ISCO NEWSLETTER

The Newsletter of the International Spill Response Community

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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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International news

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NEWS ON THE ISCO-BIMCO RESPONSE CONTRACT WELL RECEIVED AT LONDON CASUALTY RESPONSE CONFERENCE

News on the progress being made by the joint ISCO-BIMCO Working Group engaged in the development of the new international spill response contract was received with a good level of interest in London last week at the ACI 7th Maritime Salvage and Casualty Conference.

Grant Hunter, BIMCO Chief Officer, Legal and Contractual Affairs, who was speaking on the first day of the conference commented – "There was certainly more interest in the spill response contract than either I or ISCO Committee Member, Lord Rickaby (who was chairing the event) expected given that the primary focus of the conference was on salvage. There were several good questions raised about the project's aims and objectives"

"It was evident that people were interested in what ISCO and BIMCO were trying to achieve together to come up with contractual solutions to improve efficiencies in sourcing and hiring services and equipment for spill response work on a global basis".

The new standard contract will help speed mobilisation of response resources to major pollution events by avoiding delays that can arise because of need to engage in lengthy contractual negotiations.

U.S.- CUBA NEGOTIATING HISTORIC OIL-SPILL TREATY

September 6 - The United States is working towards creating a joint clean-up agreement with Cuba in the case of an oil spill in the Gulf.

Cuba is less than 60 miles from the Florida Coast, but because of trade restrictions, the country's drilling contractors are from all over the world. Lee Hunt is a general partner at Hunt Petty LP, a policy consulting firm that specializes in Cuban relations. According to Hunt, many of Cuba's contractors don't use equipment that meet the same standards as equipment used in the United States.

"U.S. law prevents U.S. oil companies from drilling within 125 miles from

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International news (continued)

the Florida Coast using the best equipment available," said Hunt. "Yet Cuba is able to drill within 50-60 miles off the Florida coast using second-tier, less-than-high-quality equipment."

In the event that there was a spill, Hunt says trade restrictions, international water boundaries and a lack in Cuban clean-up supplies would make it difficult to stop.

KATC.com *Read more and watch video*

NAIROBI WRECK REMOVAL CONVENTION EXPLAINED

September 7 - The IMO treaty covering wreck removal was on the agenda at the 7th Maritime Salvage and Casualty Response Conference in London (7-8 September).

IMO's Jan de Boer gave an insight into the Organization's Nairobi Wreck Removal Convention, which provides the legal basis for States to remove, or have removed, shipwrecks that may threaten the safety of navigation, the marine environment as well as the coastline or related interests.

The treaty also provides uniform international rules for the prompt and effective removal of wrecks located beyond territorial seas, and optional application of the rules in countries' territories, including territorial seas.

Speaking at a special session on factors affecting the overall insurance market and concerns for shipowners, Mr. De Boer also gave an overview of the strict shipowner liability for the costs of locating, marking and removal of hazardous wrecks and compulsory insurance to cover liability under the Convention. *IMO* *http://www.imo.org*

Incident reports from around the world

USA: GEORGIA - 2300 GALLONS OF CLEANING SOLVENT SPILLED THROUGH COBB CO. NEIGHBORHOOD

August 30 - Thousands of gallons of automotive cleaning solvent had to be cleaned up by hazmat crews Saturday. Apollo Technologies alerted the Cobb County Fire & Emergency Services to a chemical spill that originated at 1850 South Cobb Industrial Blvd. Neighbors who live near a creek that flows alongside Heather Road said the water turned white and looked like milk. They complained of a harsh chemical smell resembling paint thinner or insecticide. *Raycom News Network* Read more and watch video [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

USA: LOUISIANA - 5,300-GALLON OIL SPILL BEING CLEANED IN SOUTH LOUISIANA

September 6 - The Coast Guard says a south Louisiana pipeline has been secured and authorities are investigating what caused roughly 5,300 gallons of crude oil to leak near Bay Long.

The Coast Guard in New Orleans received a report Monday about the leak from a pipeline owned by Harvest Pipeline Company. The pipeline was struck by a Great Lakes Dredge and Dock Company vessel that was doing excavation. An oil spill response organization, ECM Maritime Services, has been contracted to manage clean-up.
Kansas City Star Read more

November 7 - Oil spill off Louisiana coast caused by contractor working on post-BP restoration *wdsu.com*
Read more

USA: TEXAS - TANKER FIRE, BUNKER SPILL CLOSES HOUSTON SHIP CHANNEL

September 6 - A tanker fire caused by a bunker fuel leak closed a 1 mile section of the Houston Ship Channel overnight as crews worked to contain the spill and extinguish the fire.

