ISCO NEWSLETTER

The Newsletter of the International Spill Response Community

Issue 333, 7 May 2012

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News

USA: GULF OF MEXICO OIL SPILL SETTLEMENT PROCEEDS; CIVIL TRIAL DELAYED

US judge gives preliminary approval to $7.8bn settlement

May 2 - A US federal judge has given preliminary approval to a proposed class-action settlement that would resolve billions of dollars in claims against BP over the 2010 Gulf of Mexico oil spill.

US District Judge Carl Barbier's ruling on Wednesday allows the settlement process to proceed, but he will hold a "fairness hearing" later this year before deciding whether to give final approval.

The deal between BP and a team of plaintiffs' attorneys is designed to resolve more than 100,000 claims by people and businesses who blame the spill for economic losses. *The Telegraph* Read more

Judge moves start of civil trial over BP oil spill to January 2013

May 3 - The federal judge who will decide whether to approve a class-action settlement of claims against BP PLC has scheduled a January 2013 trial for other claims spawned by the deadly blowout of the company's deepwater well in the Gulf Mexico.

After meeting Thursday behind closed doors with attorneys, U.S. District Judge Carl Barbier scheduled the start of the trial for Jan. 14, 2013. *The Washington Post* Read more

DNV INCREASES ARCTIC FOCUS, ACQUIRES OIL-SPILL PREPAREDNESS COMPANY NPS

NPS Oil Spill ResponseExercise

April 30 - The Arctic has large oil and gas resources and operations in this sensitive and harsh area will require efficient oil-spill preparedness solutions. “The acquisition of Norwegian Petro Services (NPS) in Norway and its recognised expertise will play an important role in our activities in this field,” says Knut Ørbeck-Nilssen, DNV’s COO of the Norway, Russia and Finland division.

Oil and gas operations in the Arctic introduce several new risk elements; the distances are greater, the climate is cold, it is dark for a lot of the year and there may be no infrastructure. It is important that the safety level here is at least as good as in the conventional areas. Therefore, the Arctic conditions will require improved technology and new knowledge to reduce the likelihood of an accidental oil spill. In addition, efficient oil-spill preparedness solutions that reduce the consequences of a potential accident must also be put in place.

“Both the industry and society focus heavily on reducing the environmental effects of operations in Arctic areas such as the Barents Sea. DNV wants to contribute to this, and the acquisition of NPS is an important strategic move in that sense. We are now combining DNV’s environmental risk and oil spill preparedness analyses with NPS’s specialist expertise in planning and organising oil-spill preparedness. This provides a complete service portfolio to our customers,” says Ørbeck-Nilssen.

“NPS, which consists of five professionals, will give us operational expertise that is important to the oil companies when planning and training for oil-spill preparedness. We will now establish a robust local organisation in the north of Norway, based in Harstad. In addition to the new portfolio of oil-spill preparedness advisory services, DNV will provide advisory and verification services to the oil and gas industry. The new office will supplement our existing maritime industry activities in Harstad,” says Ørbeck-Nilssen. *The Maritime Executive* Read more

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UK: TOTAL ELGIN GAS LEAK: PERMITS GRANTED FOR 'DYNAMIC MUD KILL'

May 4 - Environmental permits for a "dynamic kill" operation to try to stop the gas leak on Total's Elgin platform have been granted by the UK government.

Experts believe pumping heavy drilling mud into the North Sea well from where the gas is escaping is the fastest way to halt the release.

The Department of Energy and Climate Change (DECC) has carried out a full environmental assessment of the plan. *BBC News* Read more

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NIGERIA: TOTAL TO DRILL RELIEF WELL IN NIGERIA TO STOP GAS LEAK

April 30 - French energy firm Total will drill a relief well in southern Nigeria as it seeks to stop a natural gas leak that has led to a shut down of one of its plants, the company said Friday.

“Operations are being actively prepared on the affected well to stop the gas flow quickly and permanently,” Total said in a statement. “A drilling rig is being brought in to drill a relief well and a second rig has been ordered.”

Relief wells can be used to relieve pressure on a leaking well and bring it under control. *Vanguard* Read more [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

News (continued)

NEW ZEALAND: RENA OIL OPERATION SCALED BACK

May 4 - After mopping up hundreds of tonnes of oil spilled into the ocean and washed ashore from wrecked container ship Rena, the clean-up operation is being scaled back.

Maritime New Zealand's national on scene commander Rob Service says the task of monitoring further oil spills from the vessel will be handed over to the Bay of Plenty Regional Council.

