

# SpillAlert

THE QUARTERLY NEWSLETTER ABOUT THE SPILL INDUSTRY

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PRODUCED BY

**UKspill**  
ASSOCIATION

## OIL ON ICE – A BURNING ISSUE

Oil Spill risks in Arctic waters:  
What we can do? Are we prepared?

  
**interspill**  
LONDON 2012

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PREVIEW



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Cover image courtesy of DESMI Ro-Clean

## Welcome

The front page is not topical, spring is here, the harshness of winter is behind us, but over the last quarter, we have had a considerable number of oil spill conferences, mostly driven by last year's Gulf of Mexico spill. What has struck me about the content and direction of these conferences has been, not about last year, but what might happen if that type of spill happened in Arctic waters, hence the wintry cover, when the spring flowers are out, at least in Northern Europe...

In the last issue, we looked at the role of the Exhibitions and Conferences, in particular where they offer networking to support response to disasters. In the spring of this year there were 5 Oil Spill events which we featured, of which all had an eye on the risk posed by oil spills on ice. In Finland the University of Turku, in conjunction with Lamor, held an event (Touch of Oil) where the presence of frozen seas alongside the venue was a constant

reminder of the risk. Whilst the Baltic does not have a drilling risk, one factor to emerge was that with 15% of world trade, specifically 155 million tonnes of Russian crude oil being shipped out of the Baltic in 2010, the spill risk of oil on ice was significant in that region alone.

To then look at the E&P risk, Shell said in an article on their website that "the Arctic is where (according to the U.S. Geological Survey estimates) 25% of the world's undiscovered oil and gas lies. Although some development has already occurred, the region remains one of the last energy frontiers. Security of energy supply considerations will drive the pace of development in the Arctic."

For UKSpill and its colleagues in Northern Europe, this is an area of major interest, both from the question of manufacturing equipment and also how to deal with response in these high latitudes, which led to our theme, Oil on ice – a burning issue...

## Guest Editorial A view from the UKSpill Chairman on 2010

# UKSpill works for its members in 'year of the spill'.

2010 will be remembered as the year of Deepwater Horizon – a disaster that put the words 'oil spill' into everyone's vocabulary.

The UK Spill Association (UKSpill) represents companies, organisations and individuals working in the oil spill industry, and its media profile grew as TV and radio sought fact and opinion on this environmental catastrophe. After the event, UKSpill responded to the need for information about the continuing consequences of the spill by organising a seminar in Edinburgh, hosted by the Scottish Government and the Emergency Planning Society. Close to 100 delegates from both UK and Europe attended to hear speakers from the government and BP.

"UKSpill has evolved since 2004 into a real voice for the oil spill industry. Not only have we developed our website and put the responder accreditation scheme online, we have established a regular series of marine and inland seminars," said Chairman Glyn Humphries in his annual review.

"In 2010, we launched SpillAlert as a quarterly newsletter, not just for the UK, but aimed at a global audience. The spill industry relies on international cooperation, and communication. Looking ahead, we are now managing preparations for Interspill 2012 in London."

UKSpill as a trade association, represents a small group of companies and relies, for its success, on partnership, in particular with the Maritime and Coastguard Agency, and the Environment Agencies of England, Wales, Scotland and Northern Ireland.

The UKSpill website promotes its members and its work through a catalogue of companies, a guide to dealing with spills through the accredited responder scheme and a schedule of events. It also provides news about the industry to the industry, markets and government.

"The organisation also works to maintain standards and has in 2010 established a standards committee to supervise quality within the industry," says Glyn. "The accreditation scheme for spill contractors and responders grew by around 40 per cent last year to more than 80 companies across the UK, this is a reflection of the growth in credibility of the Scheme and UKSpill's positive actions since forming in 2004."



The main feature:

# OIL ON ICE – A BURNING ISSUE

Whilst the industry and public have offshore blowouts clearly in mind after last year's spill in the Gulf of Mexico, the need for new sources of oil has focussed on the potential that exists in the Arctic. This has many issues to confront, not only environmental but political and technical.

Article courtesy of [Shell.com World Stories](#)

The region is one of the most difficult areas in the world to work, due to its remoteness, the extreme cold, dangerous sea ice, fragile environment, and indigenous people wary of disruptions by outsiders. Indeed, the challenge for countries bordering the Arctic will be to find ways to tap its energy while protecting the environment and safeguarding the region's indigenous cultures.

Because most oil is lighter than water, companies routinely use long floating booms to push spilled oil to brushes that skim it into collection tanks. In the Arctic, however, oil often collects on blocks of ice that are difficult to clean and can tear the booms.

A tool developed with the help of Finland's Environmental Institute gets around that

problem. A metal frame suspended from a ship's hull dislodges the oil by pushing blocks of ice up and down in the water. Once the oil is separated, a conveyor belt fitted with brushes scoops it up.

This approach works only in some areas, since ice conditions vary greatly depending on location. Several companies and regulators are jointly studying other methods to recover oil in a variety of Arctic conditions and ensure they are widely available. "Being prepared for oil spills is like buying insurance — you hope that the worst will never happen but, if it does, you'd better be prepared," says Peter Velez, Shell Exploration & Production Global Security & Emergency Response Manager.

A large spill in the Arctic could not be contained or mitigated, sea ice can envelop oil and transport it considerable distances.

A blowout during autumn would spill among growing ice floes, spreading contamination further than it could be tracked and concentrating oil in the ice holes through which marine mammals breathe.

Unlike the Gulf, where tens of thousands of oil wells and runoff have tainted the waters for decades, a spill in the Arctic risks tainting a pristine and sensitive landscape. While critics of offshore drilling in Alaska have long raised the specter of a massive spill, the accident in the Gulf last April highlighted shortcomings in spill preparedness. In the aftermath, experts such as Thad Allen - the government's point person on the Gulf spill - and the presidential oil spill commission have questioned whether companies and the government are adequately prepared to overcome the challenges of responding to an Arctic spill.



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The main feature:

# Today's Icy Spill World

The world of oil spill on ice may seem far away from the interests of UKSpill members, all of the main manufacturing members, Vikoma, Lamor and DESMI Ro-Clean are very aware of the need and the potential that exists in this region and the consequent market. Each participated in the Joint Industry programme run by Sintef in 2009.

