



# ISCO NEWSLETTER

The Newsletter of the International Spill Response Community

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## International news

### REPORT: ACCIDENTS LIKELY IN ENVIRONMENTALLY FRAGILE SEAS



*Photo: The bow of the mine countermeasure ship Guardian is removed in March in the Sulu Sea, Philippines. The Guardian ran aground on the Tubbataha Reef in January. U.S. Navy/Getty Images*

June 7 - Many of the world's most accident-prone waters for shipping are also among the most delicate marine ecosystems, according to [a new study released Friday by WWF International](#).

The fear of something like a major oil spill in environmentally sensitive waters comes as the number of vessels plying the world's oceans has risen 20 percent in the past 15 years, from 85,000 to 105,000, the report, released on World Oceans Day, says.

"Since 1999 there have been 293 shipping accidents in the South China Sea and East Indies, home of the Coral Triangle and 76 percent of the world's coral species," says Simon Walmsley, WWF International's marine manager. "As recently as April this year we've seen [a Chinese fishing boat run aground](#) on a protected coral reef in the Philippines that had [already been damaged](#) by a U.S. Navy ship in January." *NPR* [Read more](#)

## INTERNATIONAL OIL SPILL RESPONSE EXERCISE OFF ROSTOCK COMPLETED SUCCESSFULLY



June 13 - The calm weather helped the success of HELCOM BALEX DELTA, regular Baltic oil response exercise, completed today off the coast of Mecklenburg-Vorpommern in Germany under the direction of the Central Command for Maritime Emergencies (CCME). The annual exercise, one of the largest worldwide, had 23 oil response ships from Denmark, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden, along with two airplanes and a helicopter, practising the response to a major oil spill. This involved for instance the using of special equipment for collecting oil and testing communication between the involved units, and the overall response capability of the HELCOM Contracting Parties.

In the exercise scenario, an inbound trawler collided with an outbound vessel “Spiekerroog” in the vicinity of Warnemünde port at 09:00 hrs local time on 12 June. “Spiekerroog” reported leakage of its starboard storage tank with a capacity of 2500m<sup>3</sup> and continuous outflow with an estimated rate of 10m<sup>3</sup> per hour. A leakage over 50m<sup>3</sup> in size is considered a major one. The “accident” resulted in two oil slicks, simulated well by a mass of 70m<sup>3</sup> of floating popcorn, the movements of which were also monitored by the surveillance aircrafts.

“Regular practice on communication and cooperation between combating units is of utmost importance, should a major accident happen in the Baltic Sea with its particularly vulnerable marine environment. The general objective of the BALEX DELTA exercises is to ensure that every HELCOM Contracting Party is able to lead a major response operation, and Germany did a remarkable job”, says Bernt Stedt, Chair of HELCOM Response Group.

Dieter Schmidt, Deputy head of CCME stated that “Although this year’s exercise was very successful, there is no reason to lean back. Oil spills know no borders. Therefore it is of high importance for the Baltic coastal states to train together regularly. This year it was the turn of Germany to direct the BALEX DELTA: and it was a great pleasure for us to host all this competent partners. Next year Latvia will take the turn.” *Baltic Marine Environment Protection Commission* [Source document](#)

## Incident reports

### CANADA: ALBERTA OIL COMPANY WITH CHECKERED HISTORY RESPONDS TO NEW SPILL SITE



June 17 - The company at the centre of two major Alberta oil pipeline ruptures in recent years is cleaning up this weekend after a new 950-barrel spill of a very light oil called condensate, which is used to thin down heavy oil sands bitumen so it can be transported via pipeline.

Plains Midstream Canada reports that 40 cleanup and containment workers are at the spill site in the remote area approximately 90 kilometres north west of Manning, a town in northwestern Alberta, responding to the condensate release on its Kemp pipeline system. *The Globe & Mail* [Read more](#)

Another report in *The Tyee* [Read more](#)

## Incident reports (continued)

### NIGERIA: FARMS RUINED AS PIPELINE EXPLOSION ROCKS IBADAN AGAIN

June 16 - Two weeks after a pipeline explosion in Apata Area of Ibadan, another explosion has rocked Alapata community area in Ido Local government area of Oyo State.

According to an impeccable source, the vandalised pipeline went up in flames Saturday night.

Though, there was no casualty reported, Vanguard gathered that many farmlands were destroyed by the raging fire while streams in the area were contaminated by oil. *Vanguard Newspaper* [Read more](#)

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### NIGERIA: SHELL SHUTS IN 150,000 BPD OF CRUDE OIL

June 21 - Nigeria's crude oil export has suffered a major setback as Shell Petroleum Development Company of Nigeria (SPDC) on Wednesday shut the Trans-Niger Pipeline (TNP), following an explosion and fire at a crude theft point on the 28-inch section of the facility at Bodo West in Ogoniland of Rivers State.

The TNP is one of Shell's two major pipelines in the eastern Niger Delta that transport crude oil from Shell flowstations and other third party's facilities to Bonny export terminal for shipments.