The Coast Guard closed the Houston Ship Channel to all traffic for 1 mile stretch southwest of the Battleship Texas State Historic site, between the Cargill facility and the Cemex dock.

A pilot aboard the 810-foot crude oil tanker Aframax River notified Coast Guard Sector Houston-Galveston watchstanders around midnight that the tanker was on fire near the Intercontinental Terminals Company. It was reported that a bunker tank was punctured and caught fire. The tanker was not carrying any product when the incident occurred.
gCaptain Read more

September 8 - Houston Ship channel reopens after fiery incident
The Houston Ship Channel has re-opened to all vessel traffic after an early-morning tanker fire and fuel spill caused it to shut down for 14 hours.

"This incident could have been much worse, but was mitigated due to the prompt and effective response of two Port of Houston Authority fire boats," said Capt. Peter Martin, U.S. Coast Guard.

The Coast Guard says he is still unsure what ruptured the hull of an 810 foot tanker, The Aframax River, and resulted into a fire. There were no injuries, and he said he doesn't see an increased risk for barges *khou.com*
Read more and watch video [Thanks to JOIFF and ISCO Industry Partner, DG & Hazmat Group]

USA: MICHIGAN - EAST LANSING LOOKING INTO WATER PLANT CHEMICAL SPILL

September 6 - Officials from the city's wastewater treatment plant are trying to determine the severity of a 600-gallon chemical spill last month. Ferric chloride, a chemical used to remove phosphorus in the wastewater treatment process, spilled from an above-ground supply line that broke on the morning of Aug. 27, said Scott House, the city's public works director. *Lansing State Journal* Read more

NIGERIA: OIL LEAK FROM AGIP'S OIL FIELD IN KALABA, BAYELSA POLLUTES COMMUNITY

September 8 - The people of Kalaba community in Bayelsa have bemoaned the impact of an oil leak from an oil field operated by Nigerian Agip Oil Company (NAOC) ravaging the area.

The leak, according to residents, was discovered in the area in August and is currently spilling crude fast into the swamps and forest, bringing the ecosystem in the community under threat.

The inhabitants of Kalaba community, Yenagoa Local Government Area, lamented that over a month after the spill occurred, it had yet to be contained. They appealed to the government and relevant authorities to prevail on NAOC to halt the spill and carry out remediation on the site. *AllAfrica.com* Read more

NIGERIA: OIL SPILL RECORDED FROM EXXONMOBIL FACILITY

September 9 - Ibeno Local Government Area of Akwa Ibom has recorded another major oil spill from Mobil Producing Nigeria (MPN), Unlimited, operator of the Nigerian National Petroleum Corporation/MPN joint Venture offshore.

Speaking with the News Agency of Nigeria (NAN), on Thursday, a Community Leader, Chief Okon Udofia, confirmed the oil spill at Eneh Awa and other shoreline communities in Ibeno, Akwa Ibom. Udofia said that the community observed the oil spillage on the shoreline (Eastern part of Ibeno) on Wednesday, September 7, 2016.

Reacting to the Development, Mr Ogechukwu Udeagha, Manager, Media and Communications of MPN, told NAN that the oil giant was notified of an alleged sighting of oil along Ibeno on Wednesday, September 7, 2016. Udeagha, however, said that there were no reported upsets from Mobil Producing Nigeria Unlimited (MPN) facility. *Pulse.ng*
Read more

Incident reports from around the world (continued)

THAILAND: MARINE POLICE SEEK FREIGHTER SUSPECTED OF CAUSING OIL SPILL

September 9 - Saensook municipality has asked the marine police to track down a freighter suspected of discharging used bunker oil into the sea which has eventually been swept ashore by waves on the popular Bang Saen beach since Wednesday.

Black oil slicks were spotted floating from Laem Chabang in Si Racha district and from Si Chang island toward Bang Saen beach. Eventually, the slicks were swept ashore about two kilometres long on the Bang Saen beach. Saensook municipal mayor Narongchai Khunpleum said he suspected the slicks were discharged by one of the freighters which anchored in the sea off Bang Saen beach or which sailed through Bang Saen beach. *Pattaya Mail* Read more

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

CANADA: ESQUIMALT FUEL SPILL LEAVES FISHING, BEACHES CLOSED NEARLY 4 MONTHS LATER

A quick response managed to mop of much of the fuel when a barge spilled about 30,000 litres of diesel into Esquimalt Harbour in May, 2016. (CBC)

August 31 - Nearly four months after one of the largest fuel spills in recent West Coast history, Esquimalt Harbour remains closed to fishing and local First Nations can't use their beach.