The Joint Industry programme (JIP) study 'Oil Spills in Arctic and Ice Covered Waters', was published in 2009 by Sintef of Norway,

It concluded that "Ice covered waters and Arctic conditions possess other challenges for oil spill response compared to open and more temperate waters; the remoteness of the area, the low temperatures, seasonal darkness and presence of ice. At the same time we have experienced that the ice can aid oil spill response operations; it slows down oil weathering, it dampens the waves, it prevents the oil from spreading over large distances and it gives more time to respond".

The JIP looked at the potential for in situ burning. The window of opportunity for the use of in situ burning in the Arctic is under some circumstances larger than in the open sea. In situ burning has been tested and proven to be effective for the elimination of both free floating oil in ice and oil collected in fire resistant booms.

The presence of cold water and ice can enhance in situ burning effectiveness by limiting the spread of oil and slowing weathering processes.

The field experiments verified in situ burning as an efficient technique, with burn efficiency above 90%.

## **DESMI Ro-Clean subsidiary, AFTI put In Situ burning to test in the Gulf of Mexico**

The Deepwater Horizon spill in the Gulf of Mexico brought to light many new, innovative spill response techniques that were previously unheard of or not frequently used in common day spill response – one of which was Controlled or In-Situ Burning. Prior to the Deepwater incident, there were stockpiles of 'fireproof' boom that had never been used in response to a spill.

Several types of fireboom have been available since the mid-1980's, including PyroBoom but In-Situ Burning has only been used sparingly and only in very specific conditions. However, the weather, water, logistics and operating conditions in the Gulf of Mexico this spring proved to be ideal for burning.

From a technical standpoint, the type of oil that was spilling into the Gulf was appropriate for burning. Light crude oil with light components ignites readily, even when it is one to two days old. Despite the fact that some emulsification may have taken place, it was still easy to burn. Several tests were conducted with a variety of booms and fireproof barriers, and the results were so favourable to clean-up efforts that a call was made to scour the world for readily available stocks of fireboom.

Of the many varieties tested, results showed that PyroBoom had the excellent performance characteristics required for long-term response efforts: Ease of use, desired durability and repeat burns. There were also some stocks of

PyroBoom around the world that were available to be shipped to the spill site. The cause of the spill, the duration of the blow out and the length of clean-up time created vast amounts of uncertainty around response efforts, and the result was a full-scale response operation. This utilised many teams consisting of two boats, support vessels and logistical support. At one point, there were more than 20 vessels and 10 teams working.

Applied Fabric Technologies Inc (AFTI), a subsidiary of DESMI Ro-Clean (DRC) responded immediately when requested to help search for equipment and provide technical support to response teams. From the initial PyroBoom trial, AFTI/DRC had trained personnel on-site to assist the response teams, working to ensure clean-up crews were knowledgeable about the use and the proper operation of PyroBoom to provide the most efficient and longest possible burn life.

Based on performance evaluations and reviews from clean-up crews, PyroBoom was shown to be the easiest boom to handle and operate, by far. Fireboom, by its nature, is fairly heavy and can be unwieldy. However PyroBoom does not require any external accessories or cooling water pumps to operate, and crews can simply tow into the water, pick it up by the tow boats and manoeuvre it into a U configuration to collect oil.

Once adequate oil was present in the apex of the boom for ignition, generally more than 3mm, the oil was ignited with a simple flare and diesel gel igniter device. As the oil burned, the boats continued to tow the arrangement through the patches of oil, collecting additional oil as it burned off. Many burns continued for several hours at a time, and the longest continual burn lasted about 12 hours.

Much of the PyroBoom that was used for the response was shipped in from a customer of AFTI/DRC – STG in Algeria. They loaned BP more than half of their inventory on the proviso that it be replaced as soon as possible.

Since the spill, AFTI has been working double shifts to provide additional and replacement equipment for those affected by the spill. Older inventories have been replaced with current production of PyroBoom, which is

superior technically and operationally. Significant investments have been made in inventory and personnel to meet the demand so that customers could replace their stockpiles and stay in compliance with the regulations for response equipment in their facilities.

**The features of PyroBoom are:**

**Durability:** When the lifetime of many firebooms was measured in minutes to hours, PyroBoom lasted much longer.

**Ease of Handling:** PyroBoom is ready to use right out of the box or in the case of one customer, right off the reel. There is no requirement for any support equipment other than handling equipment to lift it aboard a vessel.

**Performance:** In the operating conditions where in-situ burning is possible, PyroBoom is superior in its oil containment capabilities.

**Economy:** PyroBoom is a more cost effective fireboom than other varieties because the original acquisition of a system is less expensive. Because it can be recovered and repaired in the field, it costs less over time as well. A well burned section can be completely overhauled by local labour using simple hand tools and an overhaul kit from AFTI/DRC. Reusable components in PyroBoom also reduces costs further.

**Range of Operation:** The stainless steel float shells and durable fabric materials are suitable for operation from the Arctic to the tropics. Broken ice, rough handling and remote locations without technical support are all operating conditions where PyroBoom is expected to perform for days at a time.

**Time-Proven Performance:** PyroBoom evolved over 26 years of development. The unique refractory fabric was tested time and time again in many different test programmes across the operating spectrum.

**Compliance with ASTM Standards:** While PyroBoom was developed before the standards were put in place, it has survived the tests of time and evolution. AFTI personnel have participated in ASTM F-20 since almost the beginning of the committee. Our research and development work, testing and field evaluations have all been part and parcel to the development of the standards for boom, operating techniques and guidelines developed by ASTM, not only for fire boom but for all of the existing 56 standards under the control of ASTM F-20 Committee on oil spills and hazardous materials.

PyroBoom is easy to train on. There are no wet blankets to dry off before storage. There are no pumps to flush, no power packs to maintain and no inflators to use. PyroBoom is the failsafe system that is so easy to use.

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## The main feature:

# Other JIP conclusions on dealing with oil on ice

Laboratory and field experiments have verified that oil spilled in ice-covered waters is dispersible by use of oil spill dispersants.