Shell's Corporate Media Relations Manager, Mr. Tony Okonedo, said in a statement yesterday, that prior to the incident, the company had shut down the 28-inch TNP to remove crude theft connections, adding that it had now closed the 24-inch TNP as a precautionary response to the fire. *This Day Live* [Read more](#)

Another report with video in *The Maritime Executive* – *In the video a spill clean-up worker from the Shell Petroleum Development Company describes how organized gangs steal crude oil and cause spills in the Niger Delta* [Read and watch video](#)

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### INDIA: CONTAINER SHIP BREAKS IN HALF AND SINKS, 26 RESCUED



June 17 - According to MRCC Mumbai, both the forward and aft portions of the MV MOL COMFORT are floating and a sister ship is monitoring the situation.

26 crewmen had to be rescued by the Indian Coast Guard after the containership they were on snapped in half and sank off Yemen.

The hull of the MV MOL COMFORT broke in two, forcing its crew to abandon ship. The men were plucked from the rough waters.

Three nearby vessels aided in the rescue of the mariners, after they managed to get off the ship into two life rafts and a lifeboat. They are being transported to Colombo, Sri Lanka.

The damaged vessel sank shortly afterwards in the same position, with most of its 4,500 containers scattered in the Arabian Sea, with an unspecified amount of oil spilled. The cause of the disaster and type of cargo onboard were not immediately known. *The Maritime Executive* [Read more](#)

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### USA: RESPONSE TO LEAKING CONTAINERS ABOARD BBC ARIZONA CONCLUDES, DEMOBILIZATION BEGINS

*Photo: The cargo ship BBC Arizona is pictured moored in Valdez, Alaska, June 13, 2013. A unified command composed of the Coast Guard, Alaska Department of Environmental Conservation, City of Valdez and Gallagher Marine Systems, LLC, coordinated the clean-up of oil on the BBC Arizona. Courtesy photo by Alaska Department of Environmental Conservation.*

June 17 - The 15 day response and clean up of leaking containers aboard the BBC Arizona concluded Friday and the Coast Guard captain of the port for Prince William Sound rescinded the captain of the port order against the BBC Arizona allowing the ship to depart Port Valdez.

*The Maritime Executive* [Read more](#)



## Incident reports (continued)

### NETHERLANDS: OIL SHEEN SPOTTED NEAR BALTIC ACE SHIPWRECK



June 20 - During a regular patrol overflight this week, the Dutch Coast Guard spotted an oil sheen in the vicinity of the sunken Baltic Ace car carrier.

Monitoring of the Baltic Ace was immediately intensified with extra Coast Guard patrols and the research vessel Zirfaea, of the Dutch Ministry of Infrastructure and Environment, is at the scene to take samples. The oil is too thin to clean up and is not likely to reach the Dutch or Belgian coasts, the Dutch Ministry said.

Salvors have been instructed to locate and repair the leak (or leaks) although it is unclear which salvage company has been hired to carry out the work. The work is believed to have started on Wednesday.

The Baltic Ace sank December 5th after colliding with the Corvus J containership just south of the beginning of the Eurogeul, a busy deepwater shipping lane leading to the port of Rotterdam. The ship sank in just 15 minutes, killing 11 of the 24 crew, including five that have still not been located. It was loaded with about 1,400 cars when the incident occurred. *gCaptain* [Read more](#)

### JAPAN: FUKUSHIMA NUCLEAR PLANT: TOXIC ISOTOPE FOUND IN GROUNDWATER

*Picture: Radioactive water was found to be leaking from a storage tank at the plant last month*

June 19 - High levels of a toxic radioactive isotope have been found in groundwater at Japan's Fukushima nuclear plant, its operator says.

Tokyo Electric Power Company (Tepco) said tests showed Strontium-90 was present at 30 times the legal rate. The radioactive isotope tritium has also been detected at elevated levels.

The plant, crippled by the 2011 earthquake and tsunami, has recently seen a series of water leaks and power failures. *BBC News* [Read more](#)



### UK: 80 SWANS RESCUED FROM OIL SPILL



June 22 - Eighty swans have been removed from the River Thames due to a mystery oil spill which is baffling authorities.

Thames Water was called out at 10:30pm on Friday night to the stretch of river between Windsor Bridge and Eton Bridge.

Bob Lang, a volunteer at the charity Swan Lifeline, said he had seen scenarios of this nature in his 20 years at the charity but "nothing like this".

The Environment Agency, with assistance from Thames Water, is investigating the source of the spillage but said it is "quite unlikely" they will find the source due to most of the oil having dispersed leaving just isolated pockets. *Belfast Telegraph* [Read more](#)

## Other news

### CANADA: CATASTROPHIC OIL SPILL THREAT TO CANADIAN RIVER BASIN

June 16 - The Mackenzie River Basin, a vast globally important area in Canada, is at great risk from climate change and a catastrophic oil spill from the tailing ponds of tar sands mining, according to a panel of nine Canadian, American and British scientists.

