



ISCO NEWSLETTER

The Newsletter of the International Spill Response Community

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International news

IMO SUB-COMMITTEE RESTRUCTURING AGREED BY MSC

IMO's Maritime Safety Committee (MSC) has agreed to a restructuring of IMO's Sub-Committees, in order to deal more effectively with the technical and operational issues covered by IMO regulations, as part of a review and reform process initiated by Secretary-General Mr. Koji Sekimizu.

The restructuring proposals, which were already considered and approved by the Marine Environment Protection Committee (MEPC) at its sixty-fifth session, will now go to the IMO Council (110th session, 15 to 19 July 2013) and to the IMO Assembly (24 November to 4 December 2013) for endorsement.

The restructuring will see the number of Sub-Committees reduced from nine to seven, with their terms of reference covering the following issues:

Sub-Committee on Human Element, Training and Watchkeeping (HTW): to address issues relating to human element training and watchkeeping, including minimum international standards for training and certification of seafarers and fishing vessel personnel; and technical and operational issues related to maritime safety, security, and environmental protection, to encourage a safety culture in all ship operations; safe manning; the review, updating and revision of IMO model courses; and promotion and implementation of the Organization's human element strategy.

Sub-Committee on Implementation of IMO Instruments (III): to address the effective and consistent global implementation and enforcement of IMO instruments concerning maritime safety and security and the protection of the marine environment, including: comprehensive review of the rights and obligations of States emanating from the IMO treaty instruments; assessment, monitoring and review of the current level of implementation of IMO instruments by States in their capacity as flag, port and coastal States and countries training and certifying officers and crews; identification of the reasons for the difficulties in implementing provisions of relevant IMO instruments; consideration of proposals to assist States in implementing and complying with IMO instruments; analyses of investigations reports into marine casualties and incidents; review of IMO standards on maritime safety and security and the protection of the marine environment, to maintain an updated and harmonized guidance on survey and certification related requirements; and promotion of global harmonization of port State control activities.

International news (continued)

Sub-Committee on Navigation, Communications and Search and Rescue (NCSR): to consider technical and operational matters related to the obligations of Governments and operational measures related to safety of navigation, including hydrographic and meteorological services, ships' routing, ship reporting systems, aids to navigation, radio-navigation systems, vessel traffic services, and pilotage; operational requirements and guidelines relating to navigational safety and associated issues, such as regulations for the prevention of collisions and groundings, bridge procedures, voyage planning, avoidance of dangerous situations, places of refuge including maritime assistance services and relevant aspects of maritime security; carriage requirements, performance standards and operational guidelines for the use of shipborne navigational equipment and other navigational requirements; obligations of Governments and operational measures related to the Global Maritime Distress and Safety System (GMDSS), development and maintenance of the global search and rescue (SAR) Plan and the Long Range Identification and Tracking (LRIT) system; operational requirements and guidelines relating to radiocommunications and search and rescue, and, in co-operation with the International Civil Aviation Organization (ICAO), the harmonization of aeronautical and maritime search and rescue procedures; carriage requirements, performance standards and operational guidelines for the use of shipborne radiocommunications and search and rescue equipment; and liaison with the International Telecommunication Union (ITU) on maritime mobile radiocommunication matters.

Sub-Committee on Pollution Prevention and Response (PPR): to consider technical and operational matters related to: prevention and control of pollution of the marine environment from ships and other related maritime operations; safe and environmentally sound recycling of ships; evaluation of safety and pollution hazards of liquid substances in bulk transported by ships; control and management of harmful aquatic organisms in ships' ballast water and sediments, and biofouling; and pollution preparedness, response and cooperation for oil and hazardous and noxious substances.

Sub-Committee on Ship Design and Construction (SDC): to consider technical and operational matters related to: design, construction, subdivision and stability, buoyancy, sea-keeping and arrangements, including evacuation matters, of all types of ships, vessels, craft and mobile units covered by IMO instruments; testing and approval of construction and materials; load line matters; tonnage measurement matters; safety of fishing vessels and fishermen; and survey and certification.

Sub-Committee on Ship Systems and Equipment (SSE): to consider technical and operational matters related to: systems and equipment, including machinery and electrical installations, of all types of ships, vessels, craft and mobile units covered by IMO instruments; testing and approval of systems and equipment; life-saving equipment, appliances and arrangements; fire protection systems; and analyses of casualty and incident records relating to ship systems and equipment.

Sub-Committee on Carriage of Cargoes and Containers (CCC): to consider technical and operational matters related to: effective implementation of the relevant conventions, codes and other instruments, mandatory or recommendatory, as appropriate, dealing with cargo operations, which include packaged dangerous goods, solid bulk cargoes, bulk gas cargoes, and containers; evaluation of safety and pollution hazards of packaged dangerous goods, solid bulk cargoes and gas cargoes; survey and certification of ships carrying hazardous cargoes; further enhancement of the safety and security culture, and environmental consciousness in all cargo and container operations; and co-operation with other relevant UN bodies, IGOs and NGOs on international standards related to containers and to cargo operations. <http://www.imo.org/MediaCentre/PressBriefings/Pages/26-restructuring.aspx>

PROTECTING DRINKING WATER SYSTEMS FROM DELIBERATE CONTAMINATION

July 9 - An international project has developed a response programme for rapidly restoring the use of drinking water networks following a deliberate contamination event.