Service thanked all of those who had helped with the clean up so far. *Herald Sun* Read more

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CANADA: OIL SLICK EMERGES OFF B.C. FROM LONG-SUNK SHIP

May 2 - An oil slick believed to be leaking from a U.S. military transport ship that sank in 1946, has appeared on Grenville Channel near the remote aboriginal community of Hartley Bay 600 kilometres north of Vancouver.

Although some estimates say the slick is kilometres long, a Wednesday afternoon overflight by the Transport Canada pollution plane estimated the spill was minimal, although the sheen had been dispersed over a wide area, said Coast Guard spokesman Dan Bate.

"We are going to get a dive operation in place to patch the leak and prevent further pollution," he said. *Times Colonist* Read more

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CANADA: OIL SPILL REPORTED IN THE GREAT BEAR RAINFOREST – ANOTHER REPORT

May 2 - Gitga'at Nation Reports Large Spill Believed to Be From Sunken Munitions Ship; Calls on Federal Government for Immediate Response and Full Clean-Up

The Gitga'at Nation of Hartley Bay is reporting an oil spill, between two and five miles long and 200 feet wide inside the Grenville Channel, not far from the proposed tanker route for the Enbridge Gateway pipeline. The spill was spotted by a commercial pilot and reported to the Gitga'at Nation and the Canadian Coast Guard yesterday evening.

A Coast Guard landing craft from Prince Rupert is on its way to the spill, and expected to arrive by 12pm. The Gitga'at are sending their own Guardians to take samples and have chartered a plane to take aerial photos of the spill. *Maritime Executive* Read more

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USA: CLEANUP CONTINUING AT LOCATION OF CRUDE OIL SPILL BY EXXONMOBIL PIPELINE COMPANY

April 30 - Cleanup operations were continuing at the site of a spill of crude oil on remote rural property near Torbert LA, ExxonMobil Pipeline Company said today.

The oil from the North Line crude pipeline was contained in the immediate area and recovery efforts began on Sunday. Crews used vacuum trucks to recover the oil. Additional resources will be available on Monday as necessary.

There were no injuries. Air quality monitoring was conducted in the impacted area and confirmed no danger to the public. Additional air monitoring will continue.

"ExxonMobil Pipeline Company regrets that this spill has occurred and we apologize for any disruption or inconvenience," said Karen Tyrone, southern operations manager. "Our crews will be on location until the cleanup has been completed. Fortunately the oil was contained in the immediate area which will enhance our recovery efforts."

The cleanup is being coordinated with local authorities, including the Louisiana Department of Environmental Quality. Notification to the Environmental Protection Agency and other agencies has taken place. *The Wall Street Journal* Read more

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USA: OIL WASHED ASHORE AFTER THUNDERSTORM

April 26 - Following a brisk weekend storm, South Ocean residents were horrified to find their local beach hemmed in by a thick coat of black oil. The homeowners say they can't be sure where the oil might have come from, but noted that BEC's Clifton Pier Power Plant, implicated in a number of past spills, is not far away. They said slicks have washed ashore before, but never one this substantial. *Tribune 242* Read more [Thanks to Don Johnston of ISCO Industry Partner. DG & Hazmat Group]

News (continued)

UK: RIVER POLLUTED NEAR ST MARY BOURNE

May 5 - Environment Agency officers have been dealing with a major oil spill along the Bourne Rivulet in Hampshire – one of the country's most important salmon fishing rivers.

Environment Agency officers are doing everything they can to minimize the effects of the spill.

Booms and absorbent pads have been placed in the water to contain the oil pollution. The booms are sited between St Mary Bourne and Hurstbourne Priors.

This is Hampshire Read more

NOAA ISSUES PROTECTIVE MEASURES FOR MARINE LIFE DURING SHELL'S ARCTIC EXPLORATORY PROGRAMS

May 3 - NOAA's Fisheries Service is issuing two incidental harassment authorizations to Shell for energy exploration activities in shallow waters in the Arctic during a limited period this summer. The authorizations specify measures to protect marine mammals and the subsistence interests of Alaskan Natives, and are informed by the latest science as well as lessons learned from the Deepwater Horizon oil spill.