The warning came just days after the Canadian Oil Producers Association says it expects oil production from tar sands in the region to double by 2030.

A report produced after a series of hearings last year says effective governance is vital for the river basin, which is five times the size of France. Water pours into the Arctic Ocean from the 1118 mile-long Mackenzie River at the rate of four Olympic sized swimming pools a second. *Climate Central* [Read more](#)

## CANADA: ENBRIDGE PROPOSES SPILL FUND TO EASE PIPELINE FEARS

June 18 - Enbridge Inc. has rejected the national energy regulator's demand to have almost \$1-billion in liability coverage set aside for the Northern Gateway project, and is calling for the creation of an industry-bankrolled fund that would help pay for cleanup in the case of "a catastrophic oil release" from a Canadian pipeline.

As the final arguments for and against the controversial pipeline project are heard in Terrace, B.C., this week and next, Enbridge executive John Carruthers said an industry fund could be the best way to ensure pipeline operators have enough money to cover "a highly unlikely but higher-cost spill."

With cleanup costs that can climb to hundreds of millions of dollars for large spills, rising insurance and liability costs are a growing issue for an industry already under fire by environmental groups and facing close regulatory scrutiny.

The environmental protection fund, which would be built from a per-barrel surcharge on nationally regulated pipelines, could help boost public confidence, Enbridge argues. *The Globe & Mail* [Read more](#)

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## CANADA: OIL SPILL LIABILITY INCREASED TO \$1B IN CLEAN-UP COSTS IN ARCTIC, ATLANTIC WATERS

June 18 - Ottawa is raising the liability cap for companies operating in Atlantic Canada's offshore to \$1 billion up from the current \$30 million under new proposed legislation.

Speaking today in Halifax, Natural Resources Minister Joe Oliver also announced that liability in the Arctic will increase to \$1 billion from \$40 million when the legislation is introduced in the fall.

Oliver says the move is aimed at aligning Canada's accountability regime with current international standards in the event of an oil spill.

Changes will also be put in place in Nova Scotia and Newfoundland and Labrador to make the so-called polluter pays principle explicit in provincial legislation later this year.

Other changes would see operators required to pay offshore regulators \$100 million in order to address any potential spills or make an operation pool of \$250 million available. *Global News* [Read more](#)

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## USA: WHAT SICKENS PEOPLE IN OIL SPILLS, AND HOW BADLY, IS ANYBODY'S GUESS

June 18 - There are no clear federal guidelines for chemical exposure at oil spills, and no studies to understand the long term dangers to human health.

Since 2010, at least three ruptured pipelines have spilled oil into U.S. neighborhoods, forcing officials to decide quickly whether local residents would be harmed if they breathed the foul air. But because there are no clear federal guidelines saying if or when the public should be evacuated during an oil spill, health officials had to use a patchwork of scientific and regulatory data designed for other situations.

As a result, residents of the three communities received different levels of protection.

[Read this article in Inside Climate News](#)

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## NIGERIA: SHELL TO RESUME NIGER DELTA OIL SPILL COMPENSATION TALKS



*Photo: Niger delta residents pass a burning Shell oil pipeline as they evacuate their homes by boat in December 2005. Photograph: George Osodi/AP*

June 19 - The company has admitted liability for two spills but disputes the quantity of oil and damage done

[Oil](#) company Shell will resume talks next week in London with lawyers representing 15,000 of the poorest people in the world who are claiming millions of pounds' compensation for [oil spills](#) on the [Niger](#) delta.

But Martyn Day, of Leigh Day law firm which is acting for the communities, said the case could still go to a full high court trial in London in 2014.

## Other news (continued)

The [Shell petroleum development company](#) of Nigeria (SPDC) [has admitted liability for two spills from a pipeline in the Niger delta](#) in 2008, but the company disputes the quantity of oil that was spilled and the damage that was done to livelihoods and the environment near the coastal village of Bodo in Rivers State. Oil spill experts working for the communities estimate that nearly 500,000 barrels leaked from the company pipeline over several months, Shell claims it was far less.

The legal action, represents the first time Shell or any oil company has faced claims in the UK from a community from the developing world for environmental damage. "We have agreed to negotiate over the next two to three weeks. Probably the talks will go on into the autumn when a deal will become more likely," said Day. *The Guardian* [Read more](#) [Another report in The Hindu](#)

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### **NIGERIA: OIL GIANT SHELL CRITICIZED OVER NIGERIA PIPELINES 'SABOTAGE' CLAIMS**

June 19 - Claims by Shell that sabotage is responsible for most oil spill in Nigeria have come under fire. A Dutch agency found that the oil giant's statements were based on disputed evidence and flawed investigations.

The agency - the National Contact Point (NCP) - which is there to assess complaints about companies that abuse human rights and the environment made its statements in response to concerns raised by Amnesty International and Friends of the Earth International.