The importance of water and of water infrastructures to human health and to the running of our economy makes water systems likely targets for terrorism and CBRN (chemical, biological and radionuclide) contamination. Reducing the vulnerability of drinking water systems to deliberate attacks is one of the main security challenges.

SecurEau, a four-year Seventh Framework Programme funded project, involved 12 partners, including the University of Southampton, from six European countries. *TerraDaily* [Read more](#)

NEW EUROPEAN DIRECTIVE ON SAFETY OF OFFSHORE OIL AND GAS OPERATIONS

On 10 June 2013 the EU adopted a Directive on safety of offshore oil and gas operations. The new rules (initially proposed to take the form of a regulation) will make sure that the highest safety standards will be followed at every oil and gas platform across Europe. It will also ensure that we react effectively and promptly should an accident nevertheless occur. This would help minimise the possible damage to the environment and the livelihoods of coastal communities. The new directive sets clear rules that cover the whole lifecycle of all exploration and production activities from design to the final removal of an oil or gas installation.

Earlier this year a technical peer review programme was carried out to examine the differences in approach between the Commission's cost benefit methodology and two studies of that work undertaken by industry. The review was independently chaired by a Director of the UK Health and Safety Laboratory (<http://www.hsl.gov.uk/>) who issued a final report on 3 July 2012.

[Download the Technical Peer Review Report](#)

[Download the new Safety Directive](#) [Thanks to Kevin D. Westwood, JOIFF]

International news (continued)

WESTERN MEDITERRANEAN : AERIAL SURVEILLANCE OPERATION FOR ILLICIT SHIP POLLUTION

July 8 - Some 700 vessels were monitored by five aircraft from Algeria, France, Italy, Morocco and Spain taking part in a Coordinated Aerial Surveillance Operation for illicit ship pollution discharges in the Western Mediterranean.

Called Oscar-Med 2013, the operation was organised by the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (Rempec), with the financial support of the Government of France and the RAMOGE Agreement (Saint-Raphael-MOnaco-Genoa pollution agreement). It was coordinated by the Spanish Maritime Safety Agency (SASEMAR) through its Maritime Rescue Coordination Centre in Palma de Mallorca.

The air patrol aircraft from the five countries monitored marine pollution from ships in a designated area of the Western Mediterranean, where three oil slicks were detected. The European Maritime Safety Agency (EMSA) supported the operation by providing satellite images from the CleanSeaNet service.



This was the second Oscar-Medoperation organised by Rempec. The first one, in which three aircraft from France, Italy and Spain had participated, was held in Toulon, France in 2009. The main objective of these operations is to enhance operational cooperation in the Mediterranean to combat illicit ship pollution in the region. *Malta Independent* [Read more](#)

Incident reports

CANADA: UPDATES ON LAC-MEGANTIC OIL TRAIN EXPLOSION

Canada train blast search for 40 missing in Lac-Megantic

July 8 - Dangerous conditions are hampering the search for 40 people missing after a runaway crude oil train blew up in a Quebec town, killing five. Fire crews were unable to search Lac-Megantic overnight because dozens of tanker wagons are strewn across the site after the blast early on Saturday. *BBC News* [Read more and watch video](#)

100,000 Litres of Oil Spilled in River From Quebec Train Wreck

July 8 - About 100,000 litres (26,385 gallons) of oil spilled into the Chaudiere River after a train carrying crude oil derailed and exploded in the Quebec town of Lac-Megantic, said Eric Cardinal, a spokesman for the province's environment ministry today. The Chaudiere River runs between Lac-Megantic and the St. Lawrence River, meeting the major shipping channel near Quebec City. *Bloomberg Newsweek* [Read more](#)

Lac Megantic oil spill cleanup efforts "a great success"

July 9 - Environment Minister Yves-Francois Blanchet and Quebec City Mayor Regis Labeaume on Tuesday flew over the Chaudiere River, which has its source in Lac Megantic, and said they are satisfied an oil spill from the Lac-Megantic disaster is under control. "The source has been plugged," Blanchet told reporters. "Practically nothing is getting into the river." *Montreal Gazette* [Read more](#) [Thanks to Marc Shaye, HonFISCO, Member of the ISCO Executive Committee]

USA: OIL SPILL RESPONDERS ON ALERT AS GULF OF MEXICO PLATFORM SUFFERS LOSS OF WELL CONTROL

July 9 - A statement from Talos Energy late Tuesday said that during operations yesterday to permanently plug and abandon their non-producing Ship Shoal 225 B-2 well, salt water containing a small amount of gas and light condensate began to flow to the surface and around the wellhead. All five personnel on the platform were evacuated safely as a precaution, the statement said.

