

### ISCO NEWSLETTER

The Newsletter of the International Spill Response Community Issue 315, 3 January 2012

info@spillcontrol.org http://www.spillcontrol.org



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#### News

### IOPC FUNDS LAUNCHES NEW HNS FINDER AND REDEVELOPED HNS CONVENTION WEBSITE



Her Excellency Madame Odile Roussel, Ambassador of France to the International Maritime Organization, signed the HNS Protocol on 25 October 2011. Present were IMO Secretary-General Efthimios E. Mitropoulos (middle) and IOPC Funds Director Jose Maura

Canada, Denmark, Germany, Greece, the Netherlands, Norway and Turkey also signed the treaty subject to ratification.

The new website has been established by the Secretariat of the International Oil Pollution Compensation Funds to facilitate the implementation of the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996 as revised by the Protocol of 2010 to the Convention (2010 HNS Convention).

The 2010 HNS Convention establishes a comprehensive regime covering pollution damage from hazardous and noxious substances carried by ships, as well as the risks of fire and explosion, including loss of life, personal injury, and loss of or damage to property.

The new website allows you to monitor the status of the Convention and its implementation. As of 31 October 2011, Canada, Denmark, France, Germany, Greece, the Netherlands, Norway and Turkey signed the 2010 HNS Protocol, subject to ratification. The Convention establishes a comprehensive regime covering pollution damage from hazardous and noxious substances carried by ships, as well as the risks of fire and explosion, including loss of life, personal injury, and loss of or damage to property.

The HNS Finder allows you to search the list of all HNS as defined by the 2010 HNS Protocol. It provides information on HNS classification criteria and whether or not a substance qualifies as contributing cargo.



HNS containers on MV Hyundai Fortune explode and catch fire off the coast of Yemen in March 2006. The cost of the ship and lost cargo is estimated to be over \$800 million.

You can access the home page at the <u>HNS Convention website</u> and you can open individual pages with more information by clicking on these links –

The Convention ■ HNS Finder ■ Status ■ HNS Reporting ■ Implementation ■ Resources

## IRELAND & UK NORTHERN IRELAND: CONCERNS OVER LOADED TANKER WITH DECK CRACK December 16 - Tanker re-routed amid cracks fears



A tanker carrying more than 55,000 tonnes of gas oil off the north west of Ireland has been re-routed to Belfast amid fears over cracks to its body. The vessel, Genmar Companion, en route from Rotterdam to New York, was anchored 25 miles off Tory Island after calling for assistance.

The 228m tanker, with its cargo of Vacum Gas Oil, is expected in Belfast port for inspections of the hull and where repairs are to be carried out.

The Irish Coast Guard said a crack had been spotted running along the deck during inspections in Rotterdam but it was deemed safe to put to sea. Concerns were raised over potential weather conditions and the vessel, with a crew of 23 on board, is about 40 nautical miles north-west of Malin Head. [From a report in the Belfast Telegraph] Read more

#### December 30 - Cargo from tanker Genmar Companion will be removed by Ship2Ship transfer

Plans to remove the cargo of 54,304 tonnes of Vacuum Gas Oil from the tanker Genmar Companion have now been finalised. The transfer will start on 31 December 2011 (weather permitting).

The vessel has been sheltering off the Copeland Islands at the entrance to Belfast Lough since 16 December. It was 40 miles west of Tory Island, Co. Donegal, on its journey from Rotterdam to New York, when the Master reported a crack on its upper deck. This

crack did not appear to extend to any of the oil cargo holding structures but, as a precautionary measure, the vessels Master chose to seek both shelter and advice before continuing passage.

The Bermudan-flagged product tanker made its way to the Lough to enable surveyors to inspect the ship. Following this inspection all parties agreed that, as a precautionary measure, the cargo should be removed and the ship repaired. As there are no shore reception facilities at Belfast Harbour for a tanker of this size the only option is to transfer the cargo to another vessel. The process is expected to take approximately 24-36 hours. Following the transfer of the cargo to the vessel BW Seine the Genmar Companion will enter Belfast Harbour for repairs. [Report in the Maritime Bulletin – Read more]

#### December 31 - Oil move from tanker delayed

A damaged oil tanker which has been sheltering off the Copeland Islands will not have its cargo transferred for at least another two days. The Genmar Companion has been anchored at the entrance to Belfast Lough since December 16 after developing a crack in its upper deck.

