



ISCO NEWSLETTER

The Newsletter of the International Spill Response Community

Issue 548 22 August 2016

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<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 organisation.

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Incident reports from around the world

UK: SALVAGE TEAM BOARDS STRICKEN DRILLING RIG IN SCOTLAND – UPDATE



Photo; Transocean Winner aground in Scotland. Photo: UK Maritime and Coastguard Agency

August 15 - A salvage team has made it on board the grounded Transocean Winner in Scotland as part of the ongoing salvage operation which officials say may now take weeks to complete.

August 16 The team is continuing its assessment of the damage and also working to make connections for the towlines. *gCaptain* [Read more](#)

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Incident reports from around the world (continued)

August 15 - Two Diesel Tanks Intact on Transocean Winner

Smit Salvage has confirmed that the two diesel oil tanks in the hull are intact and plans are under way to transfer the contents – a total of 137 metric tons – using onboard pumping systems to other tanks above the water line.

The salvors continue their damage assessment and preparation for the refloat. Transocean continues to check and restore equipment and other essential services. *The Maritime Executive* [Read more](#)

August 19 - Waiting game as Transocean Winner salvage team looks forward to towing operation

Compressors were being transferred onto the rig yesterday, while a number of towlines have been attached, Hugh Shaw said.

Rig-owner Transocean is also transferring diesel fuel to tanks above the waterline, the Maritime and Coastguard Agency said yesterday, adding recent checks had not revealed any pollution in the area.

But while progress has been made, salvors are still unsure when the rig will be ready for towing, nearly two weeks after it washed up at Dalmore beach on the western side of the island.

Mr Shaw, the Secretary of State's representative for maritime salvage and intervention, warned of the danger of losing the rig again if towing begins without a clearer picture of the damage suffered to its buoyancy tanks. *Energy Voice* [Read more](#)

August 19 - Salvors Near Refloat Attempt for Grounded Rig

A salvage team including members from Smit and from Transocean are preparing for a refloat attempt of the grounded semisubmersible Transocean Winner, and if all goes well and conditions are favorable, the rig could be off the rocky shores of the Isle of Lewis, Scotland as early as this weekend. *The Maritime Executive* [Read more](#)

Incident reports from around the world (continued)

RUSSIA: MOSCOW RIVER CATCHES FIRE AFTER PIPELINE BURSTS – VIDEO

August 13 - Amateur footage shows a large oil fire on the surface of the Moscow river after an underwater pipeline reportedly burst on Wednesday. The Moscow oil refinery, owned by Gazprom Neft, told Reuters it was unaffected by the fire, and did not own the pipeline where the incident occurred. Local news agencies reported that one child and two adults suffered burns from the incident. *The Guardian* [Watch the video](#) [Thanks to Mark K. Shaye, Hon.FISCO]

USA: GEORGIA – CAUSTIC CHEMICAL SPILL INTO SMYRNA WATERWAY

August 13 - Officials are working Saturday to identify and clean up a chemical substance that somehow made its way into a Cobb County creek in a residential area. And now, officials believe they know what the mysterious chemical is. *11Alive.com* [Read more and watch video](#) [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

August 15 - Official on Smyrna creek contamination: 'We will do whatever it takes'

After 2,300 gallons of carburetor cleaner leaked from a tanker and flowed into a residential creek Saturday, officials say they've made significant progress in their cleanup efforts.

Officials with Apollo Technologies, the company responsible for the contamination, gave an update on the progress of the cleanup on Tuesday.

The company said that filling operations began Tuesday morning with the goal of emptying all mixing tanks. An engineering evaluation of the building structure began on Monday. *11Alive.com* [Read more and watch video](#)

Incident reports from around the world (continued)

USA: ALASKA - THIRD SPILLED BATCH OF OIL FOUND AT DRIFT RIVER TANK FARM

August 16 - A third area of spilled crude oil has been discovered as part of an investigation into a 20-inch fill line that state regulators say was overpressurized during an operation this summer at the Drift River tank farm on the west side of Cook Inlet. The spills by Hilcorp Alaska's Cook Inlet Pipeline Co. occurred in late June and were discovered by the company starting in early July, according to the the Alaska Department of Environmental Conservation. The latest spill was discovered last Wednesday during an excavation of a buried flange, the agency said on Tuesday. *adn.com*

[Read more](#)

PUERTO RICA: SALVAGE UNDERWAY FOR CARIBBEAN FANTASY



Photo: A local San Juan, Puerto Rico-based tug crew use a fire hose to cool the hull of the 561-foot Caribbean Fantasy ferry vessel that caught fire Wednesday a mile from San Juan Harbor, San Juan, Puerto Rico. U.S. Coast Guard Photo

August 18 - A Unified Command is continuing to respond Thursday to a fire aboard the 561-foot passenger ferry vessel Caribbean Fantasy off Punta Salinas, Puerto Rico.

The fire broke out Wednesday morning in the engine room of the vessel and spread to other compartments on board, which led to the entire ship's evacuation. The Caribbean Fantasy ran aground a few hours later about approximately half a mile off Punta Salinas. The U.S. Coast Guard confirmed Thursday that all 511 passengers including crew have been evacuated from the vessel.