But the two organizations say that the NCP should have gone much further in its criticism of Shell.

The organizations provided evidence of serious flaws in the system used by Shell for investigating oil spills, including video footage of a spill investigation in which several serious problems occurred.

"Sabotage is a problem in Nigeria, but Shell exaggerates this issue to avoid criticism for its failure to prevent oil spills," said Audrey Gaughran of Amnesty International. *All Africa* [Read more](#)

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### **UAE: CLOSER EYE NEEDED ON OIL SPILLS IN THE UAE**

June 18 - More efforts are needed to study the impacts of oil spills in the UAE, a conservation expert said yesterday.

While the country has not experienced any significant pollution events in recent years, there are many small-scale events, including accidental discharges from oil refineries and other land-based sources, from coastal oil extraction activities, as well as from tankers illegally washing fuel storage areas and dumping the outflow in international waters.

These are major contributors to oil pollution worldwide but local data is lacking, said Dr Thabit Al Abdessalaam, conservation consultant at the Environment Agency - Abu Dhabi. *The National* [Read more](#)

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### **INDIA: POLLUTION ALARM: OVER 40 SHIPS STRANDED OFF MUMBAI COAST**

June 21 - Raising concern over threat to the coastal eco-system, Union minister of environment and forests [Jayanthi Natarajan](#) on Thursday said there are more than 40 ships stranded off the Mumbai coast and a few of them contain polluting material.

Presiding over a meeting to review mitigation and response mechanism for scenarios involving stranded ships, collisions and oil spills, Natarajan sought the feasibility of invoking criminal action against the owners of such vessels. "I have been informed that the movements of all these vessels are being closely monitored," she said.

The coast guard blamed the state for not taking criminal action against errant ship owners, but state environmental department officials denied the charge. *The Times of India* [Read more](#)

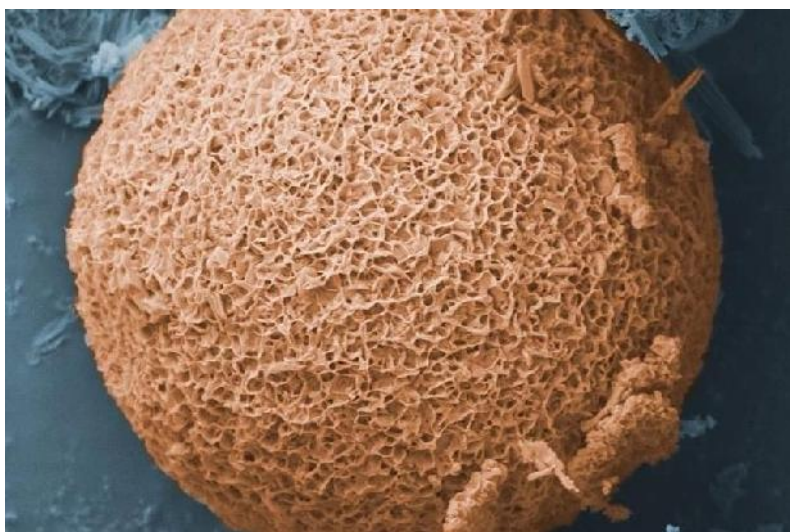
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### **USA: ARKANSAS TAR SANDS OIL SPILL UPDATE**

June 21 - On March 29 an Exxon oil pipeline ruptured in the community of Mayflower, Arkansas, sending 5,000 barrels of diluted bitumen into the community's yards, homes, and waterways. Dustin McDaniel, the Attorney General of the state of Arkansas, tells host Steve Curwood about a lawsuit his office and the federal government have filed against Exxon for violation of the Clean Water Act and the illegal storage of hazardous waste

ExxonMobil, the federal government and the State of Arkansas have already begun battling in court over the spill of tar sands crude from a ruptured pipeline in Mayflower Arkansas that occurred March 29. The rapidly filed lawsuits seek damages from ExxonMobil for 5,000 barrels of diluted bitumen that spilled into the yards and homes of area residents. 22 families were forced to evacuate, and oil has contaminated the local river and lake. Here to explain the new lawsuits is Dustin McDaniel, the Attorney General for the state of Arkansas. Welcome to Living on Earth. *Living on Earth* [Read the transcript of this interview](#)

## RECYCLED COAL PLANT WASTE CLEANS UP OIL SPILLS



Picture: A porous nanostructured particle made from fly ash. CREDIT: S. Seal, L. L. Hench, David Reid (G), Ian Goldstein, University of Central Florida [View full size image](#)

*This Behind the Scenes article was provided to LiveScience in partnership with the National Science Foundation.*

When Sudipta Seal and his co-principal investigator Larry Hench applied for a grant from the National Science Foundation, their goal was to create a material that could remove large volumes of oil from seawater economically and using a process that would be completely green.

In July 2010, Seal and Hench received a Rapid Response Grant from NSF's [Division of Materials Research](#) to develop a novel process for treating fly ash — a by-product of burning coal — to absorb oil.