Talos expects that the well will be shut in within the next 24 hours. "We are currently taking all available action to shut the well in as soon as possible, including engaging Wild Well Control who has returned to the platform to commence well control operations," the statement said. *gCaptain* [Read more](#)

Incident reports (continued)

JAPAN: FINDS RAISE TOXIC CHEMICAL SUSPICIONS AT EX-KADENA SITE



Photo: Uneasy unearthing: Workers dig out decayed barrels that may have contained toxic agents used during the Vietnam War from a soccer ground that was once part of the U.S. military's Kadena Air Base in the city of Okinawa on Tuesday. | KYODO

July 3 - The Okinawa Defense Bureau and the city of Okinawa uncovered seven more barrels Tuesday at a former U.S. military installation in the prefecture that may have been used to hold toxic chemicals during the Vietnam War, stoking concern among residents.

Prior to Tuesday's findings, the city had dug up 19 barrels from the same site in mid-June.

The barrels found Tuesday had been buried about 1 meter deep in a soccer ground adjacent to the Kadena Air Base that had been part of the installation until 1987, the Defense Ministry said. *The Japan Times* [Read more](#) [Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

INDIA: MOL COMFORT UPDATES



One of the last images taken of the wreck before she sank (From gCaptain)



MOL Comfort on Fire [IMAGES and VIDEO]

July 8 - Mitsui O.S.K. Lines (MOL) reported Saturday that a fire has broken out on the rear end of the fore part of the vessel at around 0030UTC (0930 JST) on July 6. *gCaptain* [Read more and watch video](#)

MOL Comfort Derelict has Sunk

The MOL Comfort saga has come to an end.

July 10 - According to an emailed report by the Indian Coast Guard, the burned out wreck parted her tow line and disappeared into the inky depths of the Indian Ocean at around 0100 IST. Her last position was at 19°56 N 65°25 E, in a water depth of about 3,000 meters according to Mitsui O.S.K. Lines. *gCaptain* [Read more](#)

[Editor – There must be a lot of containers floating about but, so far I haven't been able to find any reports about this]

Other news

GREEK TANKER WAS MINUTES AWAY FROM GULF OF FINLAND DISASTER - FINNISH DAILY

Last October, Finnish authorities diverted a Greek tanker minutes away from shallow waters near Hogland (Suursaar) island 50 kilometers of the coast of Estonia.

Helsingin Sanomat reported today that had the Finnish authorities not intervened, the tanker would have caused the region's biggest ever environmental catastrophe. The Greek vessel was carrying 100,000 tons or 32 million gallons of crude oil, a similar volume to the Exxon Valdez spill in 1989. *ERR News* [Read more](#) [Thanks to Don Johnston, DG & Hazmat Group]

NAMIBIA: MORE ACTION AGAINST OCEAN POLLUTION

July 8 - Namibia is in the process of acceding to the Abidjan Convention that deals specifically with the cooperation on combating ocean pollution in cases of emergency. The Ministry of Works and Transport will be the lead ministry.

This was revealed by Fisheries and Marine Resources Minister, Bernhard Esau, in the National Assembly last week on how pollution caused by anthropogenic activities of marine life in the region in relation to the Benguela Current Convention (BCC) can be addressed or mitigated.

The fisheries minister also revealed that a number of workshops on oil spill risks assessments, sensitivity mapping and oil spill contingency planning in collaboration with the International Maritime Organisation (IMO) have been conducted. *New Era* [Read more](#)

USA: TOXIC PCBS BEHIND AGING KALAMAZOO RIVER DAMS POSE NEW RISKS

July 8 - A long time ago, paper mills dumped toxic PCBs, or polychlorinated biphenyls, into the Kalamazoo River. Though the Environmental Protection Agency has been working to remove them, there are still PCBs lurking behind the river's dams...and those dams are getting too old to hold them.

The DNR has been spending roughly \$15,000 a year to maintain each dam — patching leaks and making temporary fixes on a structure waiting to break. Mark Mills of the DNR says, if the dams fail and PCBs float down the river, the DNR could face a serious lawsuit.

Steve Hamilton is President of the Kalamazoo River Watershed Council. He says the biggest threat PCBs pose to humans is when they eat contaminated fish. And despite signs and advisories against it, Hamilton says people do eat the fish—even in Portage Creek. *WMUK* [Read more](#)

U.S. WELL SITES IN 2012 DISCHARGED MORE THAN VALDEZ

July 8 - It went up orange, a gas-propelled geyser that rose 100 feet over the North Dakota prairie. But it was oil, so it came down brown. So much oil that when they got the well under control two days later, crude dripped off the roof of a house a half-mile away.

It was one of the more than 6,000 spills and other mishaps reported at onshore oil and gas sites in 2012, compiled in a months-long review of state and federal data by *EnergyWire*.

That's an average of more than 16 spills a day. And it's a significant increase since 2010. In the 12 states where comparable data were available, spills were up about 17 percent. *E&E News* [Read more](#)

USA: EXXON: REPORT BLAMES ARK. PIPELINE BUST ON DEFECTS



In this April 1, 2013 file photo, a crew member with ExxonMobil washes oil from another crew member's boots at North Starlight Road in the Northwoods subdivision in Mayflower, Ark. Other crew members are seen power washing oil from the street near the pipeline that ruptured and dumped several thousands of barrels of oil March 29, 2013. A spokesman for the federal Pipeline and Hazardous Materials Safety Administration said Wednesday, July 10, 2013 that the company had turned in the report and that it is being reviewed by pipeline safety officials. Photo: AP

July 10 - An independent report blames manufacturing defects for the failure of an ExxonMobil pipeline that sent 150,000 gallons of crude oil into the small town of Mayflower, the company said Wednesday.