While the U.S. Department of the Interior (DOI) has primary responsibility to authorize exploratory activities on the Outer Continental Shelf, DOI's conditional approvals of two Shell exploration plans for activities beginning in 2012 in the Beaufort and Chukchi seas each required Shell to seek incidental harassment authorizations under the Marine Mammal Protection Act from NOAA as one of a series of conditions prior to commencing any activity. *The Maritime Executive* Read more

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BRAZILIAN REGULATOR: CHEVRON NEEDS TO SHOW IT CAN PREVENT SPILL BEFORE DRILLING AGAIN

April 30 - Chevron Corp. (CVX) won't be allowed to resume drilling in its Frade field offshore Brazil until it finds the cause of two recent oil spills in the area and shows the Brazilian government it can prevent another oil spill from happening, the head of Brazil's oil regulatory agency said Monday.

Chevron "has not identified yet the real cause of the problem," Magda Chambriard, president of Brazil's national oil regulator, ANP, told reporters on the sidelines of the Offshore Technology Conference in Houston. "The report we have [from Chevron] says that it is due to natural causes and natural causes can happen again." *Fox Business* Read more

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NIGERIA: BONGA SPILL UPDATES

Communities affected by Bonga Oil Spill yet to receive compensation, says Commissioner

April 22 - The communities affected by the Shell Bonga spill of 2011 have yet to be compensated, says Mr Mofe Pirah, Delta Commissioner for Oil and Gas.

``Currently, nobody has been compensated; the compensation will come after the historical analysis of the result and findings have been concluded,'' Pirah told the News Agency of Nigeria (NAN) in Asaba.

NAN recalls that the spill which affected communities in four local government areas in the state and other oil-producing states, occurred towards the end of 2011.

The spill reportedly wreaked havoc on the affected communities, depriving them of their source of livelihood.

Pirah's counterpart in the Ministry of Environment, Chief Frank Omare, told NAN that the affected communities were in Burutu, Warri North, Warri South and Warri South West LGAs in Delta and some LGAs in Bayelsa, Rivers and Ondo states. *Leadership* Read more

News (continued)

Shell disagrees with Amnesty International on Bodo oil spill

May 1 - Shell Petroleum Development Company Limited (SPDC) has condemned the report by Amnesty International on discrepancy in figures on oil spills in Bodo community of the Niger Delta region by Shell.

The Director of Global Issues at Amnesty International, Audrey Gaughran and the Co-ordinator, Centre for Environment, Human Rights and Development (CEHRD), Patrick Naagbanton, in the report, said new evidence obtained by Amnesty International and CEHRD about the 2008 Bodo oil spill, showed that more than half of the oil spilt in the Niger Delta in 2008, was due to operational failures – and possibly as much as 80 per cent, and not as a result of sabotage.

Shell in a statement issued by the Corporate Media Relations Manager, Tony Okonedo, said: "We do not agree with Amnesty International's assessment of the spill investigation process. We have recently had the investigation process, which is common to all operators in the Niger Delta, independently verified by Bureau Veritas – a global leader in conformity assessment and certification services. All oil spill incidents are investigated jointly by communities, regulators, operators and security agencies. *The Nation* Read more

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USA: EX-BP ENGINEER PLEADS NOT GUILTY IN SPILL PROBE

May 3 - A former BP engineer charged with deleting text messages about the company's response to the 2010 oil spill in the Gulf of Mexico was arrested in Texas last week because federal authorities feared he would leave the country for a job in Australia and not return, prosecutors said Thursday.

Assistant U.S. Attorney Richard Pickens said Kurt Mix, 50, of Katy, Texas, applied for a green card to Canada as recently as March and intended to leave for Australia, "never to return."

Joan McPhee, one of Mix's attorneys, said her client had a job with Apache Corp. waiting for him in Australia but "sat patiently at home for several months" because he knew he was the target of a federal probe. *The Miami Herald* Read more

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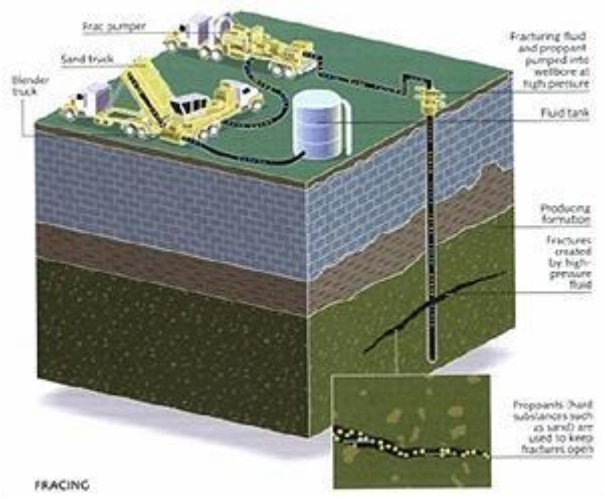
USA: REPORT: STRONGER RULES NEEDED TO STOP OIL SPILLS

April 30 - States should approve their own rules to protect the Great Lakes basin from oil pollution because federal laws inadequately address the problem, according to a new report written in response to a massive oil spill in southern Michigan.