Seal's and Hench's grant was one of several that NSF awarded to help with cleanup and environmental protection after the Deepwater Horizon oil spill in the Gulf of Mexico. The foundation made more than 60 awards, totaling nearly \$7 million, in geosciences, computer simulation, engineering and other fields.

In the months after the largest oil spill in U.S. history, scientists faced the challenge of how best to clean up the millions of barrels of oil polluting seawater, marshes and beaches. There were questions about the relative safety of the various absorbent materials, as well as their expense and disposal. Furthermore, some of the materials dispersed rather than removed the oil, which led to further challenges.

Seal, who is the director of the [NanoScience Technology Center](#) and [Advanced Materials Processing Analysis Center](#) at the University of Central Florida, studies nanostructured materials such as carbon nanotubes, silica aerogels and graphene.

These advanced materials sport very high surface-to-volume ratios, giving them the capacity to absorb huge amounts of oil. However, mass-producing them for sopping up large-scale spills remains prohibitively expensive.

For more than a decade, Seal had been researching the effects of chemically treating fly ash, a dry, gray, powdery waste product captured from power plant flue gases, before they reach industrial smoke stacks. In fact, the name "fly ash" is derived from the words "flue ash."

Fly ash contains a mix of calcium, silicon and aluminium, along with traces of other elements. Although it can be used to make bricks, concrete and road-building materials, millions of tons of fly ash end up in disposal ponds, mine pits or landfills, where it has the potential to contaminate groundwater.

In their natural state, fly ash particles do not absorb much oil because they have relatively small surface areas and pore sizes. Plus they contain hydrophilic, or water-loving, compounds that tend to soak up water rather than oil. This means a bulky, soggy mess is created when fly ash is placed in the characteristic oil-water mix resulting from wind and wave action on spilled oil.

Seal and his team had developed a method of treating fly ash to yield a product called OOPS, which stands for "oil optimized particle surfaces."

Unlike untreated fly ash, OOPS attracts and absorbs the oil out of an oil-water mix. The resulting OOPS-oil mixture "turns into a glop, which floats on the water surface and can be scooped up very easily," Seal says.

To make things even easier, OOPS can be contained within an oil-permeable mesh bag that can be plucked out of the water once it is replete with oil.

"But the story doesn't end there," Seal says. "Now, the question becomes, 'How do we dispose of this oil?'"

And that's where the "green" comes in. "Coal plants will be used to make electricity for at least the next two or three generations in this country and they will probably always be used in other countries," Seal says.

"This means we can put the mesh bag of fly ash charged with oil right back into a coal-fired furnace," he says. "That way we can get the heating value off the oil and get the fly ash back out on the other end, and it is a primarily green, cyclic process."

[Read the complete text of this article by Holly B. Martinn in Live Science](#)



In this issue of the ISCO Newsletter we are printing No. 132 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 132: KNOWLEDGE-BASED CONTINGENCY PLANNING

As to the salvage of casualty and cargo/bunkers, the plan notes that after collision or grounding, damage-control will normally have been undertaken by the crew to the maximum extent possible; that beyond this stage, the public interest is best served when the coastal state's marine survey service collects as much knowledge as possible on the condition of the casualty before salvors arrive on-scene; and that the combined knowledge and experience of crew, survey service and salvors is the only means by which the coastal state can assume ownership/endorsement of the ensuing incident-specific salvage plan, and use its Powers of Intervention to overcome the belief-based objections which only make matters worse as more than amply shown by past observations. Thus, the plan notes that the options are *in situ* ship-to-ship cargo/bunker transfer and subsequent wreck removal, movement to a safe haven for such transfer and subsequent casualty removal or to an oil port for discharge to shore and subsequent casualty removal; that the choice can only be made on the basis of knowledge of the casualty-condition; that cargo/bunker transfer is the only means of reducing or eliminating post-damage releases, of minimising impact on commercial activities and of restoring the environment to its pre-incident condition as quickly and as cost-effectively as possible. As to achieving these objectives with oil-wells, the plan notes the need for rapidly effective blow-out prevention and capping.

As to the options for cargo/bunker transfer, the plan notes that it may not be possible in exposed locations at sea; that progressive tank damage is more likely in such locations than in a safe haven; that further release from damaged tanks is prevented by their oil-replacing water bottoms, while none is to be expected from undamaged tanks; and that any inadvertent releases during cargo/bunker transfer will be small in comparison with those from successively damaged tanks in exposed locations. Again, the plan notes that any releases necessarily occurring from damaged tanks when pressurised to re-float the casualty in the exposed location, or indeed within a safe haven as with the *Sea Empress*, will be small and rate-controllable. In addition, the plan notes that removal of casualties from the risk of subsequent tank-damage, also removes them from risk of subsequent engine-room flooding and loss of onboard pumping power; and that preservation of onboard power avoids the need to supply emergency pumping capacity for ship-to-ship or ship-to-shore transfer. As to containers, the plan notes that those transferred cannot enter the sea' that release arises only from damage; and that effects are local and transient.