A spokesman for the Coastguard said: "There is a second ship, the BW Seine, heading towards the tanker. "It is currently in the North Sea and it could take another two days before it reaches the vessel and starts to transfer the cargo." [Report in Belfast Telegraph] Read more

#### January 2 - Belfast Lough transfer of tanker's oil cargo expected

54,000 tonnes of oil are due to be transferred from a damaged oil tanker to another ship at the mouth of Belfast Lough.

The Genmar Companion has been anchored off the Copeland islands after a crack developed in its upper deck on 16 December.

The oil transfer, which is due to begin later is likely to take between 24 and 36 hours. The ship will then enter Belfast harbour for repairs. [BBC News Report] Read more

#### NIGERIA: OFFSHORE OIL SPILL IN BONGA OILFIELD

#### December 22 - Shell oil spill off Nigeria, now approaching shore, likely worst in decade for nation

An oil spill near the coast of Nigeria is likely the worst to hit those waters in a decade, a government official said Thursday, as slicks from the Royal Dutch Shell PLC spill approached the country's southern shoreline.

The slick from Shell's Bonga field has affected 115 miles (185 kilometers) of ocean near Nigeria's coast, Peter Idabor, who leads the National Oil Spill Detection and Response Agency, told The Associated Press. Idabor said the slick continued to move toward the shore Thursday night, putting at risk birds, fish and other wildlife in the area.

Shell, the major oil producer in Nigeria, said late Thursday the spill came from a "flexible export line" connecting the offshore field to a waiting tanker. The company published photographs of the spill, showing a telltale rainbow sheen in the ocean, but said it believes that about 50 percent of the leaked oil has already evaporated. [With acknowledgement to Washington Post] Read more

#### December 24 - Ships, planes attack major Shell oil spill off Nigeria

Shell on Friday deployed ships with dispersants and planes in a bid to mop up one of Nigeria's worst offshore oil spills in recent years, a spokesman said, amid fears it could soon reach the shoreline.

A Shell spokesman in Nigeria said five vessels and two aircraft had been deployed to attack the oil slick, with the company estimating the amount of the spill at its Bonga field at less than 40,000 barrels.

The leak has been stopped since the company became aware of it on Tuesday.

"Investigation is going on," Tony Okonedo said. Asked whether ships had been deployed as planned on Friday, he said, "Five vessels, two aircraft ... oil spill response specialists and other personnel are involved." [Report in GMA News] Read more

#### December 26 - Royal Dutch Shell says Nigeria spill contained

The worst Nigeria offshore oil spill in more than a decade has been contained before reaching the West African nation's coast, officials with Royal Dutch Shell PLC said Monday, less than a week after one of its lines bled crude into the Atlantic Ocean.

An investigation into how the spill of less than 40,000 barrels — or 1.68 million gallons — happened remains ongoing, though company officials acknowledged workers only discovered the leak after seeing a sheen of crude in water surrounding its Bonga offshore oil field.

Meanwhile, Shell officials say the company will clean up another spill it discovered while containing its own — highlighting how prevalent pollution remains in oil-stained Nigeria after more than 50 years of production. [Report in ABC News] Read more

#### CHINA: NEW OIL SPILL BASES AND POLLUTION FUND SET UP

#### December 21 - Oil spill response base network set to open

Twelve national-level bases for offshore oil spill response equipment are poised to open by year-end as an ever-rising number of oil tankers sail China's shores and offshore oil exploration facilities multiply.

There will eventually be 29 bases near major coastal cities and along the Yangtze and Yellow rivers, a Ministry of Transport (MOT) official said on condition of anonymity.

The MOT, established in 2008 to oversee the regulation and development of road, water and air transport, is directing the base construction program. These facilities will cover all major oil spills within 20 nautical miles of the coast.

There will be four large bases in Dalian of Liaoning province, eastern coastal Shanghai, Ningbo of Zhejiang province and the Hong Kong special administrative region. The facilities will be able to clean up about 1,000 tons of spilled oil. Another six mid-sized bases will be able to deal with spills of up to 500 tons.