The report, provided to Exxon and the Pipeline and Hazardous Materials Safety Administration, found cracks near a seam that failed on the ruptured Pegasus Pipeline, the company said. Both Exxon and the regulatory agency declined to release the report, which was

produced by Hurst Metallurgical Research Laboratory Inc.

The company said the defects identified in the report reflect the "root cause of the failure." Exxon said it is still conducting tests to evaluate other possible factors in the March 29 spill, which forced more than 20 families from their homes. The cleanup is continuing and the pipeline remains shut down. "Based on the metallurgical analysis, the independent laboratory concluded that the root cause of the failure can be attributed to original manufacturing defects — namely hook cracks near the seam." Exxon said in a news release. *San Francisco Chronicle* [Read more](#)

People in the news

BSEE DIRECTOR JAMES WATSON TO JOIN ABS



July 9 - ABS, a leading provider of maritime classification services, announces that James A. Watson, Director of the Bureau of Safety and Environmental Enforcement (BSEE), will join ABS as President and Chief Operating Officer of the Americas Division on 2 September 2013. In this role, Watson will have operational responsibility for activity in North, South and Central America and the Caribbean.

As Director of BSEE, Watson has been responsible for promoting safety, protecting the environment and conserving resources through the regulatory oversight and enforcement of offshore operations on the US Outer Continental Shelf. *The Maritime Executive* [Read more](#)

IAN MARCHANT APPOINTED AS NEW PRESIDENT OF THE ENERGY INSTITUTE

Pictured: Ian Marchant FEI becomes EI President (2013-15), taking on the role from Joan MacNaughton CB HonFEI, out-going EI President (2011-13).

Ian Marchant FEI, Chief Executive, SSE (formerly Scottish and Southern Energy), was appointed as the new President of the Energy Institute (EI) at the EI's AGM on 10 June. This role is a voluntary position to be held for the period from June 2013 to summer 2015.

EI Newsletter – July 2913 [Read more](#)



Science and technology

EU PROJECT TESTS NANOPARTICLES FOR LARGE-SCALE POLLUTION REMOVAL IN SOIL AND WATER

July 5 - In the remediation, or clean up, of pollution in soil and groundwater, special nanoparticles are increasingly used to convert and break down pollutants in a site. The process, often somewhat mistakenly described as “nano-remediation”, can also be used with contaminants that have been hard to fight up to now, for example heavy metals or the notorious, carcinogenic softener PCB.

Yet how do the various nanoparticles behave in the earth, are they in turn harmless for humans and the environment and how can they be produced at a favourable price? These questions were investigated by scientists from the Research Facility for Subsurface Remediation (VEGAS) of the University of Stuttgart together with 27 partners from 13 countries in the framework of EU project “NanoRem”, planned to last four years. For this purpose the European Union is providing around 10.5 million Euros from the 7th research framework programme.

Nanotechnologies are particularly suited for treating groundwater aquifers but also contaminated soil at the site of the contamination (in situ). However, in remediation projects (reclamation of contaminated sites), they have only been used hesitantly since an effective and reliable application is not yet mature, the potential risks for the environment difficult to assess and nano-remediation in addition comparatively expensive due to the still high manufacturing costs of nanoparticles. The nanotechnology, however, offers advantages: compared to the classic remediation processes, such as “Pump & Treat” (pumping off contaminated groundwater and cleaning it in a treatment plant) or chemical, resp. microbiological in-situ remediation processes, the range of “treatable” contaminants is greater. *Science World Report* [Read more](#)

Another related report has been published in *Nanowerk News* [Read this article](#)

BIOLOGIST INVESTIGATES LASTING ECOLOGICAL IMPACTS OF DEEPWATER HORIZON OIL SPILL

July 11 - Five months after the spill was capped, the federal government estimated the marine animal death toll at 6,104 birds, 609 sea turtles, and 100 mammals, including dolphins. But what of the deep-water corals that provide habitat and reproductive grounds for numerous species of fish, shrimp, and crabs?

According to Charles Fisher, professor of biology at Penn State, these corals and the organisms they support are important components of a healthy deep sea and open-ocean ecosystem. That's why both BP and the government are closely collaborating with him on his investigation of the disaster's impact.

For nearly a month, the team revisited deep-sea coral sites all over the northern Gulf of Mexico that they had discovered the year before during a previous project. Each time they stopped, they used Jason II—a remotely operated vehicle (ROV) or submersible designed for scientific investigation of the deep ocean and seafloor—to sample and study corals and associated animals. *Phys.org* [Read more](#)



In this issue of the ISCO Newsletter we are printing No. 135 in a series of articles contributed by Dr Douglas Cormack.