As to access to the widest possible knowledge, the plan notes that effective state/salvor co-ownership of incident-specific salvage plans, facilitates consultation with such as the International Salvage Union (ISU) or the American Salvage Association (ASA) in respect of damage-stability calculations and of release-limitation during re-floatation by partial removal of cargo/bunkers and by pressurisation of tank water-bottoms before entry to a safe haven or within one as with the *Sea Empress*.

As to the Powers of Intervention, the plan notes that while the powers are adequate, the intervention remains inadequate as long as those invoking the powers remain ignorant of the knowledge necessary to countermand beliefs which prevent release-limiting cargo/bunker transfer and thus prevent restoration of the environment to its pre-incident condition as quickly and as cost-effectively as possible; that these beliefs have prevented use of this knowledge and its associated equipment for as long as these have existed; that while this salvage and cargo/bunker transfer technology is more fully reliable than the technology of blow-out prevention and well-capping appears to be, knowledge-countering believers appear to derive more self-serving benefit from paralysing the former than from improving the latter and from releases in general than from preventions in particular; and that, in differentiating reality-validated knowledge from reality-refuted belief, the plan itself is the only means by which current knowledge-countering belief can be overcome.

As to the provision of cargo/bunker transfer equipment to salvors temporarily over-extended by business-pressures, the plan notes that national stockpiles could consist of Framo TK5 and TK 6 submerged transfer pumps with nominal capacities of  $190 \text{ m}^3 \text{ h}^{-1}$  and  $500 \text{ m}^3 \text{ h}^{-1}$  or their equivalents for insertion through standard deck openings; heat exchangers to maintain cargo/bunkers in the liquid state; pallet-stored inflatable ship-ship fenders; boxed lay-flat floating transfer hoses, couplings, spares and connection tools; carbon dioxide generators to fill void spaces created by discharge at rates of  $10,000$  and  $16,000 \text{ m}^3 \text{ h}^{-1}$ ; oxygen, hydrocarbon and chemical-specific analysers, compressed air driven ventilation fans driven and associated equipment all intrinsically safe; and breathing and resuscitation apparatus, protective clothing, fire-fighting and intrinsically safe emergency-lighting and emergency-radio equipment (c.f. sections 8 and 9 of the Chemical Spill Response Manual of Koops and Zeinstra).

In general, the plan notes that the transfer of oils/HNS cargoes from casualties to their intended or alternate recipients and the transfer of bunkers to alternate fuel use are by far the best means of recycling them; that risking the total release of transferable cargo and bunkers and calling for the recovery and recycling of such total release as an expression of concern for environmental welfare is surely a gross misjudgement of reality.

1 The *Rational Trinity: Imagination, Belief and Knowledge*, D.Cormack, Bright Pen 2010 available at [www.authorsonline.co.uk](http://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 24



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](mailto: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 24th 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.

### 24. Fire-resistant booms – Commercial Products

The following is a brief description of the fire-resistant booms currently on the market. Detailed specifications for these booms can be found on the manufacturer's web sites.

**American Fire Boom** (<http://www.elastec.com/oilspill/fireboom/americanfireboom/index.php>) (American Marine/Elastec) has flotation sections made of rigid ceramic foam surrounded by two layers of stainless steel knitted mesh, a high temperature-resistant ceramic textile fabric and a PVC outer cover that also forms the skirt. This boom is normally deployed from a container or tray. This boom was originally made many years ago and now has been brought back again.

The **Hydro-Fire Boom** (<http://www.elastec.com/oilspill/fireboom/index.php>) (American Marine/Elastec) is a water-cooled, inflatable boom that is sometimes stored on and deployed from a reel. A 150-m length of boom can be stored on a reel with sections (30 m).

**PyroBoom**(<http://www.appliedfabric.com/content/pages/pyroboom.php>) (Applied Fabric Technologies) is a fence boom with a freeboard constructed of a patented refractory material and a skirt made of a urethane-coated material. Hemispherical stainless steel floats are attached to either side of the fence portion. This boom can be stored in a container and deployed from a large flat area or can be deployed from a reel system, which in turn is stored in a container.

**PocketBoom** (<http://www.appliedfabric.com/content/pages/pocketboom.php>) (Applied Fabric Technologies) is a stainless steel boom that is similar to the design of the Dome Boom but in a small version.

**Spill-Tain Fire Proof Boom** (<http://www.spill-tain.com/>) is a stainless steel boom constructed in sections connected by hinges. Floats, made of stainless steel filled with closed cell glass foam, are located at the midway point of the stainless steel panels so that the lower half of the panel forms the skirt and the upper half forms the freeboard. This boom is stored and deployed from a folded position. Larger sizes of the boom would require a boat hoist or crane for deployment.

The booms and their testing/use in burning are illustrated in Figures 25 to 27.