The report released Monday by the National Wildlife Federation and University of Michigan Law School concluded there's no review of long-term risks related to oil-pipeline routing decisions and states have a "critical opportunity" to minimize impact before construction. The report says stronger rules are needed to prevent spills such as the July 2010 accident near Marshall that released more than 800,000 gallons of oil into the Kalamazoo River and Talmadge Creek.

Sara Gosman, the report's lead author, said during a conference call that she was surprised to learn from her research that there is no federal oversight for routing of oil pipelines and that the federal process focuses only on reducing risk once a given pipeline is already in an environmentally vulnerable area. Only three Great Lakes states -- Michigan, Minnesota and Illinois -- require permits specifically for new oil pipeline construction. *Bloomberg Businessweek* *Read more*

UK: FRACKING REQUIRES A MINIMUM DISTANCE FROM SENSITIVE ROCK STRATA



April 27 - The chances of rogue fractures due to shale gas fracking operations extending beyond 0.6 kilometres from the injection source is a fraction of one percent, according to new research led by Durham University.

The analysis is based on data from thousands of fracking operations in the USA and natural rock fractures in Europe and Africa.

It is believed to be the first analysis of its type and could be used across the world as a starting point for setting a minimum distance between the depth of fracking and shallower aquifers used for drinking water.

The new study, published in the journal Marine and Petroleum Geology, shows the probabilities of 'rogue' fractures, induced in fracking operations for shale gas extraction, extending beyond 0.6 kilometres from the injection source is exceptionally low. The probability of fractures extending beyond 350 metres was found to be one per cent. *Energy Daily* Read more

ISCO News

CURRENT ISCO INITIATIVES

- **Decanting of settled-out water during skimming operations at sea**

ISCO is working on a proposal to make it easier for response vessels to decant settled-out water.

The frustration experienced by responders was recently expressed by an internationally respected oil spill response expert – "It's crazy when the sea is covered with oil as far as you can see, but it's not only the US who enforce this rule. I have had the same answer from the Italian Coast Guard, as the rules are the same all over Europe. The rules are meant to cover normal operations and of course we all want to see low discharges into the sea, but there should be a dispensation for spills".

In situations where an oil spill recovery vessel is obliged to cease recovery operations on account of available tank capacity being completely topped up with recovered oil-water mixture, the rules do not allow settled out water to be discharged (to permit continuation of oil recovery) unless oil content is below 15ppm.

In virtually all oil spill situations it is not practicable for skimming vessels to have onboard capability to process settled-out water to ensure oil content is below the permitted limit. In order to comply with rules, the only immediately available option is to halt oil recovery.

This said, there is in fact a clause in the current MARPOL rules that does allow governments to permit decanting in specific situations but it's not well known and certainly not something that can be quickly and easily resolved in the midst of a response action. The experience of masters of skimming vessels and on-scene-commanders is that officials will automatically refuse permission.

ISCO is proposing that guidelines be developed to allow decanting in an environmentally responsible way in accordance with the principle of net environmental benefit. ISCO's aim would be to get the rules amended in such a way that a ship's master or on-scene-commander acting in conformance with these guidelines would be empowered to decant settled-out water without fear of prosecution.

- **Facilitating the use of oil at sea for research, equipment evaluation and testing**

The need for more effective response technologies has been highlighted by the Deepwater Horizon spill in the Gulf of Mexico and the higher risks posed by increased oil industry operations in hostile and sensitive environments.

The availability of laboratory and test tank facilities is good but this does not provide a complete answer. At-sea testing and scientific evaluation using oil is an essential component of some kinds of marine spill response R&D. Consider, for example, the large body of work conducted by the British Government's Warren Spring Laboratory in developing techniques for aerial application of oil spill dispersants – this could not have been done without using oil at sea. A current example is the need for work being done to test and evaluate performance of new technology for sub-sea oil recovery

ISCO is <u>not</u> advocating making it easy for all and sundry to carry out experiments with oil at sea but we do see the need for guidelines to determine the parameters under which responsible parties can be allowed to conduct important R&D work at sea under controlled conditions.