The source didn't specify the locations of the 12 bases that are about to open or provide a timeline for the completion of all 29 bases. [Report in China Daily] Read more

#### December 30 - Chinese Oil Company CNOOC to Launch a Research Fund after Oil Spill

China National Offshore Oil Corp. announced that it intends to set up an environmental protection fund of its own, months after ConocoPhillips said in September it intended to compensate local Chinese communities and pay for environmental damage following a spill at one of the company's offshore rigs in Northern China.

The Chinese fund, a partnership between CNOOC and CNOOC Ltd., according to CNOOC's website, is designed to prioritize the protection of Bohai Bay's marine environment. In addition, the fund will be used to sponsor added research and technology advancements, and may also be used to fund unspecified public projects.

CNOOC and its subsidiary are state-owned oil companies.

The \$79.4 million fund has yet to be approved by China's Ministry of Civil Affairs. ConocoPhillips and CNOOC Ltd. are partners in a Chinese oil field that experienced an oil spill last summer. [Report in International Business Times] Read more

#### BRAZIL: ANOTHER OIL SPILL AND A SECOND FINE FOR CHEVRON

#### December 19 - Brazil reports another oil spill near Rio de Janiero

Brazilian authorities announced this week they have located another oil spill off the coast of Rio de Janiero state.

Roughly 2,600 gallons of oil have leaked off the Brazilian coast since Sunday. The spill, reported Agence France Presse, threatens an area of the country's coast line that Carlos Minc, Environment Secretary in Rio de Janeiro state, called an ecological treasure.

Cause of the leak is under investigation, but it's tied to a rig operated by Mitsui Ocean Development & Engineering Co. Ltd. (Modec), a Japanese-based general contractor that specializes in offshore floating production of oil. [From a report in International Business Times] Read more

### December 24 - Brazil slaps Chevron with \$5.4 million fine for alleged mishandling of oil leak off coast

Brazil's environmental protection agency has slapped a new fine on Chevron for what it says was the U.S. oil company's poor handling of a spill last month off the coast of Rio de Janeiro state.

Chevron was fined 10 million reals (\$5.4 million) due to an alleged "breach of its environmental license" — It did not have the necessary equipment and was slow to respond when the leak was detected, the agency announced Saturday on its website

Chevron said in an e-mailed statement it implemented its emergency plan in a "timely manner." [From an Associated Press Report] Read more

#### NEW ZEALAND: RENA UPDATE FROM MARITIME NEW ZEALAND AND REPORTS OF PRE-EXISTING SAFETY PROBLEMS

#### December 22 - Operations to continue over the holidays

Salvage and container recovery operations on *Rena* will continue throughout the Christmas and New Year break, while oil spill response teams will remain ready to respond should more oil come ashore during the holidays, says Maritime New Zealand (MNZ).

MNZ National On Scene Commander, Rob Service, said while oil spill response activity would be scaled back during the Christmas/New Year period to give teams a well-deserved break, they remained on call and ready to respond should more oil from *Rena* hit local beaches.

Salvors and staff from container retrieval company Braemar Howells would also continue to work through the holidays on removing and processing containers taken from the *Rena*. Read the complete update from Maritime NZ

#### December 22 – "Rena had at least 17 safety problems before crash"

When an Australian ship inspector took a close look at a metal pin securing cargo on the Rena, he realized it wasn't an original. It was too thin and had no tab to keep it from falling out. Then he discovered that cleats securing the hatch could be removed with a single finger.

Those were just two of 17 safety problems Tim Jordan and other inspectors found when the cargo ship docked in western Australia in July.

Someone had tampered with an alarm. The navigation manuals were out of date. The data recorder was still wrapped in its canvas.

The violations are described in records obtained by The Associated Press under Australian freedom of information laws. Inspection reports, emails and faxes tell the story of how Australia impounded the Greek-owned vessel, which like many ships is registered in Liberia, but then released it the next day after Liberian maritime authorities intervened, essentially saying the ship was safe to sail and the problems could be fixed later. [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group for providing the link to the article in the NZ Herald] Read more

#### **USA: GULF OF MEXICO**

#### January 1 - £161m win for BP over Gulf oil spill pay-out

Oil giant BP has won a £161 million compensation deal from the maker of the blowout preventer that failed to stop last year's massive spill in the Gulf of Mexico.

BP said the agreement with Cameron International was "in their mutual best interests" and stressed it was not an admission of liability by either party. Bob Dudley, BP group chief executive, said the settlement allows BP and Cameron to "put our legal issues behind us and move forward to improve safety in the drilling industry".