As much as 30,000 litres of diesel spilled into Esquimalt Harbour in May after high winds pushed a barge ashore in Plumper Bay.

At the time, officials with Western Canada Marine Response Corporation said it was one of the largest spills on the West Coast in decades, but a quick response by clean up crews managed to mop up much of the fuel before it hit the shoreline just west of Victoria.

Now, the Coast Guard says clean-up of the beaches and sediment is completed, but diesel is expected to continue to dissipate during storms and changes in the tide over the next few months. *CBC.ca* Read more [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

CANADA: NEW OIL SPILL RESPONSE BASE HINGES ON PIPELINE EXPANSION

September 6 - Plans to build a new oil spill response base in Vancouver are moving forward. The proposal aims to cut response times in half and double capacity.

But there's a catch. It's all part of a $200 million commitment from Trans Mountain to bump up Canada's spill response and it's hinged on the pipeline expansion project's approval – expected in December.

Michael Lowry with Western Canada Marine Response says it would make a big difference in the time it takes to get to a spill both in Vancouver Harbour and also in the Southern Shipping lane.

"A part of those enhancements would include a number of new bases along that route and also an investment in new employees. We will be adding about 115 new employees and probably 26 new vessels as well within that area," he explain. *News1130* Read more Related report from *CBC News*

CHINA TO PENALIZE OFFSHORE COMPANIES FOR SPILLS

September 5 - The Chinese government is considering imposing penalties on offshore oil companies that damage the marine environment, state media said on Monday, the latest effort by Beijing to clamp down on environmental pollution and tackle risks from oil leaks.

On Monday, the Legislative Affairs Office of the State Council published an early draft of the regulation, which includes damages for clean-up costs and the restoration of ecological balance in marine environments, according to Xinhua.

Companies will also have to invest in environmental monitoring and evaluation and use professional consultants if necessary. *The Maritime Executive* Read more

FRANCE: CEDRE RESPONSE ACTIVITIES

September 7 - Over the summer, CEDRE continued to provide assistance for the response to the pollution generated by flooding in the Paris region (Newsletter 247). Two operation supervision assignments in Sainte-Anne-sur-Brivet (Loire-Atlantique) (Newsletter 245, 246 and 247) were also carried out. We were called upon by Ceppol and the AEM division of the Atlantic Maritime Authority (PREMAR) to help to identify an unknown product at sea, following aerial surveillance *Cedre Newsletter 248* Read more

NIGERIA: OIL SPILL DESTROYS NINE COMMUNITIES IN DELTA

September 7 - There is tension in Delta state as nine communities in Gbaramatu Kingdom, Warri South West local government area have sent a save our soul message to Governor Ifeanyi Okowa over the massive oil spillage wreaking havoc in their areas. The nine communities are Tebujor/Okpele-Ama, Ikpokpo, Okerenkoko-Gbene, Opuedebubor, Opuede, Opuendezion, Atanba, Oto-Gbene, Meke-Ama Communities in Gbaramatu Kingdom.

It was gathered that the massive oil spillage occurred at the Nigerian National Petroleum Corporation (NNPC)/Pipelines and Product Marketing Company (PPMC) truck-line which passes through the communities. According to a letter made available to NAIJ.com, addressed to Governor Okowa dated September 6, 2016, and signed by Yebrade Moses, Godwin Akori, Ebilowei Tortor and Braye Fredrick on behalf of the affected communities, the spillage occurred on August 17 and has continued up to this moment.

The communities' leaders also claimed that NNPC and PPMC, owners of the facility have not taken steps to stop the continuous spillage, which has continued to damage fishing nets, properties and the environment. *Naij.com* Read more

September 7 - 10 Delta Communities Battle NNPC Over Alleged Oil Spill
Ten Ijaw communities along the Escravos river in Warri South West Local Government Area of Delta State have petitioned the Delta State government alleging that a massive crude oil spill is ravaging their environment from a Nigerian National Petroleum Corporation, NNPC, facility. *AllAfrica.com* Read more

PANAMA: CEDRE PARTICIPATION IN TROPICS EXPERIMENT

September 7 - In July, Cedre took part in a field assignment as part of the Tropical Oil Pollution Investigations in Coastal Systems (TROPICS) experiment in Panama.

The aim of this experimentation programme, which first began in 1984, is to assess the effect of a spill of crude oil, treated or untreated using chemical dispersant, on mangrove ecosystems. Since it first began, many scientific assignments have been carried out at two islets in the Bocas del Toro archipelago, the most recent dating back to 2009.