The end objective is to facilitate the development of more effective technologies for protection of the marine environment.

- **More information on other current ISCO initiatives will be given in next week's ISCO News.**

ELECTION OF MEMBER OF ISCO COUNCIL FOR INDIA

Following on the submission of two nominations for the position of ISCO Member of Council for India, an election is currently under way amongst ISCO Members in India, the ISCO Council and Executive Committee to determine who will be appointed. Each candidate has provided a CV/Personal Profile and a short statement saying how each proposes to further ISCO's objectives.

The closing date for registering votes by email is Thursday 10 May and the successful candidate will be announced in the ISCO Newsletter of 14 May 2012.

NEWS FROM WHERE YOU ARE

Your editor is grateful to Members and Readers who send in stories for publication – especially news from those parts of the world where due to availability in English language or access via the internet is difficult. The ISCO Newsletter has readers in more than 50 countries and your help in contributing news and articles that will be of interest to the international spill response community is always appreciated. Corporate members, government agencies and other organisations are especially requested to ensure that ISCO is on the mailing list for their press releases.

Cormack's Column

In this issue of the ISCO Newsletter we are printing No. 75 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

CHAPTER 75: KNOWLEDGE OF MECHANICAL RECOVERY

Further to net booms, we see that the net will permit water to pass through so long as the retained pollutant does not clog or blind the mesh. However, when the pour-point of the oil renders it solid at sea temperature pumped recovery is impossible and under these circumstances nets provide an alternative worth evaluation, whether the mesh clogs/blinds or not. However, as soon as the contents of a tubular or conical collection/recovery net stop the water passing out, no more water will pass in and no more oil will pass in with it. Water will only pass into a towed bucket if it has holes in its bottom or its sides. Thus, if a long tubular net is used, considerable quantities of solid oil in lumps and granules might be collected before all the mesh becomes choked or blocked.

Thus, in the system developed by the British National Oil corporation (BNOC) for the solid oil of the Beatrice field, a tube of entry net, not expected to become blocked, tapers down to a junction ring to which the downstream collection net is attached. In this system, the collection net was held open by a frame and deployed from the sweeping vessel to give a swath width of 7 metres by a jib and mast as in the system developed by WSL from the Ekofisk experience (articles 74 and 76) and the collection net was detached and lifted onboard from the junction ring when full (2 tonnes) and replaced in an operation of about 15 minutes.

In the seine net approach to pumped oil recovery as developed by John West with the intention of further trial-based development by WSL, a vertical barrier of fine mesh, a net boom, was to be deployed around an area of floating oil or emulsion by paying out as the deployment vessel executed a circle as in seine netting practice, a skimmer was to be placed within the completed circle, the net was to be recovered by hauling through the Marco power block, and the reducing perimeter was to maintain a layer thickness adequate to realise the nominal capacity of the combined skimmer and associated pump. However, while the net might have been intended to pass water while retaining pollutant, the mesh was soon rendered impermeable as might have been expected. Nonetheless, being impermeable was no disadvantage in comparison with conventional booms while being light, flexible and crushable enough for power block recovery while stabilising layer thickness for maximal efficiency of pollutant this system of recovery conferred significant advantages over conventional booms.

Again, it was encouraging to see a professional fisherman at work with his traditional equipment at sea, to remember why oceanographic equipment is best handled under the direction of a fishing master, and to conclude that best use of properly selected equipment would be made by those with a fishing background. In the authors opinion, this overall concept has not yet been fully evaluated. Indeed, it was overlooked by those who devoted further trials of John West's equipment to evaluating its low volume : long length ratio in respect of achieving ever-longer lengths of coastal protection booming, without any consideration of how it might have increased the effectiveness of pollutant recovery as originally intended.

1 The *Rational Trinity: Imagination, Belief and Knowledge*, D.Cormack, Bright Pen 2010 available at www.authorsonline.co.uk
2 *Response to Oil and Chemical Marine Pollution*, D. Cormack, Applied Science Publishers, 1983.
3 *Response to Marine Oil Pollution - Review and Assessment*, Douglas Cormack, Kluwer Academic Publishers, 1999.

Special series

OIL SPILL REMOTE SENSING : CHAPTER 16

This is the last in a short series of articles on Oil Spill Remote Sensing contributed by Dr Merv Fingas of Spill Science, Edmonton, Alberta, Canada T6W 1J6 fingasmerv@shaw.ca

Merv Fingas MSc PhD worked for more than 35 years in the field of oil spill technology at Environment Canada's Environmental Technology Center in Ottawa, Ontario. As head of the Emergencies Science Division at the Centre, he conducted and managed research and development projects. He is currently working independently in Alberta. Dr Fingas is the Member of ISCO Council for Canada.