**Figure 25** Testing of a fire boom at the USCG Mobile Alabama facility. The testing was done using the ASTM protocol.



Figure 26 Use of the PyroBoom during the Deepwater Horizon .



Figure 27 Use of the Hydro-Fire Boom during the Deepwater Horizon burns.

To be continued

## Publications

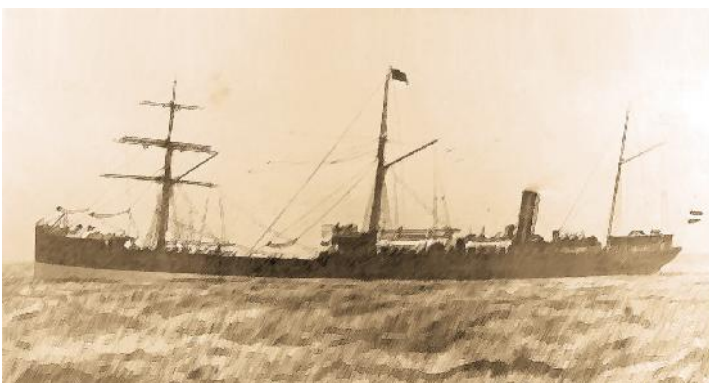
### FOR YOUR INTEREST – LINKS FOR RECENT ISSUES OF PERIODICALS

[ASME EED EHS Newsletter](#)  
[Bow Wave](#)  
[Cedre Newsletter](#)  
[The Essential Hazmat News](#)  
[USA EPA Tech Direct](#)  
[USA EPA Tech News & Trends](#)  
[Technology Innovation News Survey](#)  
[Intertanko Weekly News](#)  
[CROIERG Enews](#)  
[Soil & Groundwater Product Alert](#)  
[Soil & Groundwater Ezine](#)  
[Soil & Groundwater Newsletter](#)  
[Soil & Groundwater Events](#)  
[IMO Publishing News](#)  
[IMO News Magazine](#)  
[Pollution Online Newsletter](#)  
[EMSA Newsletter](#)  
[JOIFF "The Catalyst"](#)  
[Int'l Environmental Technology](#)  
[HELCOM Newsletter](#)

News and commentary on HSE issues from George Holliday  
 Sam Ignarski's Ezine on Marine & Transport Matters  
 News from Cedre in Brittany, France  
 Alliance of Hazardous Materials Professionals  
 Remediation of contaminated soil and groundwater  
 Contaminated site clean-up information  
 From US EPA - Contaminated site decontamination  
 International news for the oil tanker community  
 Canberra & Regions Oil Industry Emergency Response Group  
 From Environmental Expert  
 Articles, papers and reports  
 From Environmental Expert  
 Upcoming events compiled by Environmental Expert  
 New and forthcoming IMO publications  
 News from the International Maritime Organization  
 News for prevention & control professionals  
 News from the European Maritime Safety Agency  
 Int'l Organisation for Industrial Hazard Management  
 Environmental Monitoring, Testing and Analysis  
 Baltic Marine Environment Protection Commission

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### NEW BOOK: "TANKERS, BIG OIL & POLLUTION LIABILITY"



The author, Tormod Rafgård, has worked with tanker owners since 1965, and has now written the book "Tankers, big oil & pollution liability".

Rafgård has background as director of the international tanker owners' association (INTERTANKO), and has served as a judge in the Court of Appeals.

In these capacities he has witnessed the unwieldy and cumbersome development of an ever-more complex environmental liability structure, involving governmental agencies, oil companies, environmental protection groups, classification societies, P&I clubs, coastal states and the shipping industry.

## Publications continued

After accidents, they all scrambled to pin the blame on one party, while everyone else was seeking to disclaim responsibility.

Since Tormod Rafgard has written his book as a witness, and not as an accuser, he asks his readers whether this is an appropriate way of dealing with an important aspect of essential maritime activity, and whether it is to the benefit of safety at sea to assign blame to one party while exonerating all other parties involved when an accident occurs. In that respect he also refers to US senator George Mitchell, who in 1992 stressed that all parties involved in an accident should be held accountable for their actions as accountability creates a deterrent to negligent, damaging behavior.

The author takes his readers through the last 150 years of tanker shipping, when it has grown into a global energy lifeline, emphasizing how the largest tankers today can carry 400,000 tons of crude oil, a pollution potential far beyond the Exxon Valdez spill (1989) of 36,000 tons that caused the loudest reverberation ever experienced in the field of maritime transportation. He analyses the "polluter-pays principle", describes the development of the compensation funds and involves all links in "The Chain of Responsibility".

[Table of contents](#), [download option](#), [purchase hard copy](#), [more info](#)



## Events



Eleven panel sessions will give visitors to the SPE Offshore Europe 2013 conference unprecedented access to hear the views of top industry executives, government ministers and discipline specialists.

The panel sessions will all aim to respond to the conference theme, 'The Next 50 Years', and they form just one part of the free-to-attend event to be held at the

Aberdeen Exhibition and Conference Centre from 3-6 September 2013.

