



November 21 - Azerbaijan in the person of the Ministry of Emergency Situations has all facilities to prevent emergency situations, connected with extracting hydrocarbons in the Caspian Sea, Deputy Minister for Emergency Situations Faig Taghizadeh said at "The Industrial safety in the energy industry in Baku. Oil spills on land and sea" conference.

"Azerbaijan possesses seven pipelines to transport oil and gas," Taghizadeh said. "The country produces oil and gas both onshore and offshore, which necessitates warning and preventing oil spills."

Particularly, the ministry has 11 ships to respond emergencies at the sea, with seven designed to extinguish fires. The Ministry has amphibious aircraft and helicopters.

Thus, the agency has all the necessary equipment, vehicles and technology to prevent emergency situations on production platforms in cases of wells flowing.

According to Taghizadeh, the Ministry is actively engaged in cooperation in this field with Kazakhstan and Russia. A system is established to respond such emergencies in the Caspian Sea in cooperation with the Kazakh and Russian sides. [View source article Trend E.Ismayilov](#)

IRAN TO BUILD ONE OF LARGEST OIL RECOVERY VESSELS

November 22 - Iran plans to invest \$35 million for construction of its first vessel designed to deal with oil spills, Tehran Times reported.

This vessel will be one of the largest of its kind and it will be constructed by Iran Shipbuilding & Offshore Industries Complex Company (ISOICO) in cooperation with Norwegian experts. The vessel will operate in the Persian Gulf to collect oil spills.

The oil recovery vessel (ORV) is especially developed to recover oil spills from an oil disaster at sea and other offshore cleanup duties. [Read more](#)

AUSTRALIA LIFTS OIL SPILL FINES TO \$11 MILLION

November 21 - Australia has increased maximum fines for ships that spill oil from \$1 million to \$11 million (US \$11 million) in response to a Chinese coal carrier grounding on the Great Barrier Reef.

Parliament passed new laws late Monday for the discharge of oil or oil residue by ships in Australian waters. Shipping companies will also have to contribute to cleanup costs. [Read more](#)

USA: EXXONMOBIL IN \$93M BATTLE OVER UNFORESEEN DAMAGES IN 1989 SPILL

November 15 - Attorneys for the state of Alaska, the federal government and ExxonMobil weighed in on Tuesday afternoon in one of the final chapters of the Exxon Valdez oil spill saga -- the reopener clause in a 1991 agreement that could allow the state to collect additional money for unforeseen damages caused by the spill.

The billion-dollar settlement after the 1989 spill put a \$100 million cap on damages. The state has asked for \$93 million.

During Tuesday's hearing, U.S. District Court Judge H. Russel Holland gave attorneys for the state and federal government 15 minutes each to make their final oral arguments. ExxonMobil also received 15 minutes to present its case, plus an additional 15 minutes to rebut the state and federal attorneys' arguments. [Read more](#)

U.S. EPA EYES MORE DISCLOSURE OF FRACKING CHEMICALS

November 23 - The U.S. Environmental Protection Agency said on Wednesday it wants to provide more public information about the chemicals used in hydraulic fracturing, and will look at a new rule to gather data about the controversial technique.

Drillers blast sand, water and chemicals into wells deep beneath the earth's surface to open up vast reserves of domestic oil and natural gas from layers of shale rock. Environmental groups have questioned whether the practice of "fracking" is affecting the quality of water near the wells.

The oil and gas industry has argued that fracking does not pollute water, and many operators already disclose the chemicals they use to state regulators or voluntary databases.

The EPA said it aims to propose a new rule to gather the chemical data using its authority under the Toxic Substances Control Act, but wants to avoid duplicating efforts already under way in states and within the industry. [Read more](#)

USA: EPA PROPOSES OPERATOR TRAINING, STRONGER CONTAINMENT REGULATIONS FOR STORAGE TANKS

November 22 - The Environmental Protection Agency is proposing to strengthen regulations governing underground storage tanks, adding new rules for backup containment and extending training requirements to more storage tank owners and operators (76 Fed. Reg. 71,708).

State agencies that accept federal UST grant money are required under current regulations to set operator training requirements under the Energy Policy Act, but the requirements do not cover underground tanks on tribal lands and in states that do not accept federal funds.