Ardent Global has been hired for the salvage and is putting together a vessel salvage plan for review by the Coast Guard. Coast Guard marine inspectors along with salvage and fire fighting teams are scheduled to board the vessel Thursday to assess damage and determine the stability of the vessel.

The Coast Guard has established a 1,000-yard safety zone around the vessel. There are no reports of sheening or pollution around the vessel at this time. The vessel is being closely monitored and booming has been deployed at the intakes for the Palo Seco Power Plant as a precautionary measure against potential discharge from the vessel. There has also been 14,000-feet of booming pre-staged near Punta Salinas. *gCaptain* [Read more](#)

AUSTRALIA: DARWIN HARBOUR POLLUTED BY OIL SPILL, AUTHORITIES CITE DIFFICULTIES IN CONTAINING SPREAD

August 19 - Authorities are investigating an oil spill across a large area of Darwin Harbour that they say will be difficult to contain.

The Darwin Port received initial reports of the spill at 4:00am. Northern Territory Environment Protection Authority (NTEPA) chair Dr Bill Freeland said the oil was believed to be a "heavy, dark fuel oil".

"If it's a fuel oil, it is either from some fuel oil storage or perhaps from a largish ship but we can't be certain as to what it is at the moment," he said. "It is behaving oddly and it may have been contaminated with a dispersant, suggesting whoever did it may have put some dispersant in it. "Consequently, it's formed a very thin sheen that is moving very rapidly up and around the harbour, backwards and forwards." *ABC.net.au* [Read more](#)

CHILE: HORRIFYING FOOTAGE SHOWS AFTERMATH AS CHEMICAL FREIGHT TRAIN PLUNGES INTO RIVER WHEN BRIDGE COLLAPSES

August 19 - A video has captured the devastating scene after a freight train plunged into a river after a bridge completely collapsed under its weight.

The railway bridge is located in Pitrufquén in Chile's Araucanía Region over the Toltén River.

The National Emergency Office (Onemi) confirmed the train had been carrying chemicals which spilled into the water but somehow nobody was injured. *Mirror.co.uk* [Read more and watch video](#)

News reports from around the world (countries listed in alphabetical order)

AUSTRALIA: GREAT AUSTRALIAN BIGHT OIL RIGS WOULD SIGNIFICANTLY INCREASE SPILL RISK – REPORT

August 15 - Plans to drill for oil in the pristine Great Australian Bight marine park will significantly increase the risk of oil spills, both from the oil rigs and the increased shipping traffic, according to a report by the South Australian planning department.

In an updated plan for how the government would handle an oil spill, the department included a specific note about increased risks posed by plans for extensive oil exploration in the Great Australian Bight.

“There are four licence holders entitled to install rigs. If all four install rigs, it will significantly increase the risk to South Australia not only through the presence of oil rigs, but also in the increase in marine traffic this will cause,” the report notes. *The Guardian* [Read more](#)

CANADA: LONG-TERM OIL SPILL CAUSES FISHERY COLLAPSE IN NEWFOUNDLAND

August 15 - An oil spill that has been seeping into Port au Port Bay near Shoal Port for three years has caused a once-abundant scallop fishery to "collapse", the Canadian Press (CP) reports.

The continuous spill, which sometimes seeps in drops and other times in large amounts, has left residents concerned. Bob Diamond of the Port au Port Bay Fishery Committee told CP the leak is man-made, and the full extent of the damage is unknown at this point.

The leak is coming from a well at one of at least a dozen abandoned exploration sites in the area that date back as far as the 1800s. There have been previous attempts to cap well pipes in places known for fishing and tourism, with the province spending \$263,000 on temporary control measures in 2015, but that hasn't stopped the oil from continuing to seep. *TheWeatherNetwork.com* [Read more](#)

GUYANA PARTICIPATING IN GLOBAL WORKSHOP ON OIL SPILL RESPONSE PLANNING

August 18 - A five member team will head to New Orleans, Louisiana in the United States to represent Guyana at the first Global Workshop on Oil Spill Response Planning to be held from August 18-19, 2016, the Ministry of Natural Resources said Thursday.

The team comprises persons from the Ministry of Natural Resources, the Guyana Geology and Mines Commission, the Environmental Protection Agency, and the Ministry of Public Infrastructure's Maritime Administration Department (MARAD).

The workshop builds on conversations from the October 2015 International Regulators Forum in Washington, D.C., is being hosted by the Energy Governance and Capacity Initiative (EGCI). The EGCI is a U.S. Department of State-led inter-agency effort that provides a range of technical and capacity building assistance to the governments of select countries to help them establish the capacity to manage their oil and gas sector resources responsibly.

DemeraraWaves.com [Read more](#)

MEXICO: HARD AGROUND – ABANDONED SHIP THREATENS MEXICAN COAST



Photo: Bulker M/V Los Llanitos hard aground Photo: PROFEPA

August 17 - The bulk carrier “M/V Los Llanitos” is breaking apart and close to sinking off the Pacific coast of Mexico. For almost nine months she has been stranded on rocks nearby Barra de Navidad, a small town on the western coastline of the Mexican state of Jalisco.