### Mechanical recovery of oil

Brush drum skimmers represents a good combination of ice processing and oil recovery capabilities. Skimmers with thrusters show improved capability to recover oil in ice.

### Remote sensing

The most useful remote sensors and systems applicable to Arctic spills are: Side-Looking Airborne Radar (SLAR); Satellite-based Synthetic Aperture Radar (SAR); aircraft and vessel-based Forward Looking Infrared (FLIR); Trained dogs; and Ground Penetrating Radar (GPR) operated from helicopters and/or from the ice surface.

### Oil distribution and bio availability

When oil is released in an area with ice the oil will be absorbed by snow on the ice edges, it may be trapped in the ice in brine channels and it may be moved underneath the ice.

UKSpill and Eurospill member, Lamor, are closer to the problem with the seasonal freeze in the Baltic on their door step, ice and oil are already bedfellows. The nations surrounding the Baltic Sea already cooperate politically and practically to coordinate response, through Helcom, the BRISK project, and others, and much of this based on the use of vessels which can get to a spill in ice, ie icebreakers - The Baltic Sea's newest multi-purpose oil and chemical spill response vessel equipped with Lamor's newest oil spill recovery (OSR) technology and solutions, YAG Louhi, begins operations in the Gulf of Finland in mid-2011.

Commissioned by the Finnish Environment Institute (SYKE), the €48 million YAG Louhi is based at the Port of Upinniemi approx. 40 kms west of Helsinki in the archipelago. The vessel is operated by the Finnish Navy. Louhi is equipped to sail in the Baltic Sea all year round and it can reach a speed of 15 knots and even through a 50 cm (20 in) thick ice cover, it can travel at 8 knots.

Lamor's Juha Muhonen explains: "The multipurpose vessel Louhi has been fitted with several of our newest technologies, that none of the other 14 older Finnish oil response ships

have, although they are also equipped with efficient OSR technology. For example, Louhi, with our side mounted skimmers, is capable of collecting 1,200 tons of spilled oil during just one trip," he says.

"Moreover it can also perform chemical recovery without placing its crew at risk of encountering a cloud of toxic chemicals," says Inspector at SYKE, Jouko Pirttijärvi.

SYKE strategically opted for a multi-purpose vessel, "a simplified freight vessel, a vessel fulfilling the requirements of SYKE's mandate regarding environmental incidents and a vessel intended Navy missions," says Pirttijärvi.

"As the primary mission of the new vessel is pollution prevention, the ship has an extensive array of recovery equipment capable of collecting spilled oil in open water, high seas and ice conditions," says Muhonen.

Louhi's oil recovery is based on the Lamor brush skimming technology. "Louhi has three different types of Lamor brush skimmers: in-built brush conveyor belt-type skimmers, bucket skimmers mounted on cranes and free floating offshore skimmers with umbilical hose reel" Muhonen describes.

"Due to the sensitive ecology of the Baltic Sea it was agreed at the Helsinki Convention (HELCOM - Baltic Marine Environment Protection Commission) that instead of using dispersants to dissolve the oil slicks, the combating of the oil spills is based on mechanical recovery using oil booms to contain the spill and skimmers to collect the oil from the surface as quickly and completely as possible, this is where our expertise comes in at Lamor," says Muhonen.

## Lamor on Arctic Oil Exploration and Extrapolation - A fragile frontier yet to be fully discovered

The exploration for oil in the Arctic Ocean continues full steam ahead, but there are immense risks to the environment and ecosystems. Demand for oil continues to surge and companies are taking more and more risks. Companies will continue to drill for oil in remote areas, such as the Arctic region, and there are clear and present dangers.

That said, by investing in the best available technology (BAT) and solutions coupled with training and preparedness, offshore oil exploration and drilling can be conducted in a more responsible and safe manner. This is where the expertise of Lamor steps into the scene.

Lamor's knowledge, expertise and commitment in providing the most advanced oil spill clean-up solutions with equipment, training, and a response team known as the Lamor Response Team (LRT), is unparalleled with a global reach in any climatic conditions and regions. "Lamor's dedication to tackle some of the most environmentally human-

caused destructive and hazardous elements such as oil spills is what we do, and I can say that oil clean-up operations is what we are fully dedicated in doing," says Fred Larsen, CEO of Lamor Corporation.

The Arctic Ocean's ecosystem is the most vulnerable to oil spills in comparison to other regions. "Cold weather, the thick ice cover together with slow turnover of plants and animal life mean that toxic oil spills could last longer and expose multiple generations of organisms to contamination," says Larsen. "The lack of sunlight also impacts the breakdown of spilled oil and other chemicals. Thus, it is essential for both governments and

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# Lamor on Arctic Oil Exploration and Extrapolation - A fragile frontier yet to be fully discovered (cont).

corporations to be responsible and invest in safeguards, training, and equipment, in order to quickly and efficiently take the appropriate steps to reduce a catastrophic environmental disaster," he says emphatically.

## Environmental stewardship

The U.S. Bureau of Ocean Energy Management Regulation and Enforcement (BOEMRE), estimates that the Arctic Ocean holds up to 19 billion barrels of oil and up to 74 trillion cubic feet of natural gas. For the global energy market this is significant since such vast resources amounts to approx. 25% (or more) of the world's undiscovered oil and gas resources. Territorial disputes surface between nations that border the Arctic Ocean i.e. Canada, Greenland, Iceland, Norway, Russia and the US.

Larsen explains: "With those remarkable estimates, it is no wonder that corporations are striving to explore, locate and establish offshore oil drilling operations. However, they need to do so responsibly and work together with companies like ours that have invested in R&D, have experience and the best solutions

for handling accidents in Arctic conditions. The sub-zero temperatures, hurricane-force winds, reduced visibility during the prolonged winter darkness, along with high 10-30-foot seas, certainly makes any clean-up operation challenging but not impossible for Lamor."

"Lax oversight and inadequate response capacity adds to the challenge," says Larsen. "It is a teamwork effort, and an Arctic oil spill could set off irreversible chain-reactions of contamination thus, investing in training, equipment, and preparedness, is irrefutably the best way for any oil cluster related company to commit themselves to."