This is the 16th and final installment in this series of articles which goes into the remote sensing of oil spills. This series has covered oil spill remote sensing step by step and has presented the latest in knowledge on the topic.

Future trends

Advances in sensor technology will continue to drive the use of remote sensors as operational oil spill response tools in the

future.[3] Cameras and thermal infrared cameras that offer high sensitivity are cheap and plentiful. This improvement not only reduces the size and complexity of the sensor, but also the cost. In the next decade, advances in solid-state laser technology, in particular diode-pumped solid-state lasers, will greatly reduce the size and energy consumption of laser-based remote sensors. This will promote the use of these sensors in smaller, more economical aircraft within the budget of many more regulatory agencies and maritime countries. Rapidly improving computer capabilities will allow for true real-time processing. At the present time and for the foreseeable future, there is no single 'Magic Bullet' sensor that will provide all the information required to detect, classify, and quantify oil in the marine and coastal environment. An example of the improvement in recent years is that of the night-vision camera. It is now possible to use this sensor to visualize oil at night under certain circumstances.

It will require the combined advances in sensor technologies and computer capabilities noted above to gather, integrate, and merge several sources of data into a real-time format, useable by response crews in the field. If this type of information can be made available to response crews in a short enough time frame following a spill incident, then it can be used to lessen the potentially disastrous effects of a major oil spill on the marine ecosystem.

As technology in remote-controlled systems evolve, it is possible to employ such technology in oil spill remote sensing. First efforts in the deployment of remote-controlled sensing aircraft have posted success and will, no doubt, be expanded in the future.[3]

Recommendations

Table 3 Attributes for Airborne Sensor Selection

Sensor	State of Development	Amount of Experience in Use	Specific to Oil	Immunity to False Targets	Typical Coverage (km)	Acquisition Cost Range k$	Aircraft Physical Requirements
Still Camera	High	High	Poor	Poor	0.25 to 2	1 to 5	no
Video	High	High	Poor	Poor	0.25 to 5	1 to 10	no
Night Time Vision Camera	Medium	Medium	Poor	Poor	0.25 to 2	5 to 20	no
IR Camera (8-14µm)	High	Medium	Medium	Medium	0.25 to 2	20 to 50	no
UV Camera	Medium	Medium	Poor	Poor	0.25 to 2	4 to 20	no
Multi-spectral Scanner	Medium	Medium	Poor	Poor	0.25 to 2	100 to 200	some
Radar	High	High	Medium	Poor	5 to 50	1200 to 8000	yes-Dedicated
Microwave Radiometer	Medium	Medium	Medium	Medium	1 to 5	400 to 1000	yes- Dedicated
Laser Fluorosensor	Medium	Limited	Good	Good	0.01 to 0.1	300 to 1000	yes- Dedicated

Recommendations are based on the above considerations and include economy as a major factor. Tables 3 and 4 show the considerations related to the development state, cost and use of the sensor. The laser fluorosensor offers the only potential for discriminating between oiled and un-oiled weeds or shoreline, and for positively identifying oil pollution on ice, among ice and in a variety of other situations. This instrument, however, is large and expensive. A cheap sensor recommended for oil spill work is an infrared camera. This is the cheapest but undiscriminating device. This is the only piece of equipment that can be purchased off-the-shelf. All other sensors require special order and, often, development. Radar, although low in priority for purchase, offers the only potential for large area searches and foul weather remote sensing. Most other sensors are experimental or do not offer good potential for oil detection or mapping. Any sensor package should include a real-time printer and display, and a down-link.

In order to respond effectively to major marine oil spills, it is recommended that one employs a combination of airborne and satellite-borne sensor systems. Improvements in the resolution of satellite-based systems, particularly SAR systems combined with the increased number of such systems and the ability to steer them to image the area of the oil spill will lead to their increased use in a tactical role. Being capable of imaging vast areas of the open ocean will ensure that satellite-borne sensors will also continue to be used in a strategic manner. There are a number of commercially available airborne sensor systems which provide near real-time information on oil slick location and indications of thicker areas of the pollution in an easily interpretable graphical manner. These airborne sensor systems are currently being employed by a large number of maritime nations in conjunction with satellite-based sensor systems.