The 223-meter ship ran aground in October after attempting to ride out powerful Hurricane Patricia. The first phase of salvage was completed in November, focussing on the removal of about 11,484 liters of oil, 489 cubic meters of diesel and other contaminants aboard the ship.

Today Guillermo Ruiz de Teresa, General Coordinator of Ports and Merchant Marine, told Televisa News that one month ago the main fracture has expanded and fully opened the hull. At

News reports from around the world (continued)

the rear of the ship there are two fractures that have grown over the months, the first is about thirteen meters high by three meters wide and the second of about eight meters high by 1.5 meters wide.

Furthermore, there is an opening eight meters wide in the bow.

“There is a high risk that it can break apart and sink” said Guillermo, “the ship is not completely clean. All the fuel was extracted but many contaminants remain and will pollute the ocean when the ship breaks apart... which will be soon considering her condition.” *gCaptain* [Read more](#)

NORWAY: VIDEO FROM THE COASTAL ADMINISTRATION SHOWING HOW THE NORWEGIAN COUNTER-POLLUTION SYSTEM OPERATES

August 15 – Apart from the introduction, the video commentary is in English language. An excellent overview of how a country with a long and environmental sensitive coastline is prepared for prevention and response to oil and chemical pollution incidents. [Watch the video](#) [Thanks to Marianne Henriksen of KYSTVERKET]

SINGAPORE: NEW SAFETY INVESTIGATION BUREAU

August 5 - Singapore's Ministry of Transport (MOT) has restructured its marine and air accident investigation organisations and has created the new Transport Safety Investigation Bureau (TSIB). It is based on similar principles as the accident investigation organisations in Australia, USA, Japan, and the UK's Marine Accident Investigation Bureau. It will also take in the similar role of Singapore's former Air Accident Investigation Bureau.

The TSIB will conduct investigations into air and marine accidents and incidents, independently of and separately from any judicial or regulatory proceedings, and make recommendations to enhance the safety of air and sea transport. It stressed that the sole objective of TSIB's investigations is the prevention of further accidents and incidents. “They are not for the purposes of apportioning blame or liability.”

It will take over from the Maritime and Port Authority of Singapore (MPA) the role of conducting independent safety investigations into marine accidents and incidents, and make recommendations to enhance the safety of sea transport. MPA will continue to investigate marine accidents and incidents for compliance with its regulations for ships operating within Singapore waters and ships under the Singapore flag.

http://www.singaporesolutions.sg/news/view.new-safety-investigation-bureau_44055.htm

USA: COLORADO - GOLD KING MINE SPILL'S ECONOMIC IMPACT FLEETING IN DURANGO, LASTING IN THE NAVAJO NATION



Photo: The Animas River, yellow from mine contamination, runs through Durango, Colorado on Friday, August 7, 2015. An EPA cleanup crew accidentally triggered the spill at the inactive Gold King mine near Silverton, Colorado in August of 2015.

August 5 - When the orange water of the contaminated Animas River surged into town a year ago, many in Durango worried it would leave behind a slime of not just pollutants but also stigma.

Would anyone ever want to raft or fish again in a river that looked, in pictures broadcast around the world, like fetid soup?

But today, one year after the breach of the Gold King Mine spilled millions of gallons of toxic-metals-laced runoff into the Animas, businesses in Durango that depend on the river say things are back to normal. The rafters are back. The fly-

fishermen are back. The orange water is gone.

News reports from around the world (continued)

That's the story upstream, at least. - But trace the Animas' slinking path into the southwestern desert, where it merges with the San Juan River, and you'll find considerably more worry about what the spill left behind.

The Navajo Nation continues to watch with suspicion a river it considers sacred, fearing that its waters could poison crops. Only this May did Navajo officials reopen a critical irrigation canal that pulls water from the San Juan, which itself turned orange last year after the Animas pollution flowed into it. *Denver Post* [Read more](#)

USA: MICHIGAN - NEW DEQ DIRECTOR: LINE 5 SHUTDOWN CALLS PREMATURE

August 12 - Calls to shut down a pair of aging oil and natural gas pipelines buried beneath the Straits of Mackinac are premature, new Michigan Department of Environmental Quality Director Heidi Grether said Friday.

Grether, whose appointment was criticized by some environmentalists because of her 20-year career in the oil industry, acknowledged concerns the 63-year-old Enbridge Line 5 could put the Great Lakes at risk but said she is awaiting results of two risk and alternative studies.

"If I stand in their shoes, which is something I try to do regularly, they believe they have enough information to pursue their position," said Grether, referencing environmental groups that are calling for a shutdown. "I don't agree. I think there is more to come."

In an introductory roundtable with reporters at DEQ headquarters in Lansing, Grether said she considers herself an environmentalist, too, noting she earned a master's degree in natural resource economics from Michigan State University because she wanted to make a "positive difference" through policy. *The Detroit News* [Read more](#)

[Thanks to Marc K. Shaye, Hon.FISCO]

USA: NORTH DAKOTA - OIL SPILL THOUSANDS OF GALLONS LARGER THAN FIRST REPORTED

August 12 - North Dakota officials say an oil spill in Billings County is thousands of gallons larger than initially reported.