Both companies are dropping all claims against one another as part of the settlement. BP has already settled claims with partners in the Deepwater Horizon rig and a third company, Weatherford, the maker of a part used in the well. Shares in BP closed down 2.1p at 444.75p. [From an article in the Scotsman] Read more

#### December 22 - U.S. Conducts First Unannounced Oil Spill Drill since MMS Reorganization



In this file photo from the USCG, an aerial view of the vessel Discoverer Enterprise as it recovers oil from the riser insertion tube approximately 85 miles off the coast of Mobile, May 17, 2010. U.S. Coast Guard photo by Petty Officer 3rd Class Renee C. Aiello.

The recently formed Bureau of Safety and Environmental Enforcement (BSEE), one of two federal agency's that resulted from the reorganization of the Mineral's Management Service, said today it has just completed its first unannounced oil spill drill, aimed at testing an operators ability to handle subsea a well control situation. The table-top drill, which took place last week, was led jointly by BSEE in conjunction with the U.S. Coast Guard and the State of Louisiana and tested Stone Energy Corporation's ability to assess a subsea well control situation and mobilize the proper subsea containment/intervention equipment.

"The Unannounced Spill Drill Program provides an effective tool that helps us ensure operators are appropriately trained in effective containment deployment and that the necessary equipment and resources are truly in place to implement the approved response plan," said BSEE Director James Watson. "This program is one of many diverse activities we employ within our agency to ensure operators are able to fully execute their oil spill response plans."

The Unannounced Spill Drill Program, which was initiated in 1989, tests an operator's ability to notify the appropriate entities and personnel in the event of a spill, including federal regulatory agencies, affected state and local agencies, internal response coordinators, and response contractors, and to take appropriate action to implement their response plan. [Fom the gCaptain website] Read more

#### MALTA: TRANSPORT MALTA INVESTIGATES THE GROUNDING, OIL SPILL OF MALTESE SHIP

January 2 - Transport Malta is investigating the grounding of the Malta-registered TK Bremen, a 3,992 gross tonnage general cargo vessel built in 1982, which occurred on Friday morning northwest of the Quiberon peninsula on France's Atlantic Brittany coast. No injuries were reported and all 19 crew members were evacuated by helicopter.

Transport Malta said yesterday that it is in direct contact with the managers of the vessel and is closely monitoring the situation.

Preliminary reports received by the Marine Safety Investigation Unit indicate that some fuel oil has been observed on the water's surface. TK Bremen, which remains stranded on the beach, is reported to have been in ballast. A salvage operation is being planned amidst the heavy weather conditions currently prevailing in the region. [Malta Independent Online] Read more

#### RUSSIA: OIL SPILLS WREAK DEVASTATION



December 19 - On the bright yellow tundra outside this oil town near the Arctic Circle, a pitch-black pool of crude stretches toward the horizon. The source: a decommissioned well whose rusty screws ooze with oil, viscous like jam.

This is the face of Russia's oil country, a sprawling, inhospitable zone that experts say represents the world's worst ecological oil catastrophe.

Environmentalists estimate at least 1 percent of Russia's annual oil production, or 5 million tons, is spilled every year. That is equivalent to one Deepwater Horizon-scale leak about every two months. Crumbling infrastructure and a harsh climate combine to spell disaster in the world's largest oil producer, responsible for 13 percent of global output.

Oil, stubbornly seeping through rusty pipelines

and old wells, contaminates soil, kills all plants that grow on it and destroys habitats for mammals and birds. Half a million tons every year get into rivers that flow into the Arctic Ocean, the government says, upsetting the delicate environmental balance in those waters. [From an AP Report in the San Fransico Chronicle] Read more

#### **USA: REGULATIONS START TO CATCH UP AS FRACKING FLOURISHES**

Regulatory agencies in various states and countries are weighing in on hyrdraulic fracturing more than ever before.

Last week, the Environmental Protection Agency released a draft of its study on fracking. The federal agency found that fracking might have caused the contamination of water wells in the community of Pavillion, Wyo.

This is a long way from where the EPA left the issue when it released a study in 2004 that declared fracking was not likely to contaminate any water supplies.