The proposed revisions would implement training requirements nationwide. The proposed regulations would apply to tanks that hold petroleum or hazardous chemicals, which are regulated under Subtitle I of the Resource Conservation and Recovery Act. They would not affect underground storage tanks containing hazardous waste, which are regulated under RCRA Subtitle C.

The proposed revisions are designed to better prevent and detect leaks from UST systems, which can cause groundwater contamination, EPA said. The proposal represents the first major revisions to federal UST regulations since 1988. [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group, for providing the link to this news item] [Read more](#)

NORWAY: OIL SPILLS CAUSE OXIDATIVE STRESS FOR UP TO 20 YEARS

November 21 - Despite not being visible to the human eye, the effects of oil spills can affect fish DNA, and cause oxidative stress for years after, according to an international collaborative project. Major oil discharges such as the one from the drilling rig Deepwater Horizon or the grounding of the Full City off Langesund, Norway, have wrought havoc on the natural environment.

The research project Toxprof examined the impacts of oil discharges along the coast of Europe. The researchers studied the effects of common Arabian light crude as well as oil from the Norwegian Ekofisk field, in addition to the diesel fuel commonly used by ships.

The experiments were carried out at the University of Oslo's marine biological station at Drøbak, located on the Oslo Fjord. Seawater was pumped through coarse sand containing oil that was partially broken down by UV radiation. The oil then floated to aquariums containing cod, mussels or spotted goby. In this way the researchers could control the concentrations of the oils' environmentally hazardous components. [Read more](#)

LOUISIANA SEAFOOD NOT CONTAMINATED BY BP OIL SPILL, STATE SAYS

November 24 - Despite the negative stigma that still surrounds the Gulf Coast following the BP oil spill last year, the Louisiana Department of Wildlife and Fisheries announced Thursday that tests show sea life in the region has not been contaminated by the oil spill.

The state's wildlife department has been testing fish, crab, oysters and finfish since the spill in April 2010. As part of the reparations BP Plc. paid to the Gulf following the spill, \$48 million was dedicated to state agencies monitoring the long-term impacts on local wildlife from the oil spill and chemical dispersants used to clean the spill.

"The testing protocol, the first of its kind, analyzes water and seafood samples for pollutants found in the spilled oil and in various chemicals applied to disperse the oil. So far, no contaminants have been detected in any piece of seafood tested since the spill," read the department's statement. [Read more](#)

MARINE OIL AND CHEMICAL SPILL RESPONSE: UK GUIDELINES LAUNCHED



An article sent in by Mark Kirby, Offshore Industries and Emergency Response Programme Manager, Cefas Lowestoft Laboratory

A set of **new guidelines** to strengthen the response to oil and chemical spills at sea has just been published.

The post-incident monitoring guidelines are a key output from the **PREMIAM** project (Pollution Response in Emergencies: Marine Impact Assessment and Monitoring) which was initiated in 2009.

A comprehensive document, the guidelines provide the principles upon which effective post-spill monitoring and impact assessment in UK waters will be based and is supported by 19 UK government partners. The guidelines cover a wide range of issues including:

- planning surveys
- sampling practices (including handling and storage)
- chemical analysis
- ecotoxicology
- ecological assessment.

Chemical and oil spills in the marine environment remain a significant threat. While large spill incidents remain relatively rare, events such as the Deepwater Horizon in the Gulf of Mexico and, more recently, the grounded container ship *Rena* in New Zealand show the importance of effective response.

Rapid response, improved preparedness and effective post-incident monitoring and assessment are all key parts of an effective response and these guidelines and other outputs from the project will help to deliver that for the UK.

Cefas' Mark Kirby, the PREMIAM project co-ordinator, says: "The publication of the guidelines marks an important step in our ability to mount effective and co-ordinated post-spill monitoring programmes."

The UK has been no stranger to significant marine incidents, with large spills from the *Sea Empress*, *Braer* and *MSC Napoli* all requiring major post-spill monitoring operations.

Kirby continues: "The size and importance of the offshore oil and gas and shipping industries in the UK means that there is a need for continued vigilance and improvement of post-spill response and monitoring activities.

"The guidelines published today came about because of excellent co-operation among a wide range of UK government departments and agencies, coupled with very positive feedback from both industry and conservation bodies during an extensive consultation period. Such combined effort means that the guidelines provide a credible and widely supported process for any UK response in future."

The PREMIAM project is developing processes whereby expertise, equipment and facilities necessary for effective monitoring of oil and/or chemical spills are identified and engaged. The project also provides a mechanism through which the UK's post-spill monitoring programme is co-ordinated and managed.