For the 2016 assignment, dubbed "32 years on", Clean Caribbean and Americas (CCA) invited Cedre to join a team of five scientists from Nova Southeastern University (Florida), Texas A&M University and NOAA. From 11th to 13th July, three field visits were organised to the three experimentation sites ("oil" site, "dispersed oil" site and "reference" site). For each site, the sediment, vegetation and seabed were monitored. No traces of residual pollution were detected either visually or by smell. In terms of the effect of the oil on the mangrove, no significant difference in the density or growth of mangrove trees was detected between the various sites

The sediment samples are currently being analysed and the surveys are undergoing statistical treatment. The results are to be published in a scientific paper and a presentation is due to be given at the next IOSC.
Cedre Newsletter 248 Read more

News reports from around the world (continued)

PERU: NEGOTIATIONS AND PROTESTS ONGOING IN WAKE OF OIL SPILLS IN PERUVIAN AMAZON

September 5 - Negotiations on Aug. 31 between national government officials and leaders and residents of Nueva Alianza, an indigenous community in the Peruvian Amazon, ended an impasse over cleanup of about 4,000 barrels of oil that spilled from two pipeline breaks 10 days earlier. But the talks left many questions unanswered and local residents dissatisfied.

While the meeting was under way in Nueva Alianza, at the confluence of the Urituyacu and Marañón rivers in Peru's northeastern Loreto region, a protest over oil operations was brewing downstream in San José de Saramuro, where the troubled northern Peruvian oil pipeline begins.

That protest erupted on Sept. 1, with demonstrators blocking the Marañón River, a crucial waterway connecting the key Amazonian city of Iquitos with highways to the coast. The protesters' demands include replacement of the deteriorated pipeline, remediation of 40 years' worth of oil pollution in the Amazon, compensation for damages, and an environmental monitoring law. *Mongabay* Read more

RUSSIA: RIVER IN ARCTIC REGION MYSTERIOUSLY TURNS BLOOD RED

Photos posted by local residents on social media appear to show the Daldykan river close to Norilsk has turned blood red.

September 7 - Photos published on Russian social media appear to the show the Daldykan River near the city of Norilsk flowing vivid burgundy. Russian authorities have yet to establish a reason for the river's unusual appearance, but local people quickly linked it to a giant metals plant upstream. Russia's Environment Ministry said it was investigating a plant leak as the likely cause.

Norilsk is known as one of the most polluted cities on earth, built around factories mostly belonging to the vast metals company Norilsk Nickel. Some Norilsk residents wrote in a local social media group that they believed the river's biblical shade is linked to runoff from a nearby smelting plant

ABC News Read more and watch video

ISCO News

YOUR EDITOR IS LOOKING FOR FEEDBACK

This week I'm writing in regard to the section "Links for recent issues of other publications" and hoping for constructive comments. Part of the reason for this section is to compensate for a lack of newsletter content dedicated to remediation of contaminated sites and groundwater. Although I'm aware that many of our members and readers have interest in this, it's not an area in which I have significant experience. I'm also aware that there are many useful publications that address these subjects and that is why several are included in this section. Bearing in mind the availability of these specialised publications, I include relevant links and continue to focus newsletter content in other areas.

I wonder if readers do find the "Links for recent issues of other publications" a useful feature in the newsletter. As an example, the current issue of *Technology Innovation News Survey* https://clu-in.org/products/tins/ includes an article *"DESIGN AND OPTIMIZATION OF SURFACTANT BASED ENHANCED REMEDIATION OF BUNKER C FUEL OIL CONTAMINATED SOIL*" that might well be of interest to the spill response community. What I would really like to know is whether readers are actually using the links to other publications and to have opinion as to whether the feature should be continued / discontinued or needs to be improved.

Correspondence

DEEPWATER HORIZON – WHAT HAPPENED TO THE OIL?

ISCO Member, Dr Douglas Cormack Hon.FISCO has written to comment on the Article by Alun Lewis.

Alun Lewis's Newsletter reports on the 'studies' of others as to this incident's effects/consequences, have confirmed that nothing is to be gained from beliefs and opinions per se, nor from those derived from them. For example, it was opined that released oil sank to the seabed despite being less dense than seawater; that the natural biodegradation of dead marine organisms produced a 'marine snow' capable of sinking otherwise buoyant oil to the seabed un-biodegraded, and that sunken oil arrived on the seabed in inch thick layers. In contrast, the direct measurements which I and colleagues made at the Ekofisk blow-out were consistent with available knowledge and led to further knowledge-acquisition.

As to consistency with available knowledge, it was already known that API separators work only because oil is less dense than water, fresh or salt; that water containing oil droplets enters the separator to exit minus the droplets large enough to rise to the water-surface to form an ever-thickening layer for removal, while the buoyancy of the smaller droplets is overcome by the impacts of molecular Brownian movement and thus do not rise to coalesce with the growing surface layer; that these smaller droplets exit the separator with the water for biodegradation by the micro-organisms naturally present in the downstream filter-beds provided for this purpose; and that no oil sinks within the separator.