The Health Department said Friday that Texas-based Denbury Onshore LLC has recovered over 21,000 gallons of oil and roughly 5,000 gallons of produced water from holes made in the subsurface of the site near Belfield.

The department had first been notified of a roughly 84-gallon oil spill in July. *Bismarck Tribune* [Read more](#)

USA: PIPELINE SAFETY REPORT RELEASED

August 18 - The U.S. industry body API has released a new report, with the Association of Oil Pipe Lines (AOPL), confirming that pipelines continue to be one of the safest ways to efficiently transport energy across the United States.

Despite a 13 percent increase in miles of pipeline delivering crude oil over the last five years, petroleum products and natural gas liquids, pipeline incidents per mile larger than 500 barrels are down nearly a third. Incidents potentially impacting people or the environment outside of an operator's facility are down 52 percent since 1999.

Currently, 207,800 miles of liquids pipeline cross America from production areas to refineries to consumers and manufacturers, a 13 percent increase from 2011 to 2015.

The report highlights liquid pipeline safety performance and industry-wide efforts to improve pipeline safety in 2016 and beyond. According to the report, 99.999 percent of crude oil and petroleum products delivered by pipeline reach their destination safely. In 2015, 65 percent of pipeline incident releases were less than five barrels. Corrosion caused pipeline incidents potentially impacting people or the environment outside of operator facilities are down 68 percent since 1999. The report is available [here](#). *The Maritime Executive* [Read more](#)

People in the news

NORTH-EAST ATLANTIC: NEW APPOINTMENTS ANNOUNCED AT OSPAR

August 19 - OSPAR elected Carien Van Zwol of the Netherlands as the new Chair at its annual meeting. <http://www.ospar.org/news/ospar-elects-new-chair>

August 18 - Sweden's Laura Piriz continues as OSPAR Vice-Chair Laura Píríz (MSc, PhD), from the Swedish Agency for Marine and Water Management (SWAM), is the Swedish OSPAR HoD and coordinates SWAM's involvement in HELCOM. <http://www.ospar.org/news/ospar-vice-chair-laura-piriz-sweden>

People in the news (continued)

August 17 - OSPAR welcomed Ireland's Richard Cronin as a new vice-chair. Richard is a Senior Adviser with the Water and Marine Advisory Unit of the Department of Housing, Planning, Community and Local Government in Ireland. <http://www.ospar.org/news/irelands-richard-cronin-welcomed-as-ospar-vice-chair>

Pictured below, from left to right, Carien Van Zwol, Laura Piriz and Richard Cronin



ISCO News

ISCO AT THE OIL SPILL INDIA CONFERENCE & EXHIBITION IN MUMBAI



Photo on left: ISCO stand at the exhibition

The Oil Spill India seminar was organized on 11th and 12th August 16 at Mumbai. Themed on 'Commitment, Synergy and Excellence' the seminar sum exhibition was attended by about 400 delegates. The delegates were mostly domestic oil companies, ports and environment department officials. Overseas visitors were from International trade bodies, equipment vendors and service providers.

ISCO was represented by Capt.D.C.Sekhar, ED of AlphaMERS Ltd and India member on the council of ISCO. He delivered a fifteen minute talk on ISCO and its activities. He described how ISCO catalyzes the resources of its worldwide members to facilitate mobilizing equipment and expertise to respond to a spill incident. He went on to describe the NPCGF communication exercise, the discussions with MEPC on 15 ppm discharge criteria, the work being done on standardizing spill response contracts, the implementation of IOA and recent initiatives in HNS and subsea spill response. The talk was very well received, going by the post session feedback received from the delegates.



More pictures taken at the ISCO Booth – Left: IG YSR Murthy PTM, TM from the Indian coast guard; Centre: Mr.PB Rastogi, retired from Ministry of Environment and Forest Govt of India and who continues to take an active interest in the oil spill response domain; Right: John Coates from GRG and Simon Valentine from Swire ERS

DEEPWATER HORIZON INCIDENT: WHAT HAPPENED TO THE OIL?

An article in five parts by Alun Lewis, Independent Consultant



Alun Lewis has specialised in oil spill response work since 1979. His specialities are oil spill dispersants, the behaviour of spilled oil at sea and the aerial surveillance of oil at sea. During his career he worked for 25 years at the BP Research Centre, and subsequently on projects for the Warren Spring Laboratory, SINTEF in Norway, AEA Technology and the UK Maritime and Coastguard Agency. He has participated in numerous research programmes, large scale sea trials and development of laboratory procedures. Since 1998 he has worked internationally as an independent consultant with many clients, commercial and governmental. He has participated in many national exercises, training courses and workshops throughout the world. A more detailed bio was published in Issue 546 of the ISCO Newsletter

PART THREE

2 d. “Other” oil, “Residual” oil and “missing” oil in the Oil Budget and oil deposition on the sea floor

The earlier version of the Oil Budget presented at the White House on August 4th, 2010 with the title “BP Deepwater Horizon Oil Budget: What Happened to the Oil?” contained the following pie chart (Figure 2):