## Appropriate equipment and teamwork

Having the right partner in oil spill prevention and preparedness is vital. "We rely on Bureau Veritas to certify all our equipment in accordance with international standards. We have also adopted Ohmsett's test program and facilities as part of our new commissioning for our new technological innovations and solutions for oil spill recovery and clean-up operations. That said, we do more at Lamor; we truly

subject our equipment to very harsh and challenging conditions to ascertain their effectiveness and efficiency," says Larsen confidently with a smile.

On February 17, 2011 the 17,000-dwt Icelandic container ship M/S Godafoss, en route to Denmark, grounded off the southern coast of Norway threatening the Ytre Hvaler National Park, and the western Swedish coast line. The ship was carrying approx. 800 tons heavy fuel oil and approx. 440 containers onboard. The Norwegian Coast Guard coupled with the Swedish Coast Guard were alerted. The Swedes deployed the KBV vessels KBV 050, KBV 051 and KBV 001 Poseidon to the scene. Those specific vessels are equipped with built-in Lamor Oil Recovery Systems (LORS). During the oil recovery collection, one of the challenges was the freezing temperature which solidified the oil immediately. However, this obstacle was overcome due to the heated brush cleaner on the Lamor skimmers coupled with precautionary heating set-up from skimmer to collection tanks.

Story by: Thomas Barbieri

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# In the News

## UK: ADLER & ALLAN RESPONSE WINS 5-YEAR CONTRACT WITH CENTRAL NETWORKS

Adler and Allan, one of the UK's leading oil and environmental service groups is delighted to announce their latest major contract win as the sole environmental emergency response contractor for Central Networks, the second largest electricity network operator in the UK.

Part of E.ON, one of the world's largest power and gas companies, Central Networks distributes electricity to over 5 million customers across Central England using a network of 133,000 KM of both underground and overhead cables. The 5-year contract award reinforces A&A's position as the premier spill response company in the UK.

Problems happen, ageing fluid-filled cables can spring leaks, transformers can be vandalised or damaged, allowing oil to escape. The sheer scope of maintaining Central Network's assets means there's always a risk of damage to the environment, but when things do go wrong, environmental emergency

response contractors will be on-site within three hours to clean up.

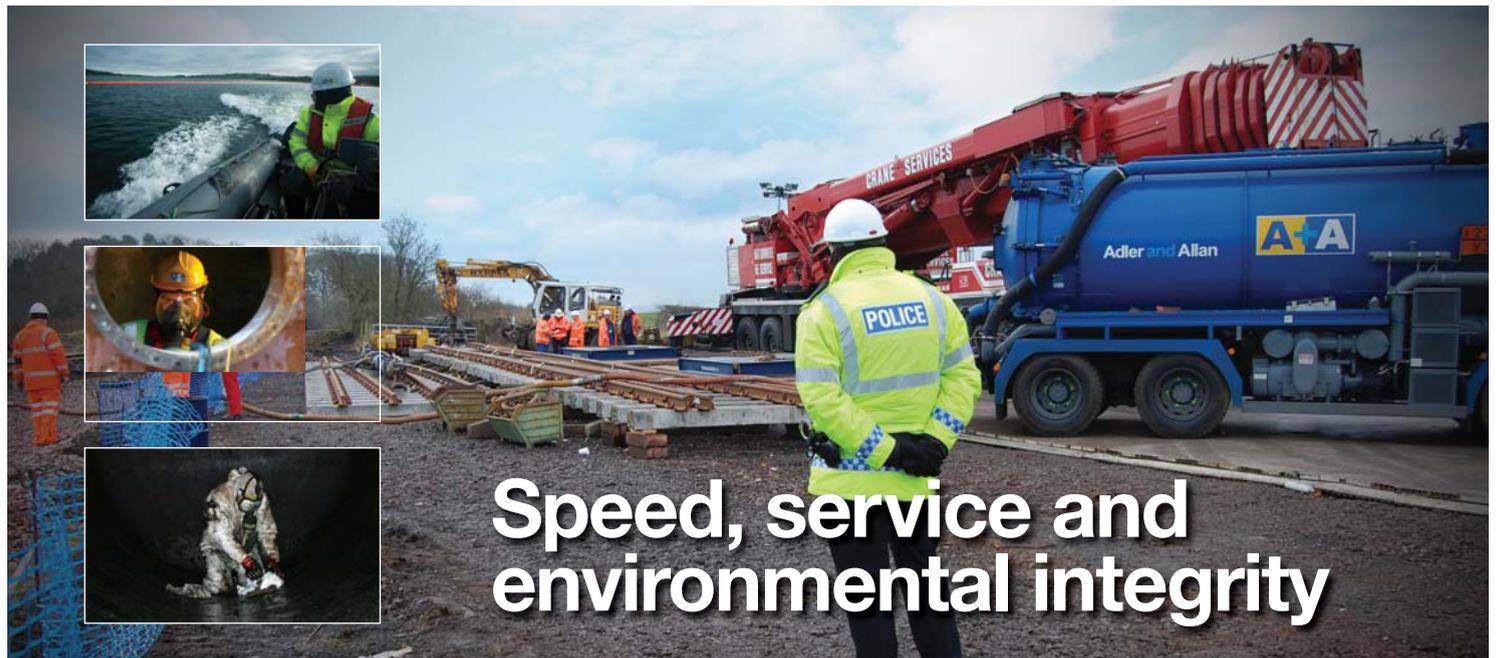
"They have a vital role to perform," said Engineering Contracts Manager, Barry Matthews. "We take our responsibility to safeguard the environment very seriously, not just to comply with Environmental Agency regulations, but because we believe it's the right thing to do. Minimising the impact our activities have on the environment is a key strategic commitment. Our reputation depends on it."

A&A's history dates back to 1926, originally as coke merchants in London, diversifying into



spill response operations in the 1960's. The expertise and capability of their emergency spill response teams were tested to the full by the Buncefield oil storage depot incident in 2005. A&A were brought in as principal contractors to deal with the aftermath when 20 large tanks were engulfed by flames following an explosion. Their response involved safely uplifting over 10 million litres of hazardous liquids.