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Table 4 Sensor Suitability for Various Missions

Sensor	Support for Cleanup	Night & Fog Operation	Detection of Oil with Debris	Oiled Shoreline Survey	Spill Mapping	Ship Discharge Surveillance	Enforcement and Prosecution
Still Camera	2	n/a	1	2	2	2	2
Video	2	n/a	1	2	2	2	2
Night Time Vision Camera	3	4	1	n/a	2	2	2
IR Camera (8-14µm)	4	2	1	n/a	3	3	3
UV Camera	2	n/a	n/a	n/a	3	2	1
UV/IR Scanner	4	2	1	n/a	4	2	2
Multi-spectral Scanner	1	n/a	n/a	1	2	1	1
Radar	n/a	4	n/a	n/a	4	3	2
Microwave Radiometer	1	3	n/a	n/a	2	2	1
Laser Fluorosensor	4	3	5	5	1	5	5

Key: n/a = not applicable; numerical values represent a scale from 1 = poorly suited to 5 = ideally suited

Prospective buyers should be aware of 'new' suppliers. Many oil spill groups have suffered from poor and inoperative equipment. Vendors offering 'magic' solutions are abundant. Inevitably such products do not perform as promised and often the buyers must return to the market place to start over. This scenario recurs too frequently.

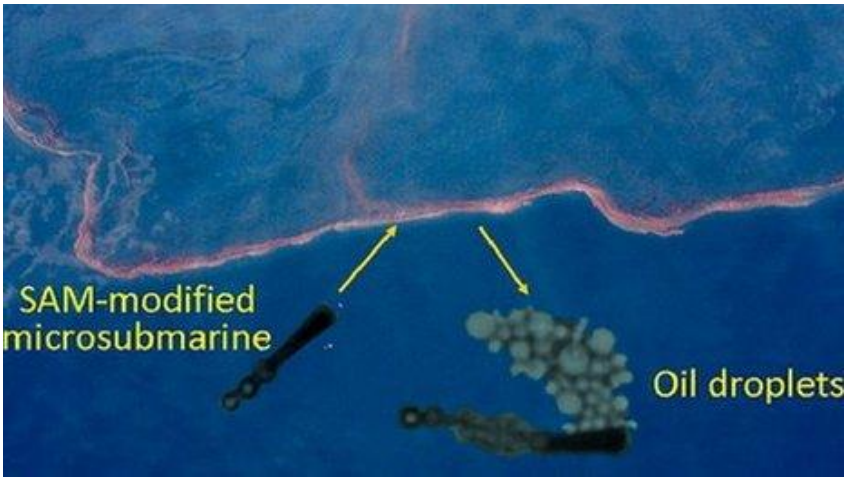
There are an increasing number of satellite-borne SAR and optical sensors, some of which currently or soon will operate in constellations to provide increased coverage of the earth's surface. These enhanced capabilities will allow for the possible use of these sensors in a tactical mode of operation. In spite of these increased capabilities, there remains an essential role for airborne oil spill remote sensing platforms. The ability to collect and deliver real-time oil slick location information will ensure the continued use of airborne systems in spite of their high operational costs.

If this type of real-time oil spill remote sensing information can be made available to response crews in a short enough time frame following a spill incident, the information can be used to mitigate the potentially disastrous effects of a major oil spill on the marine ecosystem.

References

3 Fingas, M. and C.E. Brown, Oil Spill Remote Sensing: A Review, Chapter 6, in Oil Spill Sci. Techn., M. Fingas, Editor, Gulf Publishing Company, NY, NY, 111, 2011

MICROSUBMARINES COULD CLEAN OIL SPILLS, RESEARCHERS SAY



A special nano-coating on the microsubmarine makes it able to effectively absorb the oil particles

May 3 - Tiny submarines that are 10 times smaller than the width of a human hair could be used to clean up oil spills, researchers have suggested.

The self-propelled microsubmarines are able to gather oil droplets and take them to collection facilities.

The team from the University of California San Diego's nano-engineering department said their tests showed "great promise". Similar technology is able to deliver drugs through a person's bloodstream.

Science and technology

The research, which appeared in journal ACS Nano, suggested that the microsubmarines were capable of "a facile, rapid and highly efficient collection" of motor and olive oil droplets.