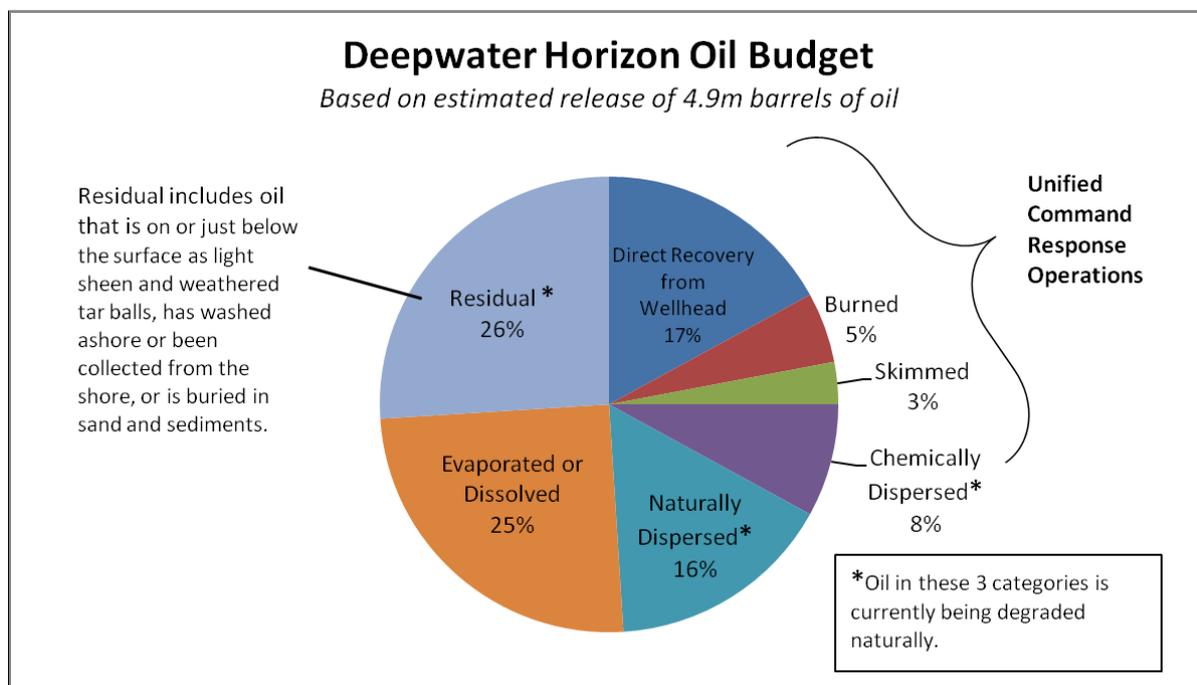


Figure 2. Pie chart from August 4th, 2010 Oil Budget

The “Residual” oil in this pie-chart became “Other” oil in the later (November 23rd) version of the Oil Budget. Another change was the increase in the amount of oil estimated to have been dispersed by the use of dispersants from 8% in this pie-chart to 16% with a range of 10% to 29% in the later version.

Although the explanation of what the “Residual” oil category consisted of is included in the graphic, some people interpreted this as indicating that the oil that the oil was ‘unaccounted for’ or ‘missing’. There was a great deal of speculation as to where the ‘missing’ oil might be and attention turned to the sea floor. Press reports of sediment sampling during a research cruise by RV *Oceanus* in September 2010 stated that “Dr Samantha Joye describes seeing layers of oily material — in some places more than 2 inches thick — covering the bottom of the seafloor.” Dr. Joye also took part in a dive in the U.S. Navy’s deep-ocean research submersible *Alvin* in December 2010 and said that she saw “about three to four inches of material.” These early reports of thick layers of oil or oily material on the seabed have not been confirmed by subsequent investigations.

Several scientific papers have presented evidence that some highly weathered and extensively biodegraded residue from the oil has been deposited on the sea floor at low concentrations over wide areas, most often incorporated into the surface layers of the sediment. The chemical compounds detected, such as hopane, are the most recalcitrant (resistant to biodegradation) in the oil. The hopane concentration in the 'fresh' crude oil is 69 parts per million (ppm). Several papers have 'back calculated' from the amounts of hopane detected on the sea floor to propose that a lot more 'fresh' crude oil was originally deposited. With a hopane content of 69 ppm, 1 gram of hopane is equivalent to 14.8 kg of 'fresh' crude oil. On this basis, it has been claimed that 7% - 8% or more (some estimates have ranged up to 30%) of the total amount of oil released into the GoM has been deposited on the sea floor. However, this proposed explanation ignores the effects of biodegradation of dispersed oil which was well established long before the *Deepwater Horizon* incident.

One apparent difficulty in proposing the sinking of 'fresh' crude oil is the density difference between the crude oil and seawater. The density of the fresh crude oil released from the subsea well was 0.875 gm/ml and the density of seawater in the GoM is around 1.025 gm/ml. The fresh crude oil would not sink unless some other material or mechanism was involved. Oil dispersed as very small oil droplets in the water column can be almost neutrally buoyant because of the small droplet size, but oil alone does not sink.