"Our aim is to continue to innovate, developing services that lead the market and are environmentally-compliant," said Commercial Director, Henry Simpson. "We're very pleased to be appointed by Central Networks as their environmental services responder. This is a blue-chip client with high expectations right across the board and we're more than happy to meet those challenges."



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## UK: PLA JOIN UK SPILL ACCREDITATION SCHEME

The Port of London Authority (PLA) operates the Thames Oil Spill Clearance Association (TOSCA), on behalf of the oil interests using the Thames

TOSCA provides the manpower and equipment that ensures a rapid response to oil spills of up to 50 tonnes. The key to an effective response are the two PLA vessels, Recover and Respond.

Recover was specially built by Prout Catamarans of Essex on a 'Panther 61' hull of 16.5m. Twin Caterpillar 3406E engines each give 700 bhp and a top speed of 21 knots. This unique vessel carries a Lamor brush pack system for collecting oil from the surface of water.

Respond was built by RTK Marine Ltd of Poole and is 12.7m long, with a draught of 0.5m, she is powered by twin Volvo Penta AD/41 DP engines giving 165 bhp through outboard drives and a maximum speed of 25 knots. The vessel is equipped with a bow ramp and heavily constructed underwater hull to allow beach landings for oil clearance purposes.

These two vessels are supported by a variety of other equipment to contain, collect and store spilled oil. In addition there are sufficient trained staff to ensure the availability of crew with up to date skills.

To assess the TOSCA arrangements against industry standards the PLA applied to UKSpill to complete an accreditation process. This was carried out in March with TOSCA meeting the required level.

## UK: PEOPLE AND PLACES

Briggs Marine & Environmental Services announced the promotion of **Captain Bill Boyle** as General Manager of Briggs Environmental Services. Bill who has been with Briggs for 20 years has taken up his new position as General Manager looking after National and International Oil Spill Response Operations. Responsible for all Environmental operations in the UK, as well as Azerbaijan, Georgia, Egypt, Malta, Oman, Brazil and all ship to ship transfers.

The Interspill Steering Committee bade farewell in March to **Michel Girin**. He was the Director of Cedre for 13 years, from 1995 to 2008, during which he guided the association in its work to combat major spills such as that of the Erika and the Prestige and developed activities in many. From 2008, he acted as an adviser and was heavily involved in many research projects. At the end of March, he officially took his retirement and after 10 years stepped down from involvement in Interspill.



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## EU: NEW SPILL MODELLING SOFTWARE

BMT ARGOSS, a subsidiary of BMT Group Ltd, the leading international maritime design, engineering and risk management consultancy, has launched the latest iteration of its OSIS oil spill modelling software.

OSIS 5 is the latest release of the oil spill fate prediction tool that has been helping customers maintain preparedness and achieve rapid response for over 15 years. To be released in May 2011 OSIS 5 reflects the continued commitment of BMT ARGOSS to its customers to provide up-to-date solutions to meet evolving demands. The latest release is part of an accelerated programme to include new features designed to meet the requirements of the offshore industry following the Deepwater Horizon incident.

Deepwater Horizon highlighted the need for spill modelling software to be able to consider spills over extended timescales. BMT ARGOSS has dramatically increased the speed of the OSIS model, enabling model runs of up to 120 days to be conducted. Updates to the replay facility allow quick access to results over these longer runs. Of course, shorter model runs will also benefit from this improvement.

The use of high quality metocean data has always been a focus at BMT ARGOSS. It is essential that such data is used if meaningful results are to be obtained, as highlighted in recent guidance on offshore spill modelling from the UK Department of Energy and Climate Change (DECC). BMT ARGOSS is a leading supplier of metocean data to the offshore industry. With 20 years of experience BMT ARGOSS has tailored its products so that data can be quickly provided in formats suitable for OSIS. OSIS 5 will continue to allow users to import third party metocean data in

industry standard formats. These measures ensure that customers will have ready access to scientifically-validated metocean data for any part of the world.

A number of requests from customers have been included in OSIS 5. A new GIS and charting engine allows customers to source and import their own nautical chart backdrops. Contouring has been improved and customers can run multiple model runs simultaneously. The system interface and framework has been fully updated to run efficiently on the latest Windows platforms.

Future developments planned for OSIS 5 will allow the modelling of 3D spills in the water column, easy access to 3D global hydrodynamic datasets, climatological and forecast metocean datasets worldwide, and online spill modelling services.

For more information please contact [zoe.roberts@bmtargoss.com](mailto:zoe.roberts@bmtargoss.com).

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# VIKOMA TO EXHIBIT AT IOSC 2011

Vikoma International Ltd will be exhibiting at Booth number 401 at the International Oil Spill Conference in Portland Oregon, from the 23rd – 26th May 2011.

Vikoma has a prime position this year to showcase some of its iconic products, including the world famous Komara 20 oleophilic disc skimmer; the highly versatile Komara 15 Duplex with its interchangeable disc and brush cassettes; and the Komara Star 20, toothed disc skimmer for highly viscous oils. Between them, these three skimmers provide highly efficient recovery for a full spectrum of oil viscosities of up to 1,000,000cSt.

There will also be an opportunity to view our flagship boom products, with samples of the HI Sprint, Sentinel and Shoreguardian booms on display. The key feature of the Vikoma exhibit this year will be a brand new 3D animation of the Weir Boom, in keeping with the global focus on high volume spills. The Weir Boom is a unique combined containment and oil recovery system designed specifically for high volume offshore spills scenarios such as well head blowouts.

The Vikoma Weir Boom is the only system which can provide continuous oil recovery with such a wide encounter rate.

The capture width of the Weir Boom can be up to 200m, containing and recovering oil as it advances through a large spill area. The water ballasted boom is deployed between two vessels, which can advance into the spill, while the series of integral weirs and highly efficient vane pumps, combined with its powerful transfer pump, can recover up to 210m<sup>3</sup> per hour.



The Weir Boom has been used with great success in a number of high volume spill situations and has proven to be an excellent continuous recovery solution for ongoing spills.