Secondly it was already known that subject to measurable viscosity-values, wave-generated turbulence gradually disperses the floating non-volatile fraction of released oil and its water-in-oil emulsions into the water column; that initially the larger droplets buoyantly re-coalesce with the under-side of the floating layer while the smaller remain suspended as in an API separator and biodegrade in the water column as in a filter-bed; that gradually the floating layer thins with the proportion of smaller droplets increasing until the surface layer either disperses/biodegrades completely, or to an extent dependent on the time taken for knowable wind/tide vectors to convey the residual layer to shore where its biodegradation slows, unless dispersed back into the sea as droplets.

Thirdly, it was already known that all dead marine organisms biodegrade to the carbon dioxide from which they were created by photosynthesis, as does the dead flora and fauna of the land biomass; that no post-mortem material resides permanently anywhere, unless in the total absence of oxygen; that coal, petroleum and natural gas are the products of anaerobic interruption of this biodegradation; and that this biodegradation to carbon dioxide is resumed when oil is released under aerobic conditions either to sea or land, with the rate being proportional to the surface/volume ratio exposed to oxygen, the smaller the droplets the greater the rate.

As to the acquisition of new knowledge after the Ekofisk well was capped, I achieved a mass balance between the duration of the release and its rate (assumed to be the production rate) on the one hand, and on the other, an evaporative loss consistent with the distillation profile of the oil, and a natural dispersion of the non-volatile slick to the water column with a half-life of about 12 hours, consistent with its observed removal in about 85 hours before any of it could reach shore, and consistent with the measured decrease in water column concentrations from about 5ppm to the ppb range from 0.5 - 25 metres depth. Having thus acquired this new half-life knowledge, I later asked my former colleague, Joe Nichols, to attribute evaporative loss, half-lives or half-life ranges to the distillation profiles and viscosity values of all oils, assisted by his by then accumulated observations of a large number of ITOPF incidents, with the results being tabulated with this attribution in my books of 1983 and 1996.

It is thus surprising to me that NOAA, academics and even the industry itself appear not to know any of the foregoing, or knowing it, appear not to apply it to oil releases nor to studies thereof which would acquire further knowledge; and that instead they deal only in belief/counter-belief or in opinion/ counter-opinion.

For more on what is already known, and on what is otherwise believed despite having been refuted by this knowledge, readers are referred to my website http://knowledgeonly-marinepolicy.weebly.com

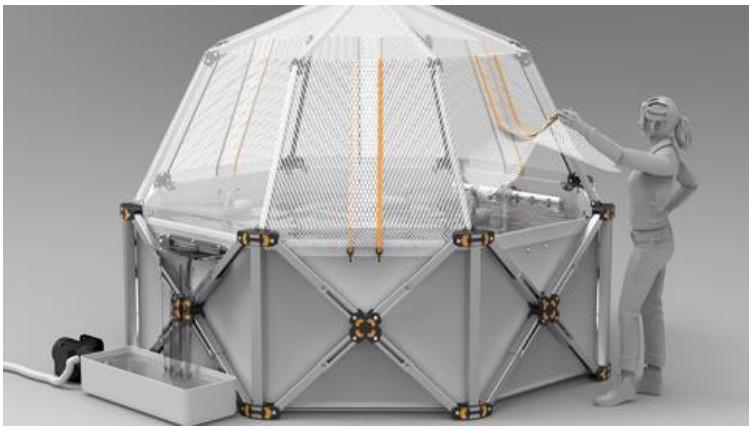
Science and technology

DEPLOYABLE REHABILITATION POOL FOR OILED WILDLIFE

At a glance, it looks like something between a tent and a spacecraft - But the innovation by a Massey University student could save the lives of marine species if the country is faced with another major oil spill.

The Deployable Rehabilitation Pool for Oiled Wildlife, or "Dr. Pow", created by industrial design student Cameron Holder, has been nominated for two New Zealand design awards, having already won a major international award.

A survey of existing wildlife rehabilitation pool designs, like those used in the 2011 Rena disaster, had found that most used in New Zealand and internationally were essentially adapted PVC pools with makeshift covers. Holder's design was developed with input from the Massey-based Wildbase Hospital, the country's only dedicated wildlife hospital.