It has been hypothesised that marine snow interacted with the oil to cause deposition on the sea floor. Marine snow is a well-known phenomenon that NOAA defines as: "*Marine snow is a shower of organic material falling from upper waters to the deep ocean. As plants and animals near the surface of the ocean die and decay, they fall toward the sea floor, just like leaves and decaying material fall onto a forest floor. In addition to dead animals and plants, marine snow also includes faecal matter, sand, soot, and other inorganic dust. The decaying material is referred to as "marine snow" because it looks a little bit like white fluffy bits.*"

Several scientific papers have been published over the last 4 years that describe laboratory experiments that are claimed to mimic the conditions that prevailed at the *Deepwater Horizon* incident and claim to demonstrate that marine snow was involved in the deposition of oil on the sea floor. However, incubating oil in a sealed bottle with a low volume of seawater for prolonged periods in a laboratory does not accurately simulate the dispersion, dilution and biodegradation of dispersed oil that occurred at the incident.

The role of marine snow in the possible deposition of crude oil on the sea floor has attracted considerable academic interest, but remains a possible hypothesis and not a conclusive explanation at this time.

2 e. Biodegradation of dispersed oil

Oil dispersed into the water column by any process - natural dispersion by wave action, mechanical dispersion by the turbulence of a subsea oil and gas release or by the use of dispersants (subsea or on oil on the sea surface) - will undergo three processes; initial dispersion into the water column, dilution to low concentrations in the water and eventual biodegradation.

Oil droplets in the water column are rapidly colonized by petroleum-degrading microorganisms that occur naturally in ocean environments. All of the world's oceans have natural hydrocarbon seeps and oil degrading microbes are found in all marine environments. Most of the chemical components of crude oil has only limited water solubility and the microorganisms must inhabit the interface between the oil and the water to biodegrade the oil. Oil dispersed as small droplets has a much greater oil/water interfacial area than an oil slick floating on the sea surface.

The microorganisms use the oil as a source of energy to grow and reproduce. The different chemical compounds in crude oils will be biodegraded at different rates and to different extents by naturally-occurring hydrocarbon-degrading microorganisms. Linear chain alkanes will be most rapidly biodegraded (within days), followed by the single-ring aromatic compounds and then by branched chain alkanes and cycloalkanes which can take weeks to be biodegraded. Many complex branched, cyclic, and aromatic hydrocarbons, which otherwise would not be biodegraded individually, can be oxidized through co-metabolism in an oil mixture due to the abundance of other substrates that can be metabolized easily within the oil. The ultimate fate of the majority of oil that is biodegraded is to be eventually converted into carbon dioxide and water via a series of intermediates.

Some very heavy oil compounds, such as asphalt or bitumen, are very slow to biodegrade and have high enough densities that could cause them to sink to the seabed. These recalcitrant residues are biologically inert and are non-toxic or practically non-toxic.

When dispersants are used on an oil slick drifting on the sea surface, the dispersed oil will initially be present as discrete plumes of dispersed oil under the areas of the slick where breaking waves have passed through. These will be rapidly diluted into the underlying upper water column to a depth of 10 or 20 metres. Any recalcitrant residue left

Special feature (continued)

after biodegradation will be deposited very diffusely over a huge area of seabed and the low concentrations will be undetectable amongst in the other components of marine snow that will have been deposited.

The oil dispersed at the *Deepwater Horizon* incident, by mechanical dispersion and by subsea dispersant use at the source of the release, was continuously generated for a period of 87 days. The dispersed oil at a water depth of 1,200 metres drifted to the south-west with the prevailing current. The dispersed oil would have been progressively biodegraded as it drifted, but it was being continuously replenished with 'fresh' crude oil from the ongoing release. This seems to have produced a strip of detectable deposited recalcitrant oil residue on the seabed below the drifting dispersed oil. The traces of the recalcitrant oil residue has been interpreted by some people as indicating that the 'fresh' crude oil was deposited and then biodegraded, but a more logical explanation is that only the recalcitrant residue was deposited after extensive biodegradation of dispersed oil while in the water column.

The fourth part of this article will be in the next ISCO newsletter

Contributed article

USA: PREPAREDNESS FOR RESPONSE EXERCISE PROGRAM (PREP) & GOVERNMENT INITIATED UNANNOUNCED EXERCISES (GIUE) GUIDELINES



An article contributed by Steve Candito, CEO of Foresea Consulting

Steven Candito is the Founder, President and CEO of Foresea, which provides advisory services including strategic planning, regulatory compliance and crisis management to the maritime and environmental communities.

Previously, Candito was President and CEO of NRC. He has extensive experience with OPA 90 compliance issues with particular focus on vessel owner and insurance matters

On August 15, 2016, The US Coast Guard (USCG) issued Frequently Asked Questions (FAQ) responses (https://www.uscg.mil/msib/docs/012_16_8-15-2016.pdf) that were needed as a result of the updated PREP Guidelines that went into effective on June 10, 2016 (https://www.uscg.mil/msib/docs/008_16_4-5-2016.pdf).