Malcolm Webb, Chairman for SPE Offshore Europe 2013 and Chief Executive of industry trade association Oil & Gas UK, said: "The current strong resurgence in activity shows that the offshore oil and gas industry has an exciting and important future ahead of it, with planned projects we already know about spanning the next 50 years. However, with great opportunities come great challenges. Accordingly, at the Offshore Europe 2013 conference, we are bringing together leaders from the industry, government and other stakeholders to address the issues of the moment.

"The conference will be twice the size of anything which Offshore Europe has staged before and will embrace commercial, employment, operational, safety and environmental aspects as well as the policy and regulatory framework in which the industry operates. This will be the definitive event for our industry as it moves through the 21st century." [More info](#)

## GI WACAF REGIONAL CONFERENCE

Namibia, 4-8 November 2013

[More info on this and upcoming GI WACAF events in Mauritania, Cameroon and Sierra Leone](#)

## PIPELINE OPERATIONS & MAINTENANCE SUMMIT

ACI's 2013 Pipeline Operations & Maintenance Summit will be taking place in Dusseldorf, Germany on 27-28 November 2013. The demand for building new pipelines in the future will be accompanied by increasing operational & maintenance practices. The two day event will bring together key industry stakeholders from the pipeline industry to discuss latest operational & maintenance practices when laying new pipelines. [More info](#)

## ITOPF TO HOLD SEMINAR ON GOVERNMENT & INDUSTRY CO-OPERATION IN THE ARCTIC

ITOPF will be holding an afternoon seminar at the Grand Hotel Europe in St Petersburg, Russia on Thursday 26th September 2013, addressing "Government & Industry Cooperation in the Arctic".

In light of recent oil and gas activities in the Arctic and an increase in shipping along the Northern Sea Route (NSR), a great deal of attention is currently focused on preparedness and response to oil spills in the region. Our seminar will take the opportunity to look at current operations along the NSR and explore how some of the challenges to response in ice-covered waters can be overcome. Distinguished speakers have been invited to present from a variety of perspectives, and include the Ministry of Transport of the Russian Federation, Sovcomflot and ExxonMobil.

The seminar is free of charge and will be followed by a drinks reception hosted by ITOPF. Places are limited and will be allocated on a "first come, first served" basis. If you are interested in attending, please click the link to download a [booking form](#)

## Training

### USA: UPCOMING ENVIRONMENTAL TRAINING CLASSES AT TEXAS A&M ENGINEERING

Details of classes, dates and locations [More info](#)

## Company news

### RESOLVE MARINE'S SALVAGE & FIRE GROUP EXPANDS PRESENCE IN UK, EUROPE

RESOLVE Salvage & Fire (Europe), Ltd., the European emergency response subsidiary of U.S.- based RESOLVE Marine Group, Inc., has added a new office at 23, Austin Friars, London, expanding the company's UK operations base. The 34-year-old marine salvage, emergency response and wreck removal company has been steadily expanding, both geographically and in its service offerings for the international maritime industry.



Joining the new London office is Daniel Dettor (pictured left), a Commercial Manager formerly based at RESOLVE's corporate headquarters in Fort Lauderdale, FL. Dettor joins John Curley (pictured right), Commercial Director, who has been with RESOLVE's UK operation since 2011 following a career as Head of Global Sales and Marketing with Lloyds Register.

Dettor and Curley will continue to serve the company's clients and the shipping industry at large in the UK and Europe. Specifically, they will continue to build on RESOLVE's OPA 90 Salvage & Marine Firefighting (SMFF) and emergency response capabilities for European ship owners and insurers.



RESOLVE maintains a fully equipped emergency response warehouse/operations base in the South of England and plans to broaden its response network with the addition of other key European locations. In addition to facilitating delivery of emergency response services, Curley and Dettor will promote marine salvage, wreck removal and a variety of other marine services to ship owners and operators, property underwriters, P&I Clubs and other shipping industry interests.

Curley and Dettor will also continue to lend support to RESOLVE's worldwide operations.

RESOLVE is a leading provider of OPA 90 Salvage & Marine Firefighting and emergency response services to the worldwide maritime industry -- including tanker and non-tank vessel fleets, cruise lines and other commercial shipping companies.

RESOLVE is also the parent company of Resolve Maritime Academy, a leading provider of maritime safety and navigation-related training -- including ECDIS and other simulator based navigational safety programs such as bridge resource management (BRM) and engine room simulator (ERS) training.

RESOLVE Marine Group, Inc's multi-faceted marine services organization provides marine salvage, wreck removal, emergency response and OPA 90 SMFF services as well as marine emergency response and safety training, naval architecture and marine engineering -- worldwide. *The Maritime Executive* [Read more](#)

RESOLVE Marine Group has been a Corporate Member of ISCO since January, 2010.

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 Psarftis** (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](http://www.spillcontrol.org)

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