Notes

1. PREMIAM is an ongoing project, funded by Defra (the UK's Department for Environment, Food and Rural Affairs), with a long-term legacy. It is co-ordinated by emergency-response and impact-assessment experts from Cefas (Centre for Environment, Fisheries & Aquaculture Science). For more about Cefas' expertise, visit www.cefas.defra.gov.uk/.
2. The project has wide support from all UK government departments and agencies involved in post-spill issues. There are 19 UK **PREMIAM partners** in all, and they engage the scientific and emergency response community in delivering the project's **aims**.
3. To download the PREMIAM guidelines, visit <http://cefas.defra.gov.uk/premium/guidelines.aspx>.
4. For more information about the PREMIAM project, contact premium@cefas.co.uk or mark.kirby@cefas.co.uk.



In this issue of the ISCO Newsletter we are printing No. 53 in a series of articles contributed by Dr Douglas Cormack.

Dr Douglas Cormack is an Honorary Member of ISCO. As the former Chief Scientist at the British Government's Marine Pollution Control Unit and head of the UK's first government agency, the Warren Spring Laboratory, Douglas is a well known and highly respected figure in the spill response community. He is the Chairman and a founder member of the [International Spill Accreditation Association](#)

KNOWLEDGE OF DISPERSANT USE (CHAPTER 53)

The first trial with the Hiller UH12E with the 18ft bucket strop was to investigate the effect on the percentage spray delivery and droplet size spectrum of operating with the spray boom at heights of 10, 20 and 30 ft above the ground in variable wind speeds of 5-10knots, the pilot being assisted by a 30ft graduated mast at the side of his flight path and by radio contact with observers on the ground. To determine this percentage of the 10 gallons per acre (11ml m^{-2}) spray rate, 20cm diameter clock glasses were placed at 2m intervals across the swath width, pre-weighed tissues were removed from sealed tubes to absorb collected droplets and resealed for subsequent reweighing, while the water (dyed with Kiton Red) was rinsed from a second row of clock glasses with distilled water, made up to 50ml in standard flasks to confirm the delivered spray weights by calibrated absorbance in a Perkin-Elmer 550 UV/visible spectrophotometer with the droplet size spectrum being determined by measuring spot diameters produced by collected spray on 24cm diameter filter papers.

The second Hiller trial with the 18ft strop was to investigate the effect of dispersant viscosity on spraying performance with the dispersants being dyed with oil soluble Erythrosine Red. In this trial the pre-weighed tissue technique of trial 1 was used to determine the percentage actually delivered of the 10 gallon per acre spray rate, while the Kromecote cards of Ciba-Geigy Ltd replaced the earlier filter papers, the cards being photographed for spot diameter measurement.

The results of dye analysis are independent of evaporation and thus measure the discharge rate while the tissue weight measures the rate of arrival, the difference between them indicating a loss of 15% by evaporation. which was confirmed to $\pm 15\%$ by measurement of discharge rates and of before-and-after measurements of bucket contents. As to droplet size, the volume mean diameter (VDM) was found to be $950\mu\text{m}$ with a geometric standard deviation of (GSD) of 3.4, though there was a gradation in size from one edge of the swath to the other induced either by a small cross wind vector or a turbulence caused by the helicopter itself. As to variation in altitude, the droplet size distribution and the application rate remained unaffected across the 12 m swath width, while the general handling of the aircraft-bucket combination was confirmed to be satisfactory and the bucket to be easily attached and removed with the aircraft hovering. Because altitude variation did not influence results in the range investigated, it was decided to opt for 20ft in subsequent trials in light of the increasing difficulty of maintaining constancy at lower altitudes.