In addition to activities inside the exhibition hall Vikoma will be taking selected guests on the now traditional VIP Cruise, this year taking in the sights and lights of Portland from the Willamette River.

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# IOSC 2011

The Science of Oil Spill Response

**May 23-26, 2011**  
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# THE RAW REPORT

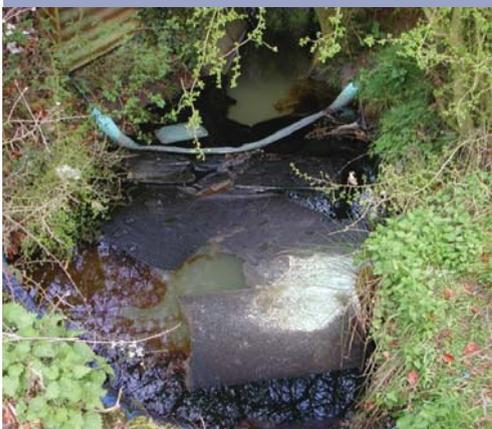
## ABSORBENTS – PART OF THE FIRST LINE OF DEFENCE IN DEALING WITH OIL SPILLS

Every accredited spill contractor will be aware of the importance of absorbents in response work and when applied appropriately, their use can significantly reduce the environmental impacts of spills.

A wide range of absorbent products are available but contractors need to ensure that the right products are used for the right job. Recent guidance issued by the Environment Agency in relation to "Oil clean-up products and their application" (Environment Agency, 2010) provides general advice on the use of absorbents and the Agency confirmed that "you should identify the best product to use depending on the situation".

In reality although commonly referred to as 'absorbents' the products work by either absorbing the oil into the structure of the materials or by adsorbing onto the surface of the materials. One of the advantages of polypropylene absorbents is that they are hydrophobic (i.e. repel water) and oleophilic

(i.e. attract oils). In surface water incidents, as the polypropylene has a lower density than water, the absorbents will be located where the bulk of the problem accumulates (i.e. at the water surface). An important consideration when deploying absorbents is the ability of the materials to contact the oil. Absorbents work effectively when maximum contact is achieved. In faster flowing streams weirs and containment booms can be configured to create areas of lower flow velocity where oil has the chance to rise to the water surface for recovery and removal. One of the most useful references for guidance with respect to the deployment of these flow altering measures is the document 'Inland waters oil spill response: a guidance



Saturated absorbent booms and matting requiring removal. Note the absorbents continue to float on water even when impregnated with oil.



Loose wood fibre absorbent deployed behind an oil absorbent boom containing polypropylene fibres.



Containment boom behind which absorbent mats have been deployed, note the length of the boom (and the handsome individual inspecting it).

document incorporating the strategies and techniques for responding to inland surface water oil spills in the United Kingdom' (Institute of Petroleum and Environment Agency, 2004).

Booms and absorbents should be deployed to ensure there is no path for oil to bypass the absorbents. This is most commonly observed when oil migrates around the sides of booms which have been inexpertly deployed or where oil dives beneath booms of insufficient size in fast flowing water.

The recent guidance from the Environment Agency (2010) and the earlier guidance from the Institute of Petroleum and the Environment Agency (2004) highlight some of the potential disadvantages associated with the use of absorbents:

The use and recovery of absorbents can be hazardous when working close to water bodies, requiring at least two people for deployment and recovery operations;

Once spent, absorbents are hazardous waste and must be disposed of accordingly;

Oily absorbents must be appropriately contained (e.g. liquid tight bund) to ensure that no oil is subsequently spilled; and

The use of absorbent materials can be costly particularly as they are deemed as hazardous wastes once spent.

The use of absorbents is most appropriate on small and medium scale spills or for secondary treatment (e.g. absorbents can be used to manage off site migration while skimming or active oil recovery operations are underway as the primary oil recovery method).

A potential issue that has surfaced in more recent times that may need to be considered by contractors, particularly those working for larger clients, is the environmental sustainability of the use of absorbents. Many of the products are made from what

could be regarded as low sustainability materials (e.g. polypropylene, peat) and the majority of absorbents are landfilled or incinerated, with few products allowing subsequent recovery of the absorbed oil and re-use of the materials.

Notwithstanding, absorbents are typically easy to deploy and are an effective way to remove oil from water bodies or surfaces. They can be deployed in combination with other containment measures to maximise the recovery of oil, and for these reasons they should continue to be regarded as an essential tool for contractors dealing with oil spill incidents and this view is reinforced in the UK Spill Accreditation Scheme which has the knowledge and use of absorbents as a requirement in its Spill Responder module which must be attained by all contractors.

The RAW report written by:

Author : Dr. Jon Burton  
BSc PhD FGS MCIWEM CSci  
Technical Director, RAW



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# REPORTS FROM RECENT KEY SPILL CONFERENCES

## UNIVERSITY OF TURKU - TOUCH OF OIL FINLAND, FEBRUARY 2011

During the coldest week of the year with temperatures at -25C. The sea outside the hotel had been frozen for months, no sign of oil on ice there but the conference highlighted the need to research solutions. The Finnish Environment Institute, SYKE, led with the theme of Innovation, sometimes on a small scale, but upwards to multi purpose ice breaking vessels. The threat to the Baltic was reinforced by the dramatic growth in oil exports from Russia, and monitoring for oil spills showing growth in risk and incidence of spills. BRISK, an EU funded project reporting that grounding in the shallow waters was the highest risk for spills. The view was that the Baltic was a laboratory for testing response, and that could help on a global basis.

## WMU/IMO – SPILL RISK MANAGEMENT MALMO, MARCH 2011

Not much warmer, but temperatures rose with Greenpeace protestors registering their views outside whilst the Chief Executive of BP spoke to his home audience, about change and the introduction of the central risk organisation. Steps had been taken by BP, recognising the licence to operate requires the trust of society, but more exploration is a necessity. IMO spoke of the changing risk profile, not only with offshore spills, but also the potential for Arctic spills, but the growth of world trade would still be the major source of spill risks. Thad Allen of the USCG spoke of the practicality of actions needed to solve a major incident, such as Deepwater Horizon, but also the political will to create a unity of effort. In the future, transparency, better data interchange and knowledge management were seen as critical to future responses.