The Guidelines raised concerns, which a coalition of industry entities raised with the USCG, leading to the USCG issuing their FAQ document. Significantly, despite the implementation of the new Guidelines, there are no immediate actions that vessel owners have to take to remain compliant with the PREP requirements. As background, the PREP Guidelines apply to all vessels meaning both tank and nontank vessels (NTV) that operate in the US. They provide guidance for meeting the vessel response plan (VRP) drill and exercise requirements, including the Salvage and Marine Firefighting (SMFF) exercise requirements. Within a three year cycle, all elements of the response plan must be exercised in drills involving the vessel owner, the Qualified Individual (QI), Oil Spill Removal Organizations (OSRO) and SMFF resource providers. To satisfy the requirements of the three year cycle, it is not necessary to exercise the entire plan at one time. The plan may be exercised in segments over the three years, provided each component of the plan is exercised at least once within the three year period.

Some of you may also be aware that the coalition unsuccessfully requested the USCG postpone the 2016 PREP Guidelines implementation to January 1, 2017. That same coalition continues to have concerns about the Guidelines. While many of the PREP requirements are the same, there are some significant changes including additional SMFF requirements. Further, the 2016 Guidelines, taken in conjunction with the USCG's MER Policy Letter 01-15, Ch-1 (2/28/16) on GUIEs (http://www.intertanko.com/Global/admin_WeeklyNews/MERPL2001-15CH1GIUEPolicy-March2016-2.pdf), potentially expand the scope and frequency of exercises beyond that required by OPA 90 and even change the well-known OPA 90 "planning standards" into performance standards. In fact, the coalition suggested that the regulations are overly prescriptive and some requirements have no added value. Two specific concerns are the GUIEs and the remote assessment and consultation requirements. Another concern is that PREP was designed to provide a mechanism for compliance with the exercise requirements, while being economically feasible for the Government and the oil industry to adopt and sustain. The coalition believed the 2002 PREP Guidelines met this objective, but there are concerns that the significant modifications included in the 2016 version do not, particularly with regard to being "economically feasible" and sustainable. Given these and other concerns, the USCG issued clarifications via the above noted FAQ document.

The USCG's FAQ responses make it clear that GUIEs will not be conducted on Tank Vessels while moored at a Marine Transportation Related (MTR) facility for a vessel source discharge scenario. Further, the USCG will not conduct GUIEs on NTVs unless they carry oil as cargo. These two clarifications certainly alleviate some of the concerns.

Contributed article (continued)

On the SMFF remote assessment issue, the USCG clarified that the vessel does not have to be in US waters to obtain credit for an exercise, but an exercise must be conducted for each vessel during 2016 that enters US waters. Further, a towboat and barge may take credit for the same exercise provided it is properly documented for both vessels. Also, the Guidelines clearly state that the remote assessment exercise must be conducted separately from the quarterly QI notification drill, but the FAQ response does not offer much explanation as to the reason for this requirement other than to state that the regulations are designed to exercise the individual VRPs and, therefore, the expected role of the QI should be taken directly from the VRP. Hopefully, the coalition will be successful in further clarifying this point with the USCG.

With regard to SMFF equipment deployment exercises, the FAQ clarifies that equipment must be deployed in each COTP zone, but it can be done over the three year PREP cycle and not annually in each COTP zone and, beneficially, actual responses can be used for credit, provided they are properly documented. Further, equipment that can be used for multiple activities can obtain credit for all uses in one drill, provided the different uses are tested and properly documented. As with OSRO equipment deployment requirements, the SMFF equipment deployment exercise must test both the timeliness of the equipment's arrival to the designated site and the ability to operate in its normal environment.

The FAQ also clarifies that SMFF providers are not expected to be on board during emergency procedure exercises. Further, at least some of the SMFF TTX exercise elements must be completed this year, even if a general SMTT has already been conducted, but which did not include any SMFF elements. However, all SMFF elements do not have to be completed in 2016.

Only a commensurate portion of the plan needs to be exercised this year, with the balance being prorated over the remainder of the three year cycle. Importantly, SMFF providers do not need to maintain a full copy of the VRP, but they must have access to the information required by 33 CFR 155.4035(a) including shipboard spill mitigation procedures and a pre-fire plan.

Finally, the SMFF TTX is expected to include the management team from the SMFF provider and the focus of the exercise should be on the SMFF provider's ability to communicate and make decisions pursuant to a salvage and/or marine firefighting scenario.

The USCG's FAQ clarified many issues, but there are still several points that need further attention so stay tuned for additional updates.

If you need any further information about 2016 PREP and GUIE requirements, please contact us at scandito@foreseaconsulting.com or 631 589-3838.