Pictured left: The Deployable Rehabilitation Pool for Oiled Wildlife, or "DR. POW", created by industrial design student Cameron Holder, has been nominated for two New Zealand design awards. Photo: Supplied

In 2011, members of the Wildbase oil response team were part of rescue and rehabilitation efforts to save hundreds of sea birds caught in the oil spill when the Rena ran aground off the Tauranga coast.

"I was able to refine and integrate the ideas into my product," Holder said. "For example many designs have dark mesh covers because it was considered a less stressful environment for wildlife."

However, research had shown that birds were less stressed when they could see out, and the clear mesh allowed people to see in.

"A lot of things are more considered about the design, which has seven access points and can be scaled up for larger animals."

The Dr Pow pool, which is designed to self-expand as it filled with water, provided a safe environment for wildlife such as sea birds, penguins and seals after an oil spill.

Its rapid deployment is an important factor in wildlife recovery and means that many units can be quickly deployed at once, which is essential in rescuing wildlife from oil spills. *New Zealand Herald* Read more

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SCIENTISTS DISCOVER NEW TYPE OF BEAUTIFUL FLAME CAPABLE OF CLEANING OIL SPILLS

Scientists discovered a new type of flame called blue whirl that could clean oil spills sooth free with lower carbon emissions. (Photo :Justin E. Stumberg/U.S. Navy via Getty Images)

Scientists from the University of Maryland discovered a new kind of flame, dubbed as "blue whirl," capable of cleaning oil spills efficiently with lower carbon emissions.

Their discovery, described in a paper published in the Proceedings of National Academy of Sciences, is typically a smaller and more stable kind of fire tornado or fire whirls.

"A fire tornado has long been seen as this incredibly scary, destructive thing," said Michael Gollner, assistant professor of fire protection engineering and co-author of the paper, in a statement. "But, like electricity, can you harness it for good? If we can understand it, then maybe we can control and use it."

A usual fire tornado occurring in forest fire or urban fire burns with a yellow color due to incomplete consumption of its fuel, primarily due to lack of oxygen, producing sooth. On the other hand, blue whirl have more access to oxygen leading to complete combustion of their fuel resulting quicker and cleaner burning.

To determine the practical use of blue whirls, researchers simulated an oil spill in the lab by pumping stream of heptanes gas into a tray of water. The researchers observed that as the yellow swirl becomes more stabled and settled it turns to blue. This means that there is enough oxygen for complete combustion. The researchers believe that the blue whirl is formed due to water barrier. Unlike whirls in land that reaches all the way down to the ground, blue whirls sits above the water, which is likely caused by layer of evaporated fuel mixed in the air. With the circulation generated by the fire whirl, the premixed fuel is being sucked up by the vortex, giving the flame the fuel it needs. *Nature World News* Read more

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Contributed article

SPILL RESPONSE & ALTERNATIVE RESPONSE TECHNOLOGIES BY JOHN BRINKMAN

John Brinkman is the President and CEO of Imbibitive Technologies Corporation (IMBTEC), a Delaware, USA Corporation since 1994.

IMBTEC and Imbiber Beads® have been honoured by The White House “Closing the Circle Award” and by the Technology Museum of Innovation in San Jose, California.

John Brinkman is a graduate of the University of Western Ontario, located in London, Ontario, Canada.

Note from Editor: The editorial policy of the ISCO Newsletter does not normally allow the use of trade names in contributed articles and such articles should be free of product promotional content. However, in this case, an exception has been made. Because the product described is a single-source one-of-a-kind it was not practical to avoid use of the brand name

The article is a follow-up to the discussion on defining sorbents and adsorbents arising from Mark Francis’ article on Shoreline Clean-up in issue 538 of the ISCO Newsletter and the ensuing correspondence in issues 539 and 540.

Part 1 - Adsorbents versus Absorbents (Imbiber Beads®)

Several weeks ago I provided information concerning the differences in performance between adsorbents and absorbents in order to try and clarify the confusion that seems to reign within the global oil spill response industry.

ASTM is pretty specific as to what the prefix “ad” implies and what the prefix “ab” implies when used with the word sorbent. The definitions are specific with respect to the performance and eliminate the subjective nature described in Mark Francis’ article.

Dr Merv Fingas is correct with his comment that the “spill response” industry for the most part does not make the distinction either because it is not considered important or that it is not aware that a fundamental difference exists in the performance? (Conversely, the air emissions industry makes the distinction because it is in that particular industry’s best interest to be able to purge and remove contaminants from the adsorbing material as part of the filtration process).

Similarly, in the water filtration industry where the removal of contaminants from activated carbon filters is advantageous the industry uses the term adsorption when referring to the performance. It seems that only the spill response industry continues to obfuscate the meaning and terminology?