The dispersants selected for the two viscosity-related trials are tabulated below.

| Trial | Dispersant | Supplier | Ambient Viscosity (cP) |
|-------|---------------------|---------------------|------------------------|
| 1 | BP 1100WD | BP Chemicals | 20 |
| | Finasol OSR7 | Petrofina UK | 70 |
| | Dasic Slickgone LTD | Dasic International | 230 |
| 2 | Dispolene 345 | SEPPIC (France) | 110 |

Though the viscosity of Dasic product was within the viscosity range specified by WSL in its guidance for dispersant formulation (c.f. article 48) difficulty was encountered in meeting the target application rate of 10 gallons per minute (11ml m^{-2}) thus causing the SEPPIC product to be chosen for Trial 2 to extend the above range of viscosity beyond 70 but $< 230\text{cP}$. Following these trials Dasic introduced the less viscous LTE formulation. Nonetheless, while droplet size is expected to increase with viscosity for constant energy input this appears to be belied by Trial 1 in which water had a VDM of $950\mu\text{m}$ while the VDMs of the products in ascending viscosity were $570\mu\text{m}$ with a GSD of 3.22, $700\mu\text{m}$ with a GSD of 2.32, and $670\mu\text{m}$ with a GSD of 2.08. Thus, with surface tension and perhaps density also having an influence on droplet formation, viscosity cannot be solely controlling. In any case, application rate, droplet size and droplet distribution across the swath width were shown to be satisfactory.

For the second helicopter trial in which dispersant was applied to oil at sea, the twin-engine Aerospatiale 365 with its radio altimeter and bucket strop of 5ft replaced the single-engine Hiller this being in compliance with regulated operation over water. This trial confirmed that slicks of fresh Kuwait and 1200cSt fuel oil as laid by *RV Seaspring*, could be dispersed by one treatment, though parts of both slicks remained untreated after two passes, indicating difficulty in placing the dispersant, altitude maintenance being difficult enough even with an observer monitoring the radio altimeter from the co-pilot's seat.

1 The *Rational Trinity: Imagination, Belief and Knowledge*, D.Cormack, Bright Pen 2010 available at www.authorsonline.co.uk

2 *Response to Oil and Chemical Marine Pollution*, D. Cormack, Applied Science Publishers, 1983.

3 *Response to Marine Oil Pollution - Review and Assessment*, Douglas Cormack, Kluwer Academic Publishers, 1999.

Training

IN-SITU BURNING WORKSHOP



During the Macondo oil spill response effort in the Gulf of Mexico a high level of in-situ burns was recorded with great success – the largest recorded number of marine in-situ burns used in response history. Prior to the Macondo incident, In-Situ Burning (ISB) was largely considered as an alternative response strategy, the industry possessed little experience of implementing this strategy and had only conducted limited tests on the effectiveness and impacts of ISB.

The ISB undertaken during the Macondo response not only proved that in the right conditions ISB can be an effective strategy to deal with free-floating oil slicks, it also provided credible opportunities to hone the techniques used, gather data and assess the overall effectiveness of this choice of strategy.

It can now be argued that ISB should be considered a key strategy for dealing with offshore oil slicks where the conditions are suitable, regulations permit its use and where an ISB strategy can provide net benefit to the environment.

Oil Spill Response Organisations (OSRO's) and oil industry stockpiles of response resources have been augmented with additional ISB equipment in light of the success of its use in the Macondo incident. Like any response strategy the greatest success is only achieved when preparations are undertaken prior to a response event; this includes the involvement of stakeholders in policy making, response planning, training and exercising. This ISB workshop has been designed to give oil industry personnel and government regulators the knowledge and competence to develop ISB response strategies, tactical plans and implement response operations safely and effectively using available resources.

This one day course, being organized by Oil Spill Response Ltd., will be held in London. [More info](#)

For additional information, including course dates, contact stevewoods@oilspillresponse.com

Events

UK: HAZMAT 2012 – 6-7 MARCH 2012, CROWNE PLAZA HOTEL, NEC BIRMINGHAM

Hazmat 2012 is our 5th annual conference and is now established as one of the main avenues for Hazmat specialists to share experiences and knowledge. The conference draws on the knowledge and experience of a range of hazmat professionals and industry leaders, as well as that of NCEC's own emergency responders and experts.

This years topics include: • Hazmat case studies • Update in REACH and GHS legislation • DIM update – Detection, ID and monitoring • Fire fighting foam – environmental picture • Ionising radiation – an overview • Chemical product Mutual-aid schemes • Remote robot response • Illicit drugs labs • Practical case studies • Toxicology [More info](#)

Publications

US EPA: TECHNOLOGY INNOVATION NEWS SURVEY

The September 16-30, 2011 *Technology Innovation News Survey* has been posted to the CLU-IN web site. The *Survey* contains market/commercialization information; reports on demonstrations, feasibility studies and research; and other news relevant to the hazardous waste community interested in technology development. The latest survey is available at: <http://www.clu-in.org/products/tins/>

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