Dr Douglas Cormack is an Honorary Fellow 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 135: KNOWLEDGE-BASED CONTINGENCY PLANNING

As to recovery at sea, the plan notes that from the early 1980s the UK had three WSL designed/ evaluated Springsweep Systems; that these comprised a Troilboom side-deployed from a sheer-leg supported jib to present a 10metre wide collection mouth and a Renvac air-conveyer to transfer pollutant from a free-floating hose-end within the boom to the tanks of the deploying ship; that these were intended for single-ship operation on RV Seaspring and on coastal tankers of opportunity; that later the UK acquired a WSL evaluated Force Seven Oil Mop for operation on the after-deck of offshore supply ships of opportunity; and that at the Ekofisk Blow-out of 1976, just such a Troilboom mouth towed from the horizontal-orthogonal jib of RV Seaspring's forecastle crane, a floating hose-end and a deck-mounted 4-inch Spate pump had collected 9m³h⁻¹ of 70% water-content emulsion from windrows of width and separation compatible with individual entry to the boom mouth (articles 70-91).

As to onshore recovery, the plan notes that emulsion layer thickness and hence encounter rate can increase from 10-50 times when emulsified slicks are pressed against shorelines by onshore winds while stranding on the ebb tide; that such layers can be collected from wet (poorly drained) sand beaches by water flushing into purpose-dug trench-ridge systems for recovery by viscosity-tolerant pumping; that pollutant layers are difficult to separate from shingle or pebbles as are residual and initially thinner layers from sand without specially designed equipment, though heavy rubber strips attached to the lower edge of mechanised scraper blades can be effective on firm sand; that non-separated pollutant-sand mixtures can be mixed with lime to form cement/concrete when suitable building projects are concurrent; that otherwise the options are in situ bioremediation, land-farming bioremediation at oil refineries or return to the sea for resumption of the dispersion/biodegradation which reduces/prevents stranding in the first place; and that otherwise the recovery option not only requires pollutant/beach-material separation, but also collection of the separated emulsion, temporary/intermediate storage, emulsion-breaking, oil-water separation, free-water decanting, transportation and outlets for recycling/disposal (articles 92-102).

Again, the plan notes that emulsions returned to the sea for collection from water surfaces by inshore recovery units require the decanting of co-collected and emulsion-broken water as do emulsions collected by sea-going units; that belief-based insistence on attainment of the oil-contents regulated for fully engineered water-discharge standards, thwarts incident-discharge to already polluted shores and inshore waters; that anything which strands in the released/exposed state is more trouble than it is worth without such belief-based regulation; that 'recycling' costs more than the value recovered; that such definitive waste should not be collected other than to remove pollutant which cannot be dispersed to dilute and degrade naturally because of its solidity or non-dispersible viscosity; that the only cost-effective recycling is cargo/bunker transfer to a refinery or to the fuel or chemical uses of their intended customers; that leaking HNS containers should be over-contained for transportation to routine chemical waste disposal; and that response to released pollutants should aim to minimise commercial loss by restoring the environment to its pre-incident condition as quickly and as cost-effectively as possible by maximising their natural degradation.

Thus, the plan notes that cargo/bunker transfer of oils/HNS from damaged or at-risk containment is the most effective means of shoreline protection; that the protection provided by at-sea dispersant-treatment and/or mechanical-recovery is far-exceeded by the natural evaporation, dispersion, solution, dilution and degradation of released oils/HNS; that despite the effectiveness of dispersants and mechanical recovery being limited by pollutant viscosity (articles 47-61 and 70-91) and despite the latter being further limited by wave-height, they can provide shoreline protection otherwise unavailable; and that recovery of pollution prior to stranding is less troublesome than having to transfer it from shorelines for post-stranding recovery from inshore waters, though prior treatment with surface film chemicals facilitates this transfer. However, the plan notes that the downstream emulsion-processing is more multistage than simply dispersing into the surf for natural dilution/degradation; that even if this multi-stage process is completed despite its belief-based regulation, no one wants to use its product, though charges are levied for disposal at its intermediate stages; and that such disposal often involves land-farm bioremediation, though natural bioremediation via dispersant-use is banned in seawater.

As to organism contamination, the plan notes that pollutant-coated shellfish on shores and cultivation stakes, and fish drawn in nets through floating slicks can be differentiated from depurated shellfish previously exposed to concentrations in the ppm to ppb ranges and from fish which having derived no taint from such concentrations are netted through slick-free surfaces; and that recognition of such obvious differentiation would reduce compensation claims for fishing-interruptions which have more to do with bans per se than with real contamination.

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.

IN SITU BURNING: CHAPTER 27



A short series of articles on In Situ Burning 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.

Summary of the Serial

This is the 27th of a series of articles on in-situ burning of oil spills. This series will cover in-situ burning step-by-step and will present the latest in knowledge on the topic.

27. Burning without containment

Controlled burning of uncontained slicks is sometimes possible if the slick is thick enough to burn quantitatively and all other safety factors are considered. Because it takes time to get containment booms to a site, if the oil slick is already fairly thick, it may be advisable to ignite and burn as much of the slick as possible as a first response and then bring in containment booms to thicken the remaining parts of the slick for a second burn. Uncontained oil can be ignited at the point where the oil is thickest.