The 2004 study prompted Congress to exempt fracking from EPA jurisdiction through the Safe Water Drinking Act in 2005. However, the explosion of shale plays because of fracking and horizontal drilling has prompted a growing number of complaints about water well contamination. In response, the EPA is increasing its studies and federal oversight. [Victoria Advocate.com] Read more

#### **USA: SECRET COLD WAR PROJECT RESULTS IN LARGEST US ENVIRONMENTAL CLEAN-UP**



Picture: U.S. Dept of Energy The Colex operation at Y-12 used vast amounts of mercury in the 1950s.

The exuberance of winning World War II — and playing a pivotal role — had barely died down when Oak Ridge received another secret assignment with national security on the line.

The Y-12 plant, which had enriched uranium for the atomic bomb dropped on Hiroshima, Japan, was asked to support development of lithium fuel for an arsenal of new super bombs.

These thermonuclear weapons would make the bombs that ended the war look like firecrackers, and they soon became the focus of a spiraling, ferocious arms race with the Soviet Union.

The Oak Ridge plant began the development work in 1950 and within a couple of years started experimenting with different processes to separate isotopes of lithium. The goal was to selectively concentrate the lighter lithium-6 isotope for use in fusion-type weapons, which became known as hydrogen bombs.

The lithium work was code-named "Alloy Development Program."

Most of the processes required the use of mercury, especially Colex (an abbreviation for "column exchange"), which proved to be the most successful. Some of the same big buildings that had been used for uranium enrichment during the Manhattan Project were converted to Colex production facilities. [Knoxnews.com] Read more

### CANADA: ENVIRONMENT CANADA CHEMISTS FINGERPRINT OIL IN FIGHT AGAINST OCEAN POLLUTERS

January 2 - Ships illegally dumping oil off Canada's coasts are having a harder time getting away with the crime because of a relatively new process used by government scientists.

Chemists at Environment Canada in New Brunswick have standardized the process that connects oil collected from the ocean to the ships that dump the pollutants.

The process, known as chemical fingerprinting, compares oil samples with the oil found on a ship, said Art Cook, head of chemistry at the Atlantic Laboratory of Environment Testing in Moncton. "Each oil is unique because each source of oil has different constituents and different starting materials," Cook said in a recent telephone interview. [Winnipeg Free Press] Read more



#### People in the news

### USA: NEW DEPUTY DIRECTOR OF THE BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT.

Margaret N. Schneider was selected as the Deputy Director of the Bureau of Safety and Environmental Enforcement. She is responsible for assisting the BSEE Director with the enforcement of safety and environmental regulations. Responsibilities include all field operations including permitting and research, inspections, offshore regulatory programs, oil spill response, and newly formed training and environmental compliance functions. Prior to assuming the duties of Deputy Director, Schneider served for several months as the Senior Advisor to the BSEE Director where she assisted with policy reviews and managed special projects for the Director.

Schneider had a 30 year career with the Environmental Protection Agency (EPA) before joining BSEE. Her final position at EPA was as the Associate Assistant Administrator for the Office of Water where she was responsible for policy and management issues in addition to working with external agencies. Prior to that, she served as the Principle Deputy Assistant Administrator for EPA's Office of Environmental Information where she managed national budget, security, information technology, acquisition and management issues for the EPA. [BSEE Press Release] Read more

#### **ISCO IN CHINA**

#### Sunic-Ocean and ISCO's joint presence at the Oil Spill Response Workshop 2011, Beijing China

An article contributed by Li Guobin and Robin Kuang – Li Guobin, General Manager of Sunic Ocean, is the Member of ISCO Council for China and a member of the ISCO Executive Committee. Robin Kuang is Assistant to Li Guobin.



In the picture: Sunic's general manager Mr. Li Guobin and ISCO's deputy representative Robin Kuang posed for a photo with the journalist after an interview by the UK media.

Topco organized the Oil Spill Response Workshop 2011 held on Dec, 6th 2011at the Oriental Bay International Hotel, Beijing China. Experts in the field of energy and spill response and government officials as well as equipment manufacturers and dealers from home and abroad attended the session. The workshop has attracted attention from the energy and oil response related industries as well as the domestic and foreign media.

To better address the challenges facing the oil and gas industry, to catalyze the development of global oil-spill knowledge and to encourage the sharing of experiences, the workshop featured discussions on innovations and best practices across oil spill response strategies and brought the audience up to date on technology and cost-efficient solutions for containing oil spills.