## ARCOPOL CONFERENCE CARDIFF, APRIL 2011

No ice in sight at this event. The focus of this event organised by the EU funded ARCOPOL project was the risk from HNS pollution, and the speakers were lead by Stefan Micallef from IMO supported by the CEDRE, MCA, CEFAS and others. The issues in combating HNS incidents were illustrated by the sheer scale of variety of chemicals that might be in transit at sea, unlike oil. The lack of expertise and knowledge by state and local organisations was recognised as needing addressing urgently. The purpose of the ARCOPOL project is to develop tools to improve preparedness, and the second day under the chair of Michel Girin, set out the aims of the ARCOPOL programme, and the tools that had been developed and are being developed.

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RISK MANAGEMENT

# OSPRAG developments lead to a new project – ARM, (Accredited Responder Management) lead by Briggs and the MCA

This new project, funded by Oil & Gas UK, under the OSPRAG banner, relates to use of and the availability of trained, experienced and importantly, Accredited Responders in the UK. Oil spill incidents as with any other emergency response situation by nature fall into the category of “events occurring unexpectedly and unplanned”. When they do happen they like all other emergency incidents require a swift and effective response to enable successful mitigation in limiting the risks to both people and the environment.

During the recent Gulf of Mexico Incident there was a requirement to put in place an effective shoreline clean-up response strategy, which required a considerable amount of physical effort, and therefore the utilisation of potentially large numbers of clean-up personnel. The key problem with this type of response is how to manage large volumes of responders who quite often will be a mix of contractors and well intentioned untrained volunteers. Badly supervised or co-ordinated shoreline clean-up teams can have a negative effect on the intended outcome, therefore adding to the problems associated with the spill, so rather than achieving the outcome that was expected, it becomes complicated to manage a spill and has potentially onerous health and safety issues.

A project has been identified to establish a framework for responder escalation in the event of a large oil spill that utilises the UK Spill Accreditation Scheme membership. This has the potential to facilitate the central co-ordination of skilled response contractors and enable volunteer management prior to and during any shoreline clean-up operation.

The concept would be to identify the operational capability and standard of training of the UKSpill pre-accredited responders, and to assess the levels at which their personnel could function during a marine shoreline spill impact, therefore ensuring that a process was in place to enable those responders to maintain their workforce to an agreed operational standard, ready for immediate deployment. This concept can then be extended further into the volunteer

arena by engaging and utilising Local Authority Emergency Planning Units to facilitate the co-ordination of volunteers within their Region.

The final element of the model would be the how and by whom this response model could be activated during a spill incident, and how the responders would be mobilised under a cascading system. The purpose of this proposal is to put forward the concept of a “Response Model” for effective management of shoreline resources during a spill incident.

### Methodology: Introduction

The concept is to develop a shoreline responder’s utilisation model to enable personnel engaged in shoreline clean-up operations to be used effectively and professionally. The model must initially work for accredited responders and a further output of the project is to make recommendations to ultimately encompass a wider range of personnel including local authorities and volunteers.

The creation of the model will be undertaken in a number of stages;

**Stage 1:** A full review of accredited contractor’s database held by UKSpill to identify the capabilities of spill contractors with respect to shoreline response. This will allow the development of a response matrix to be established, which will be used to allocate those contractors to an appropriate level for shoreline response. In addition this data will also be utilised to create the Gap Analysis which will identify the Training Needs of the personnel within those organisations to either maintain their response position or to enhance their response by training and development.

**Stage 2:** Construction of the operational model which will identify how and by whom “peace time” administration and then response command and communications for these resources is carried out. It is clear that this will be perhaps one of the more complex elements of the model. However it is likely that the way forward will be the development of a Management/Steering Team whose role under non-operational situations will be to oversee

the maintenance and management of the model, including budget holder and training co-ordination duties, but in the event of an operational situation arising will become the strategic and operational coordinators, and will be the activator of all shoreline clean-up response, with capability of implementing a “cascading” response of personnel.

**Stage 3:** (Recommendations Only). Historically whenever an oil spill occurs, which is likely to impact our shorelines, there has always been a willingness from external parties to volunteer to assist with clean-up efforts. This can create major problems if not effectively managed. The third stage of this model would be to engage the Local Authority Emergency Planning Units with a view to them co-ordinating volunteer response within their area. Emergency Planning Units already engage in planning for industrial emergencies and in some cases hold plans for managing volunteers within a crisis situation.

The link between them and this model would be the allocation of an Emergency Planning Officer (EPO) as the liaison officer between the Local Authority and volunteers. The EPO identified within each Region could then be offered Oil Spill Response Training and familiarisation of the accredited responder’s operational model to enable them to deliver their role effectively.

The reason this stage would be outside of this current proposal is due to the fact that to bring the Local Authorities onboard would require face-to-face meetings with Coastal Local Authorities to develop this model successfully. Although various venues exist to present a group approach, for example, The Emergency Planning Society; SIESO and through the Emergency Planning College, for the purposes of promoting the concept of the model, it is likely that the “buy in” would only occur following these individual meetings.

The ultimate aim of this model is to have in place a well managed and structured approach to shoreline clean-up response that has identified, and acted upon any shortfalls prior to any emergency response occurring. The requirement to keep this working model up-to-date and valid cannot be underestimated.

## Company profile:

# IAC - NOT JUST TECHNICAL SALES

IAC is a specialised sales company with some 40 years experience in offering a range of technical products to niche markets.

Barrie Dannenberg, as owner of the business, based IAC on the work his father had done in building a business involved in sales of surge arrestors, this family connection remains in the range of products that IAC is involved in. The success of IAC is not simply based on good products and a well organised sales activity. "Our range of products are related such that they fit into the same industry or similar industries so that we have developed a wider perspective than one product would give us and are able to propose fully supported solutions, not simply products" says Barrie Dannenberg.