When burning an uncontained slick, personnel must ensure that there is no direct link between the oil to be burned and the source of the oil, e.g., the tanker or platform on the sea, to prevent the fire from spreading to the source. The safest and quickest option is to move the source away from the slick. When the spill originates from a platform or other fixed source, the portion of the slick that is to be burned should be moved away from the source and the slick around the source should be isolated using containment booms.

Several oil spills or blowouts have accidentally caught fire while uncontained and have burned well. Figures 31 to 33 show accidental and uncontained burns. While it is not known what conditions are best for burning uncontained oil, emulsified oil may retard the spreading of uncontained oil while it burns. In a large burn, large volumes of air are drawn into the fire, which is referred to as a "fire storm". This may provide enough force to prevent the oil from spreading.

In remote areas, natural barriers such as shorelines, offshore sand bars, or ice can sometimes be used to contain oil in order to burn it. The shorelines must consist of cliffs, rocks, gravel, or sandy slopes to resist burning and there must be a safe distance between the burning oil and any combustible materials, such as wooden structures, forests, or grass cover. On land, containment generally occurs naturally. In populated areas, the weather conditions must be such that the smoke plume will drift away from the populated centers. Zones of convergence on the sea can also be used to contain oil. Local oceanographers must be consulted to determine the location of these zones. The Coast Guard and local fishermen are also familiar with currents in an area.

In summary uncontained oil may be thick enough to burn quantitatively when:

- 1 The oil is freshly discharged, however the source of the discharge could be engulfed in fire,
- 2 The oil is very viscous and has not spread widely or has been herded together by natural forces,
- 3 The oil is very viscous because it is highly weathered and again as above, not widely spread,
- 4 The oil becomes viscous because it became emulsified,
- 5 The oil was been collected by natural phenomena such as oceanic or river fronts or Langmuir circulations, or
- 6 Possibly, that once started the air flow caused by the burn may provide a herding effect.



Figure 31

Oil burning on the water without containment from a tanker which is obscured by smoke.



Figure 32 *A ship on fire, note that the oil is burning on the water without containment.*



Figure 33 *Burning during the Deepwater Horizon spill. The burn to the left is contained however, the two burns to the right are not contained and burn quantitatively.*

To be continued

Publications

FOR YOUR INTEREST – LINKS FOR RECENT ISSUES OF PERIODICALS

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 2013 issue
The Essential Hazmat News	Alliance of Hazardous Materials Professionals	June 10 issue
USA EPA Tech Direct	Remediation of contaminated soil and groundwater	July 1 issue
USA EPA Tech News & Trends	Contaminated site clean-up information	May 2013 issue
Technology Innovation News Survey	From US EPA - Contaminated site decontamination	May 16 -31 issue
Intertanko Weekly News	International news for the oil tanker community	No. 28 2013
CROIERG Enews	Canberra & Regions Oil Industry Emergency Response Group	July 2013 issue
Soil & Groundwater Product Alert	From Environmental Expert	July 8 issue
Soil & Groundwater Ezine	Articles, papers and reports	May 2013 issue
Soil & Groundwater Newsletter	From Environmental Expert	July 11 issue
Soil & Groundwater Events	Upcoming events compiled by Environmental Expert	June 2013 issue
IMO Publishing News	New and forthcoming IMO publications	May-Jun 2013
IMO News Magazine	News from the International Maritime Organization	No 1, 2013
Pollution Online Newsletter	News for prevention & control professionals	July 10 issue
EMSA Newsletter	News from the European Maritime Safety Agency	July 2013 issue
JOIFF "The Catalyst"	Int'l Organisation for Industrial Hazard Management	July 2013 issue
Int'l Environmental Technology	Environmental Monitoring, Testing and Analysis	April 2013 issue
HELCOM Newsletter	Baltic Marine Environment Protection Commission	May 2013 issue

OPERATIONAL GUIDES FROM ISCO INDUSTRY PARTNER, CEDRE

You can find details of all the Operational Guides published by CEDRE at <http://www.cedre.fr/en/publication/operational-guide.php>

Titles include Custom-made spill response barriers, Manufactured spill response booms, Guidance on waste management during a shoreline pollution incident, Use of sorbents for spill response, Response to small scale pollution in ports and harbours, Oil spill waste management, Using dispersant to treat oil spills at sea - airborne and shipborne treatment, Vegetable oil spills at sea, Ecological monitoring of accidental oil pollution, Surveying sites polluted by oil, Aerial observation of oil pollution at sea, Containers and packages lost at sea.

Cedre's Annual Report for 2012 has just been published - <http://www.cedre.fr/fr/publication/rapport-annuel/rapport12.pdf> also the latest Cedre Newsletter (see above - Links for recent issues of periodicals)

Events

UK: 4TH EDITION OF OUR MARITIME SALVAGE & CASUALTY RESPONSE MEETING – 4-5 SEPTEMBER 2013

September will bring the 4th edition of our Maritime Salvage & Casualty Response Meeting. Leading salvage companies and emergency response co-ordinators will discuss incidents at sea and in port. How can ports, local authorities, and shipping experts communicate effectively in order for an accident or unforeseen calamity to be dealt with efficiently and safely?