As the main sponsor of the event, Sunic-Ocean was invited to address the meeting and was privileged to set up an exhibition booth just opposite the door of the meeting hall. Sunic-Ocean's participating team includes the deputy representative of ISCO in China,

Mr. Robin Kuang who was especially responsible for the promotion of ISCO during the session.

In the picture: Sunic's sales engineer Mr. Liu Run at the exhibition booth of Sunic-Ocean

In the meeting the Vice-General Manager of Sunic's System Integration Division Mr. Cheng Mulin introduced ISCO to the audience along with the Sunic-Ocean's new thinking on the important role of surveillance and monitoring systems based on an unmanned vehicle for response to marine oil spills.

Mr. Robin Kuang and his Sunic colleagues distributed information about ISCO and explained the organization's function, background as well as the benefits of joining to the participants and media who visited Sunic's exhibition booth and were interested in Sunic's smart oil spill solutions and ISCO.

As to the presence of ISCO in China, people are interested in how it will connect China to the world community of spill emergency response. We believe as

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more publicity and promotional events on ISCO are pushed forward by Sunic and ISCO's functions and objectives become known to more Chinese, the organization will be definitely be accepted by the spill response society in China.

#### Cormack's Column



In this issue of the ISCO Newsletter we are printing No. 57 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

#### Cormack's Column (continued)

#### **KNOWLEDGE OF DISPERSANT USE (CHAPTER 57)**

Further to article 56, we know that dispersants will fail when high pour points and high viscosities combine against them. Thus, Boscan crude oil with viscosity of 18,000cSt at the reference temperature of 100°F and pour point of 60°F is solid at sea temperatures < 60°F (15°C). Thus, whatever its viscosity might be at ambient temperatures > 15°C it will remain non-amenable to dispersant treatment, while Bacquero medium and heavy crude oils with viscosities and pour points of 1478cSt at 100°F and -5°F and 3700cSt at 100°F and 0°F respectively, are liquid at seawater temperatures but non-amenable to dispersant treatment because of their high viscosities. Again, while Nigerian light crude has a viscosity of 4cSt and would be amenable to dispersants, its pour point of 60°F (15°C) ensures it will not be dispersible below this temperature and will be resistant to dispersion above it. Similarly, San Joaquim crude oil with an amenable viscosity of 34cSt as measured at 100°F would not naturally disperse or be dispersible because its pour point is 75°F (22°C). However, while such data have long been tabulated for easy reference, the question as to whether a crude oil will be non-dispersible/dispersible can be answered by ascertaining whether or not it is heated above ambient in transit and/or requires a further 10°F rise in temperature for discharge. Indeed, cessation of heating will effectively solidify such cargoes within an incident-damaged tank. Thus, the pour-point/viscosity question is neatly resolved by one parameter, the cargo operating temperature as is consistent with the following tabulation of non-dispersible crude oils.

Name	Loading Port	Country	Viscosity	Pour Point	Temperature	
			s SU at 100 <sup>0</sup> F	(°F)	Voyage (⁰F)	Discharge (°F)
Amna	Ras Lanuf	Libya	74	65	85	95
Bacquero medium	La Salina	Venezuela	1478	-5	135	135
Bacquero heavy			3700	0	135	135
Bahia	Salvador	Brazil	90	100	120	130
Bakr	Ras Gharib	Egypt	750	45	75	85
Belayans land	Wadi Feiran		439	40	60	70
Belayans marine			68	60	80	90
Boscan	Baho Grande	Venezuela	90000	60	165	175
Cabinda	SPMB-Landana	Angola	106	80	100	110
Cyrus	Kharg Island	Iran	1285	0	115	125
Duri	Dumai	Sumatra	600	35	80	90
El Morgan	Shakeer	Egypt	59	45	65	75
Eocene	Mina Abdulla	Kuwait	786	-30	80	90
Gamba	SPMG-Gamba	Gabon	163	60	80	90
Gippsland mix	Western Port Bay	Australia	33	60	80	90
Hoy Lake mix	La Salina	Venezuela	3000	10	135	135
Lagunillas			1200	-5	80	90
Mercy	Puerta La Cruz		1270	-10	80	90
Nigerian light	Bonny	Nigeria	38	60	80	90
Panuco	Tampico	Mexico	22000	35	140	150
Pilow	Carpito	Venezuela	9000	25	130	140
Quiriquie			760	-20	60	70
Ras Lanuf	Ras Lanuf	Libya	44	45	65	75
Rio Zalia	Santa Maria	Colombia	42	80	100	110
San Joaquim	Puerta La Cruz	Venezuela	34	75	95	105
Santa Rosa			30	50	70	80
Sarir	Marsa El Hariga	Libya	61	70	90	100
Seria	Lutarg	Sarawak	34	65	85	95
Tia Juana heavy	La Salina	Venezuela	1040	-35	80	90
Zeta North	Puerta La Cruz		42	70	90	100