The tiny motors are propelled by bubbles created from internal oxidation of hydrogen peroxide.This means they require small amounts of fuel and can move very quickly. *BBC News* Read more

Publications

USA: HAZARD COMMUNUCATIONS - HCS / GHS FINAL RULE & APPENDICES

Hazard Communication GHS Final Rule [PDF 2.33 MB]
Hazard Communication/GHS Regulatory Text
Appendix A [PDF 422 KB]
Appendix B [PDF 170 KB]
Appendix C [PDF 570 KB]
Appendix D [PDF 91 KB]
Appendix F [PDF 150 KB]

View OSHA Source Document

HOW THE VALDEZ OIL SPILL SHAPED EXXONMOBIL

May 3 - Steve Inskeep talks to Steve Coll about his new book, *Private Empire: ExxonMobil and American Power*. In it, Coll delves into the business model of one of the country's largest and most profitable corporations. He explores how the Exxon Valdez oil spill in 1989 shaped the culture at the company for years to come. *NPR* Read the transcript

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AUSTRALIA: GUIDANCE OF THE CLASSIFICATION OF HAZARDOUS CHEMICALS UNDER THE WORK HEALTH AND SAFETY (WHS) REGULATIONS

This Guidance is intended for manufacturers and importers of substances, mixtures and articles who have a duty under the Work Health and Safety (WHS) Act and Regulations to classify them. It may also useful for suppliers, persons undertaking business and undertakings, workers and other persons involved with hazardous chemicals. *Safe Work Australia* Read more [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

FRANCE: CEDRE INFORMATION BULLETIN – ISSUE 28

This issue focuses on the *Deepwater Horizon* accident. *Cedre* *Download and read*

US EPA: TECHDIRECT MAY 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. Download and read

Job vacancies

Sea Alarm is looking for a Senior Technical Adviser to join its team in Brussels.

For details of the position and how to apply please click here.

Closing date for applications is Friday 1st June 2012.

Training

CHINA: EXPERT TECHNICAL WORKSHOP FOR OSR PROFESSIONALS – SHANGHAI

Oil Spill Response Ltd. is running an exclusive half day oil spill response workshop alongside the upcoming TradeWinds Shipping China conference. This will be a half day technical workshop alongside the conference on Monday, 21 May 2012 (1300 – 1700)

Training (continued)

The workshop will attract ship owners and ship managers, QHSE, risk & salvage managers, etc. and the outline is as follows:

Topic: The rising cost of spills
1) Introduction
2) The current climate
3) Cost of spills – It's not how much you spill but where and when
4) Impact mitigation techniques

Cost RMB 490 per person including a networking coffee break. Email banu.kannu@nhstevents.com to register and for further details.

Products and services

SAND BAGGER: SANDBAGS ARE REALLY USEFUL IN MANY ONSHORE SPILL SITUATIONS AND HERE'S A WAY TO FILL THEM QUICKLY AND EASILY

The operator simply presses a foot pedal to activate the flow of material into the bag, and releases the foot pedal to stop the flow.

The 11 hp Honda engine, insures the smooth handling of all types of fluent materials, including sand, compost, mulch, all types of blended soil, worm castings, and many types of aggregate and other landscape materials.

This equipment is self-contained, lightweight, and transportable in a pickup truck bed.

This machine comes with a safety grid, spillover shield, vibrator, auger and agitator and gasoline engine. The Multibagger is a very inexpensive and reliable machine that can bag virtually anything under the sun. More info

POLLUTION CONTROL BOATS FROM ALNMARITEC

A wide range of aluminium boats for oil spill response and other applications. Phptos & Specifications

Company news

FMC CORPORATION LAUNCHES ENVIRONMENTAL SOLUTIONS DIVISION

May 2 - FMC Corporation announced today the launch of FMC Environmental Solutions, a new division that integrates the company's portfolio of proprietary products and specialty solutions that prevent or remediate contamination of air, soil and water. The announcement marks an increased focus and investment in the growing multi-billion dollar global market for cost-sustainable and environmentally-friendly solutions in remediation and pollution prevention. *The Wall Street Journal* Read more

KEMIRA ESTABLISHES LOCAL R&D IN ALBERTA, CANADA

May 3 - Kemira has opened a Research & Development projects laboratory in Alberta, Canada on May 1, 2012. The laboratory, located on the campus of the University of Alberta, will be an extension of Kemira's North American R&D, headquartered in Atlanta.

"This facility demonstrates Kemira's commitment to Alberta and to the research work in the area of water quality and quantity management addressing water consumption, reuse and recycling by the in situ oil sands extraction industry. In addition, this facility establishes a local Kemira presence within the academic and technical center of oil sands related research and innovation", says **Mohan Nair**, Senior Manager Oil & Gas R&D. *INS News* Read more