"This requires a continual exchange of information with our suppliers and close contact with our clients, to understand both the product offered and the application the

supplier intends, as well as what the customer wants it to do. For example - The Salarollpump was developed to be able to pump very viscous oils and chemicals and to be easily portable, to give access to difficult locations. It has high suction giving nearly 10 metres lift, and can discharge over several hundred metres or up a hundred metres (for light products or water). Thus it can be taken over rocks and down to the shore to clean up oil spills, such as the Full City bunker oil spill in Norway in the summer of 2009, where several pumps were used by the local Coastguard. Many companies have bigger more powerful pumps, but they are simply unable to reach inaccessible locations. The Salarollpump can also pump heavy oil from the seabed without taking in huge quantities of water as other pumps would."

SALAROLLpumps have been successfully tested at OHMSETT, the US test facility, as well as at CEDRE, the French marine oil spill research centre. A trial was done in the Gulf of Mexico in relation to the recent Deepwater Horizon spill for BP very successfully and

several pumps were supplied. It has been approved worldwide by the BP HITT (High Impact Technology Testing) team who were impressed by its versatility.

Similarly Ecoceane integrated pollution clean up vessels are sold around the world (23 countries to date). They have to meet safety requirements in each country, notably the MCA codes in the UK which are often stricter than elsewhere.

IAC view taking part in UKSpill events as an effective way to contact potential customers who naturally check the ability to comply. Without this exposure, and that of technical exhibitions we could not convince Ecoceane and obtain improvements to the vessels. Thus exhibitions form the link to the local market together with the local representative.

Through all this, and with our various other products, all generally related to the environment, IAC has developed a wealth of expertise allowing us to help clients select equipment suited to their needs.

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# The last word

In SpillAlert 4, published in the summer of last year, we featured, understandably, the spill in the Gulf of Mexico, and made the point that it was “a very public” spill, constantly trawled over and recycled by the mass of multi media opportunities that exist now, compared to in the times of Exxon Valdez.

Since then, the flow of words through blogs, newspapers, TV, radio etc., have lessened but not stopped, the first anniversary provoking a sheaf of reviews. Whilst acknowledging the role of journalists does not always sit comfortably with the actions of industry, whether it is oil or oil spill, the Los Angeles Times and Washington Post do have some stature and respect for their investigations. In the weekly ISCO news bulletin, there was a reference to a book review by the Los Angeles Times, covering 9 (nine) books already published on the Gulf of Mexico oil spill, which says a lot about creation of a new industry in post disaster analysis. The headline was underscored by the following – “**Many of the books written about last year’s gulf oil disaster feature plenty of cinematic narratives but few have good history on their side.**” Geoffrey Mohan, Los Angeles Times, April 19, 2011.

But on reading the reviews, I felt that some of the article and the extracts were quite compelling and also objective, and bore repeating here, the opening paragraph gives hope that perhaps we can believe that what is written is worth reading and does bear some truth.

“When a complex event sprawls out over months — an invasion, an election, a disaster — the struggle for a dominant narrative does likewise, publicly and sometimes painfully. The public are fond of simple stories: an evil oil company recklessly cuts corners, kills 11 men, sends a multimillion-dollar vessel to the deep, and ruins the waters of an entire Gulf of Mexico. History demands more time and rigor”.

“Standing above them (of the 9 books) is **Fire on the Horizon: the Untold Story of the Gulf Oil Disaster** (Harper, March 2011), a book that deftly navigates around the good-guy versus bad-guy leitmotif.”

“First to be elbowed aside is the notion that BP didn’t care about safety. In fact, BP and Transocean were freakishly obsessed with safety. Their definition of safety, though, was too narrow, a slip-and-fall mentality that gave short shrift to the multiple accident pathways endemic to complex technology”

“...Imagine standing on the observation deck of the Empire State Building and attempting to lower a soda bottle at the end of a 1,200-foot-

long string into a garbage can on the sidewalk, the authors write of the task of connecting a blowout preventer to a well bore. It’s extremely windy and you’re wearing roller skates. Now consider that, with the building encased in clouds, it’s impossible to see the sidewalk, much less the garbage can. Imagine an observer with a cell phone at the bottom giving directions as the bottle descended. Every motion made by the person on the observation deck would take time to translate down the long string, and the effect on the bottle of his movements interacting with the swirling winds would be virtually unpredictable. But all of that would be easy compared with what the crew of the Horizon was attempting to accomplish...”

“In **A Hole at the Bottom of the Sea**. Achenbach (a reporter with the Washington Post) lives up to his promises to make the disaster into a tale that everyone can comprehend, with fluid, often Spartan prose and a candid tone”.

“Carl Safina offers some promise of casting the cold eye of a scientist on the spill in **A Sea in Flames: the Deepwater Horizon Oil Blowout** (Crown Trade, April 2011)”.

“The best insight Safina has to offer is too obvious to wait 300-plus pages: ‘The worst environmental disaster in history isn’t the oil that got away. The real catastrophe is the oil we don’t spill. It’s the oil we run through our engines as intended’.”

## INDUSTRY EVENTS: PREVIEWS

**FRANCE: SAFER SEAS III 2011**  
**10–13 MAY 2011, BREST, FRANCE**  
Details at [www.saferseas-brest.org/](http://www.saferseas-brest.org/)

**USA: IOSC 2011**  
**23-26 MAY 2011, PORTLAND, OREGON, USA**  
Details at [www.ioosc.org](http://www.ioosc.org)

**UK: UKSPILL11 MARINE SPILL SEMINAR**  
**5 JULY 2011, SOUTHAMPTON, UK**  
Details at [www.ukspill.org](http://www.ukspill.org)

**USA: CLEAN PACIFIC**  
**27-29 SEPTEMBER 2011, LONG BEACH, CALIFORNIA, USA**  
Details at [www.cleanpacific.org](http://www.cleanpacific.org)

**INDIA: OIL SPILL INDIA 2011**  
**29 SEPTEMBER – 1 OCTOBER 2011, GOA, INDIA**  
Details at [www.oilspillindia.org](http://www.oilspillindia.org)

**UK: ARCTIC OIL SPILL 2011**  
**4-5 OCTOBER 2011, LONDON, UK**  
Details at [www.informaglobalevents.com/event/arcticoilspill](http://www.informaglobalevents.com/event/arcticoilspill)

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