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

AMSA Aboard	News from the Australian Maritime Safety Authority	June 2016
AMSA On Scene	Australia: National Plan for Marine Environmental Emergencies	March 2016
ASME EED EHS Newsletter	News and commentary on HSE issues from George Holliday	Most recent issue
Bow Wave	Sam Ignarski's Ezine on Marine & Transport Matters	Current issue
Cedre Newsletter	News from Cedre in Brittany, France	June 2016
Celtic and Biogenie enGlobe Newsletter	Technical Information on Polluted Site Remediation	Spring 2016
CROIERG Enews	Canberra & Regions Oil Industry Emergency Response Group	Current issue
EMSA Newsletter	News from the European Maritime Safety Agency	August 2016 issue
Environmental Technology Online	Environmental Monitoring, Testing & Analysis	August 2016 issue
IMO News Magazine	News from the International Maritime Organization	No 2, 2016
IMO Publishing News	New and forthcoming IMO publications	July 2016
Intertanko Weekly News	International news for the oil tanker community	August 19, 2016
IPIECA eNews	Int'l Petroleum Industry Environmental Conservation Assoc'n	February 12 issue
JOIFF "The Catalyst"	Int'l Organisation for Industrial Hazard Management	July 2016 issue
MOIG Newsletter	News from the Mediterranean Oil Industry Group	Quarter 1, 2016 issue
NOWPAP Quarterly	News from the North West Pacific Action Plan	Quarter 1, 2016 issue
Ocean Orbit	Newsletter from the International Tanker Owners Pollution Federation	May 2016
OCIMF Newsletter	News from the Oil Companies International Marine Forum	July 2016 issue
Pollution Online Newsletter	News for prevention & control professionals	August 17, 2016 issue
Sea Alarm Foundation Newsletter	Oiled wildlife Preparedness and Response news from Sea Alarm	Autumn 2015 issue
Technology Innovation News Survey	News from US EPA – Contaminated site decontamination	June 16 - 30, 2016
The Essential Hazmat News	Alliance of Hazardous Materials Professionals	Feb 29, 2016 issue
Transport Canada Newsletter	News and articles re transport of dangerous goods in Canada	Winter 2014 issue
USA EPA Tech Direct	Remediation of contaminated soil and groundwater	August 1, 2016
USA EPA Tech News & Trends	Contaminated site clean-up information	Spring 2016 issue
WMU Newsletter	News from the World Maritime University	July 2016 issue

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

Events

UPCOMING EVENTS SUMMARY

COUNTRY	2016	TITLE OF EVENT	LOCATION
For more information click on Title of Event			
MALDIVES	August 22-25	W'shop for Updating the Regional Contingency Plan	Male
SINGAPORE	August 30-31	International Safety at Sea Conference	Singapore
UK	September 7-8	7th Maritime Salvage & Casualty Response	London
INDIA	Sept. 12-14	International Rivers Symposium	New Delhi
SINGAPORE	Sept 12-14	Salvage and Wreck Asia	Singapore
NORWAY	Sept 12-16	International NOSCA Oil Spill Technology Seminar	Bodo
SINGAPORE	Sept. 13-15	Salvage & Wreck Asia Conference	Singapore
INDIA	Sept. 22-24	India Clean Seas Conference 2016	Goa
NAMIBIA	Sept. 26-29	GIWACAF Workshop on IMS and NEBA	Walvis Bay
FRANCE	October 10-14	Sea Tech Event 2016	Brest
KOREA	October 11-13	World Ocean Forum 2016	Busan
UK	October 12-13	The Contamination Expo Series 2016	London
FRANCE	October 13	Info Day - Remote detection and maritime pollution	Brest
UAE	October 17-19	EI Middle East HSE Technical Forum	Abu Dhabi
UK	October 18	UK Spill – Spill Science Seminar	Southampton
NIGERIA	October 26-26	GIWACAF Workshop on Oil Spill Modelling	Abuja
USA	November 1-3	Clean Gulf 2016	Tampa FL
USA	November 1-4	Emergency Preparedness, Hazmat Response Conf.	Pittsburgh
MALTA	November 2-3	JOIFF Fire & Explosion Hazard Mgmt. Conference	St. Julians
UAE	November 7-10	Abu Dhabi Int'l Petroleum Exhibition & Conference	Abu Dhabi
COTE D'IVOIRE	Nov. 21-24	GIWACF W'shop on Cont'y Planning & Compensat'n	Abidjan
SENEGAL	December 5-7	GIWACAF Workshop on Dispersants and NEBA	Dakar
2017			
USA	March 28-30	2017 SCAA Annual Meeting & Conference	Washington DC
USA	May 15-18	International Oil Spill Conference	Long Beach CA
2018			
UK	March 13-15	2018 INTERSPILL Conference and Exhibition	London
To request posting of an event of interest to the Spill Response Community please send details to the Editor			

Company news

RESOLVE SALVAGE IN MANOLIS L SHIPWRECK SURVEY

Resolve Salvage has been awarded a \$5 million contract to survey the MV Manolis L, a shipwreck in Notre Dame Bay off the coast of Newfoundland and Labrador. The survey should inform the development of Canadian Coast Guard plans for the recovery of the vessel's cargo of an estimated 462 tons of fuel, 60 tons of diesel and removal of the vessel.

Coast Guard Environmental Response officers have been conducting regular site visits to survey the hull of the shipwrecked vessel, check containment seals and remove any oil collected by a cofferdam. The monitoring plan also includes aerial and on water surveillance to look for any signs of oil pollution and continued monitoring by Coast Guard fleet vessels. This technical assessment will provide detailed information on the wreck's exact location and orientation and the status of its hull. It will also identify the location and amount of contaminants that may be contained within the wreck. The information from this assessment will be used by the Coast Guard to protect the environment and determine long-term solutions for the wreck. The assessment is expected to begin on August 1 and conclude by September 4. *SubSeaWorldNews* [Read more](#). Resolve Marine Group is a Corporate Member of ISCO

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