[Download the full agenda](#)

INTERAGENCY COORDINATING COMMITTEE ON OIL POLLUTION RESEARCH (ICCOPR)

This page contains a catalog of both oil pollution and/or Interagency Committee related conferences and workshops. The conferences listed are key R&D information sharing venues that the Interagency Committee members attend in order to identify new initiatives and advertise completed R&D projects. Members of the Interagency Committee often play key roles in these conferences by either serving on their program or planning committees, or by presenting on a particular R&D subject.

The workshops listed are initiatives that Interagency Committee members are intimately engaged in and/or workshops that other agencies, academia, or committees are working on that the Interagency Committee has interest.

Both the conference and workshops are categorized by date and title. A link is given for the conference or workshop if available. [Download the events catalogue](#)

UK: SPE OFFSHORE EUROPE CONFERENCE & EXHIBITION – ABERDEEN, 3-6 SEPTEMBER 2013

Note that the Technical Sessions Programme includes a section on Managing Oil Spills.

[Download the Conference Programme](#) [Register Online](#)

ISAA 2013 TRAINING DAYS AT CASTLE ARCHDALE, ENNISKILLEN, NORTHERN IRELAND



September 3-4 in the beautiful surroundings of Lough Erne in County Fermanagh

The ISAA Training Days are on Tuesday 3rd and Wednesday 4th September 2013 and the event will take place at Castle Archdale, Enniskillen, Northern Ireland. The facilities at the Castle Archdale Country Park, provided by arrangement with the Northern Ireland Environment Agency, include the marina on the beautiful Lough Erne and the classroom and tearoom at Castle Archdale.

This year trainees are being offered a choice of three options -

(1) A two-day MCA Level 2 Oil Spill Response Training Course on 3 and 4 September

(2) Attendance at Day 2 only (4 September) of the MCA Level 2 Course covering deployment and recovery of oil spill response equipment. Note that this option does not qualify trainees for award of a MCA Level 2 Course Certificate.

(3) A one day Introduction to Contaminated Soil and Groundwater remediation on September 4 only.

OPTION 1 - MCA Level 2 Oil Spill Response Training.

The aim of this two day course is to provide a more detailed knowledge to delegates of how and why their response and response equipment should work as a result of an oil spill incident.

The course will provide delegates with a theoretical and practical awareness of the different types of containment and recovery devices used in response to an oil spill incident.

Accreditation: This course is approved and accredited by the Nautical Institute to Maritime and Coastguard Agency Level 2. Attendance at the full two day course carries an MCA approved certificate with a validity of three years.

The syllabus focuses on: Legal Implications, Contingency Planning, Safety at an Oil Spill, Environmental Implications, Booming Principles, Recovery Devices, Practical Deployment and Spill Assessment.

The course includes theoretical input backed up with practical demonstrations and de-briefs. Course notes will be provided.

The first day will consist in classroom work and on the second day trainees will receive practical training in the deployment of sorbent materials, booms, skimmers, pumps, portable tank and other oil spill response equipment.

For the practical exercises it is essential that trainees bring with them and wear appropriate PPE equipment, including life jackets.

OPTION 2 – Practical Exercise using Oil Spill Control Equipment - As per Option 1 but excluding the Day One content.

OPTION 3 - Oil Contaminated Soil and Groundwater Remediation

The aim of this one day course is to give attendees an overview of the problems and procedures involved in dealing with oil polluted soil and groundwater and the techniques available for site remediation.

During the forenoon there will be a classroom introduction – site risk assessment, typical groundwater problems, general approach and methodologies (dig and dump, in-situ remediation techniques, recovery wells, pump and treat, soil types, interceptor trenching, use of membranes, soil venting and vapour extraction, oily water separation, application of biological degradation techniques, problems that can be encountered, things to look out for and how to avoid problems, looking at the topography of a site, selecting locations for exploratory drilling, taking samples (containers, preservation, labelling, sending to lab, etc.)

Students will be introduced to a wide range of specialised equipment (down-hole pumps, augurs, core samplers, other sampling equipment, oily water separator, venting equipment, monitoring systems and hear an explanation of what it's for, where it would be used and how it works, with demonstrations where possible.

The outside programme will include the drilling of an exploratory well using a mobile drilling rig.

[More information](#) [Online booking form](#)

SINGAPORE: LOYANG BASE, OSRL SUBSEA WELL INTERVENTION SERVICES INTERFACE TRAINING IN AUGUST 2013

This is the first Subsea Well Intervention Services (SWIS) Interface Training Workshop for all SWIS members and potential members. The course is tailored for all drilling staff and operations of the oil and gas companies who will need to understand the installation, maintenance and logistics requirement of the Subsea Well Capping Device and the Subsea Dispersant Toolkit in times of activation.