With respect to Mark Francis’ comments concerning the response industry having it wrong, “yes” that is the case; ASTM is a voluntary consensus standards group comprised of industry experts and for years Dr. Fingas sat on the committee that actually compiled the standards and definitions referenced. Both ASTM F-716 and ASTM F-716 reference that the solid sorbent material must “swell” at least 50% in order to be classified as an absorbent.

The confusion surrounding the performance between adsorbents and absorbents has caused Imbibitive Technologies (IMBTEC) to have to refer to Imbiber Beads® as a “super-absorbent” polymer when the reality is that we manufacture an “oil-sensitive”, absorbent polymer in accordance with ASTM definitions.

Similarly, when Victor Mills (Procter & Gamble) invented the first “water-sensitive” absorbent polymer he referred to it as a super-absorbent polymer because there are a number of cellulosic materials that absorb water, such as cotton for example, and will swell in the presence of water.

This is why cotton fibers are used in bath towels. The distinction of “super-absorbent” implied that the polyacrylates and polyacrylamides used in disposable baby diapers/nappies will absorb many, many volumes of water in comparison to cotton cloth diapers.

The fact that you will locate bags of mineral sorbent products such as perlite, vermiculite or clay granules incorrectly labeled as “absorbents” is testimony to the confusion that reigns within the industry. When was the last time you saw a clay granule “swell” in gasoline/petrol? (Bentonite clay will “swell” in the presence of water but not in the presence of hydrocarbons).

I am not aware of any polypropylene sorbent products where the fibers “swell” 50% nor am I aware of any polypropylene products that do not leak their contents with simple gravitational pull or will leach an amount of their

contents in a current in excess of 1 or 2 knots. Studies have demonstrated repeatedly that the adsorbent materials used by the response industry and industry-at-large cannot pick-up more than once their own volume of spilled liquid; in many instances several volumes of adsorbent are required for every volume of liquid spilled. It is because of this that sorption capacities for adsorbents are measured by "weight" as opposed to by "volume".

Since polypropylene adsorbents are "lightweight" the numbers used are not very meaningful i.e. even fifty times the weight of a feather is not very much product?

This implies a number of logistical issues when it comes to storage, transportation and disposal of significant volumes of adsorbent products due to their inefficiencies. In many instances the use of adsorbents is more cosmetic than effective, especially when low viscosity liquids such as fuels and solvents are involved. Response contractors will often "deal" sorbent pads like playing cards onto a spill in the hope they will pick some of the released liquid up; not a very effective way of cleaning up spills and costly.

Being the only product of its kind has been problematic for Imbiber Beads® because the tendency is to lump them into the broad category of all too similar adsorbent products. This is unfortunate for the response industry because Imbiber Beads® use on organic liquid spills brings a number of positive attributes to the equation even as a "front-line" spill response tool.

With respect to the "heavy oils" referred to by Mark and Merv, IMBTEC does not profess that these are the strength of Imbiber Beads® nor do we claim that use of Imbiber Beads® is the answer for every spill response or environmental incident but that was not the point of the discussion. The point of the discussion was to provide technically accurate information to the ISCO readership regarding the definitions and expected performance for adsorbents and absorbents.

To be continued

Publications

OIL SPILL RESPONSE PLANNING AIDED BY NEW CALCULATORS

The Bureau of Safety and Environmental Enforcement (BSEE) announced the release of four new oil spill response calculators today as part of an ongoing effort to improve future clean-up efforts. According to John Caplis, an oil spill response coordinator for the bureau, the use of the calculators is viewed by BSEE as a "best practice" and their use will be strongly encouraged when operators prepare oil spill response plans for offshore facilities. Caplis explained that the new calculators focus on methods to identify optimum system arrangements for three oil spill clean-up approaches: mechanical recovery equipment, dispersants, and in situ burn. The calculators allow spill responders to better assess the oil removal capabilities of different equipment, and assist them in selecting the most effective approaches for responding to the potential spill scenarios contained within a response plan. "Use of the response planning calculators translates into better preparedness by industry. Ultimately their use should result in more effective responses to spills," Caplis stated, "and an overall benefit to the environment by improved mitigation of the impacts of oil spills, should they occur."

BSEE provided funding for, and collaborated with, Genwest Inc. to create the new calculators.

The four calculators are:

Estimated Recovery System Potential (ERSP) Calculator – Provides a systems-based approach that is a significant improvement over the existing Effective Daily Recovery Capacity (EDRC) planning standard. While EDRC focused only on the capacity of the skimming device and removal pump, ERSP addresses the entire system's ability to encounter, collect, contain, remove, store and offload recovered oil and water. The improvements address concerns expressed by the Deepwater Horizon Commission that the EDRC standard does not accurately estimate the removal capacity of mechanical recovery equipment.