Thus, for contingency planning purposes it is possible to know which crude oils cannot effectively be dispersed. At this point, it should be noted that viscosities may be quoted in units of Saybrook Universal seconds, Engler Specific degrees, Admiralty Redwood seconds, centiStokes, seconds Redwood No 1, *etc*, inter-conversion scales and temperature dependency plots being readily available.

<sup>1</sup> The Rational Trinity: Imagination, Belief and Knowledge, D.Cormack, Bright Pen 2010 available at <a href="https://www.authorsonline.co.uk">www.authorsonline.co.uk</a>

<sup>2</sup> Response to Oil and Chemical Marine Pollution, D. Cormack, Applied Science Publishers, 1983.

<sup>3</sup> Response to Marine Oil Pollution - Review and Assessment, Douglas Cormack, Kluwer Academic Publishers, 1999.

#### **UK: OCEANOLOGY INTERNATIONAL 2012 – LONDON EXCEL 13-15 MARCH**

Oceanology International is the world's premier exhibition and conference for the marine science and ocean technology community. A multifaceted event, Oceanology International provides the global E&P industry with the technology and solutions to realise the potential of the world's offshore reserves.

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#### **UK SPILL EVENTS**

- ANNUAL MEMBERS MEETING & DINNER ON TUESDAY 10 JANUARY 2011 to be held at the Watermen's Hall in the
  City of London on 10 January. Chief guest will be Bernd Bluhm, Head of Unit, EMSA.
- INTERSPILL 2012 13-15 March 2012, EXCEL, LONDON
- INLANDSPILL 2012 3 April 2012, FIRE SERVICE COLLEGE

More info

#### CHINA: OCEAN-2012 - WORLD EXPO CENTRE, DALIAN, 20-23 SEPTEMBER, 2012

We are proud to announce that Ocean conference is launched in China. It brings together all ocean interest groups to discuss the greater ocean goals. The aim of this conference is that engineers and scientists are gathered to share scientific evidences, disseminate and exchange their scientific researches and scientific-technical advances in the field of marine technology, ocean science and ocean engineering. It aimed towards achieving the purpose of increasing awareness such as an important role that ocean played in our lives, ocean environmental protection, using of ocean energy, etc. More info

### CONGO: SEMINAR - "PREVENTING AND RESPONDING TO MARINE AND COASTAL PETROLEUM POLLUTION IN THE GUINEA GOLF"

FMG-Congo, specialized in HSE training, seminars and conferences, will be organizing an important international seminar designed to strengthen the capacities of Oil companies in "PREVENTING AND RESPONDING TO MARINE AND COASTAL PETROLEUM POLLUTION IN THE GUINEA GOLF".

This important gathering of Oil sector environment professionals will be taking place from 23 to 25 May 2012, at Hotel Elais, in Pointe-Noire, Republic of Congo, and will be supported by the Congolese Ministry of hydrocarbons and the Ministry in charge of Environment. More info — info@fmg-congo.com

#### AUSTRALIA: HAZMAT 2012 - MELBOURNE, 9-10 MAY, 2012

Held over two days, presentations by leading industry experts and international keynote speakers cover current issues and future topics, such as: + Chemical Management & Sustainability + Implementing the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) & Workplace Health and Safety (WHS) Regulations + Training, SDS, Labels + Dangerous Goods / Major Hazards + Chemical Incidents + Emergency Response

More info

#### **PUBLICATIONS**

#### **US EPA: TECHDIRECT JANUARY 1, 2012**

TechDirect's purpose is to identify new technical, policy and guidance resources related to the assessment and remediation of contaminated soil, sediments and ground water. <u>Download the new issue</u>

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