Jointly supported by both manufacturers - Oceaneering A S from Norway and Trendsetter from USA as well as OSRL SWIS engineers, this quality workshop will be held alongside the larger-than-life stacking devices at the newly-minted OSRL Singapore Base at Loyang Offshore Supply Base.

Training (continued)

With the technical and operational knowledge of the 3 companies we endeavour to bring the highest educational value to the delegates of this workshop and knowledge-transfer of the latest technology in OSRL.

Do not miss this opportunity and do email us your registration on a first-come-first-served basis. Email Vincent Goh vincentgoh@oilspillresponse.com to guarantee your seats today! [Registration Form](#)

Company news

ISCO CORPORATE MEMBER, AQUA-GUARD HONOURED FOR ITS OIL RECOVERY SYSTEMS

Aqua-Guard's RBS TRITON oil skimming technology won the 2012 Innovation Award from the North Vancouver Chamber of Commerce. It was also a finalist in the Innovation Category at the 2013 Offshore Support Journal Awards in London, UK.

Environmental Science & Engineering Magazine, June issue. [Read more](#)

ROLLS-ROYCE SIGNS OIL SPILL RESPONSE VESSEL CONTRACT IN BRAZIL



July 4 - Rolls-Royce has announced a signed contract with Brazilian shipyard Aliança S/A Industria Naval e Empresa de Navegacao, a subsidiary of Fischer Group, and Brazilian shipowner Asgaard Navegação S.A for the design and delivery of equipment to two offshore vessels for Asgaard.

The contract value is about £11 million to Rolls-Royce.

The two vessels are Oil Spill Response Vessels (OSRV), type UT 535 E, with systems designed to prevent damage from oil spills. They have the capacity to transfer recovered oil for proper onshore disposal. *gCaptain* [Read more](#)

MEMBERS OF ISCO CORPORATE MEMBER, MARINE RESPONSE ALLIANCE, TITAN AND T&T SALVAGE JOIN FORCES TO COMPLETE CHALLENGING WRECK REMOVAL ON CHILEAN COAST

Crowley Maritime Corp. subsidiary TITAN Salvage, based in Pompano Beach, Fla., and its partner T&T Salvage, a maritime emergency and salvage company based in Galveston, Texas, recently completed a challenging wreck removal project off the coast of Chile. The job, which involved the removal and scuttling (the process of strategically sinking a shipwreck) of a grounded bulk carrier on Lilloe Beach, required the use of unique, ship-to-shore equipment – such as an aerial téléphérique and a pneumatic pontoon system, TITAN's linear hydraulic chain pullers and T&T's high capacity pumping units – as well as ingenuity and teamwork to achieve success.

The vessel ran aground last August in Chile, approximately 1.5 miles south of the Port of San Antonio, Chile, and nearly 300 meters from the high-water mark, while carrying more than 34,000 tons of grain cargo. TITAN and T&T Salvage were contracted after the failed attempts of previous salvors led to a constructive total loss of the vessel. The only access to the casualty was from a narrow beach 300 meters away, across a constantly shifting seabed. As the project progressed over the course of five months, the mouth of a nearby river shifted so much that the salvors' equipment staging point became completely inundated with water and had to be relocated. *Titan Salvage* [Read more](#)

The ISCO Newsletter is published weekly by the International Spill Control Organisation, a not-for-profit organisation supported by members in 45 countries. ISCO 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 organisations. ISCO is managed by an elected executive committee members of which are **Mr David Usher** (President, USA), **Mr John McMurtrie** (Secretary, UK), **Mr Marc Shaye** (USA), **Mr Dan Sheehan** (USA), **Rear Admiral M. L. Stacey**, CB (UK), **M. Jean Claude Sainlos** (France), **Mr Kerem Kemerli** (Turkey), **Mr Paul Pisani** (Malta), **Mr Simon Rickaby** (UK), **Mr Li Guobin** (China), and **Captain Bill Boyle** (UK). The Executive Committee is assisted by the non-executive ISCO Council composed of the following national representatives – **Mr John Wardrop** (Australia), **Mr Namig Gandilov** (Azerbaijan), **Mr John Cantlie** (Brazil), **Dr Merv Fingas** (Canada), **Captain Davy T. S. Lau** (China, Hong Kong), **Mr Li Guobin** (China, Mainland), **Mr Darko Domovic** (Croatia), **Eng. Ashraf Sabet** (Egypt), **Mr Torbjorn Hedrenius** (Estonia), **Mr Pauli Einarsson** (Faroe Islands), **Prof. Harilaous Psaraftis** (Greece), **Captain D. C. Sekhar** (India), **Mr Dan Arbel** (Israel), **Mr Sanjay Gandhi** (Kenya), **Mr Joe Braun** (Luxembourg), **Chief Kola Agboke** (Nigeria), **Mr Jan Allers** (Norway), **Capt. Chris Richards** (Singapore), **Mr Anton Moldan** (South Africa), **Dr Ali Saeed Al Ameri** (UAE), **Mr Kevin Miller** (UK), and **Dr Manik Sardesai** (USA). More info on Executive Committee and Council Members can be found on the ISCO website at www.spillcontrol.org

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