Recovery System Evaluation Tool (ReSET) – Allows plan holders and Oil Spill Removal Organizations to explore changes to their mechanical recovery systems and consider options to improve the system's oil removal potential. ReSET allows users to vary individual components in the Estimated Recovery System Potential Calculator and determine how they can best invest in mechanical recovery equipment.

Estimated Dispersant System Potential (EDSP) Calculator – Provides a technology update to the Dispersant Mission Planner 2 used by the U.S. Coast Guard to estimate the ability of different aircraft to spray dispersants and treat oil on the water's surface. The EDSP Calculator features an improved user interface, added spray application platforms, and a more visual and intuitive set of graphical outputs.

Publications (continued)

The Estimated Burn System Potential (EBSP) Calculator – This new oil spill countermeasure planning tool provides a way to estimate the potential for a towed fire boom system to encounter, contain, and burn oil.

The response system planning calculators, and their associated user manuals, can be downloaded at https://www.bsee.gov/site-page/response-system-planning-calculators

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	July 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	September 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 Publlshing News	New and forthcoming IMO publications	August 2016
Intertanko Weekly News	International news for the oil tanker community	September 9, 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	August 2016 issue
Pollution Online Newsletter	News for prevention & control professionals	August 31, 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	July 16-31, 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	September 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			
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 17-20	October 2016 IOPC Funds meetings	London
UK	October 18	UK Spill – Spill Science Seminar	Southampton
UK	October 24-28	IMO Marine Environment Protection Committee Mtg.	London
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
CHINA	November 8-9	5th Oil Spill Response Workshop Conf. & Exhibition	Beijing
COTE D'IVOIRE	Nov. 21-24	GIWACF W'shop on Cont'y Planning & Compensat'n	Abidjan
KENYA	December 4	3rd Session of UN Environment Assembly (UNEA-3)	Nairobi
SENEGAL	December 5-7	GIWACAF Workshop on Dispersants and NEBA	Dakar
	2017		
KUWAIT	January 10-12	Kuwait 2nd Oil Spill Conference	Kuwait
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

OIL SPILL RESPONSE LIMITED AND CRESENT PARTNER TO ENHANCE INDUSTRY COMPETENCE

August 24 - Oil Spill Response Limited (OSRL), the industry's leading global oil spill response cooperative, and Cresent, a Control of Work and Health and Safety specialist, today announce a training partnership.

This new and exciting collaboration sees the availability of an increased range of e-learning courses for mutual customers within the oil and gas industry, enabling a wider range of subject matter to be available. As many of our customers are oil and gas related, this innovative and collaborative approach offers key benefits to OSRL and Cresent customers *OSRL* Read more

ARDENT RESPONDS TO OPA-90 VESSEL FIRE IN PUERTO RICO – FIRE EXTINGUISHED, POLLUTION AVERTED

August 29 - On Aug. 17, a fire broke out on the vessel, the Caribbean Fantasy. The Vessel Response Plan was activated. The Caribbean Fantasy is covered under Ardent's OPA-90, Salvage and Marine Fire Fighting "SMFF" coverage program. Ardent responded to the incident onboard the vessel. Prior to Ardent operations, the U.S. Coast Guard responded to the vessel, and successfully evacuated more than 500 passengers and crew members.

"We did a dive survey of the vessel at sea, found that there was minimal damage to the hull, and brought her to port with the USCG's approval. Our fire team then went onboard to extinguish the fire," said Ardent Salvage Master, Guy Wood. McAllister Towing was one of Ardent's OPA-90 partners that assisted in responding with two of their z-drive tractor tugs, Brooklyn McAllister and, Beth M. McAllister. Puerto Rico Towing and Barge and Moran Towing also provided tugs for the operation.

Ardent demobilized emergency response personnel and equipment one week after (Aug. 25) the successful operation, and handed the vessel back to the ship owner. *Ardent Global* Read more

UK & IRELAND: SUCCESSFUL OIL SPILL RESPONSE ACCREDITATION FOR RAW GROUP'S BELFAST RESPONSE BASE

September 5 - Raw Group's Belfast Response Base has successfully completed an oil spill re-accreditation assessment and has been awarded International Spill Accreditation Association (ISAA) recertification in the following oil spill response disciplines – Freshwater Level 3, Groundwater Level 3, and On-Land Level 3
http://www.raw-group.com/

ISCO MEMBER, AQUA-GUARD REPORTS HOME & INTERNATIONAL SUCCESS

September 8 - Since the early 1990's, Aqua-Guard has provided over 1,000 easily transportable oil skimming systems to clients around the world. Read this new report