ISCO NEWSLETTER

The Newsletter of the International Spill Response Community

Issue 318, 23 January 2012

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News

SMIT SALVAGE TO REMOVE FUEL FROM CONCORDIA

January 17 - SMIT Salvage, a unit of Dutch maritime services firm Royal Boskalis Westminster NV has been hired by Carnival Plc to remove the 2,400 tons of fuel from the Costa Concordia.

Carnival Plc hopes to avoid an environmental disaster on top of the human disaster that has already taken place. SMIT will perforate the fuel tanks and allow sea water to push the fuel up and out of the tanks. A hose attached to a nearby barge will collect the oil. Total oil removal is expected to take 2-4 weeks.

SMIT is expected to begin inspecting the ship on Tuesday – however priority is being given to the ongoing search and rescue operations. An estimated 20-23 people are still missing. From *The Maritime Executive* *Read more*

An ecological disaster?

January 17 – Isola del Giglio, where the stricken cruise ship rests, is part of the Tuscan Archipelago National Park, the largest marine protected area in Italy.

Among its inhabitants are important plants and birds and some rare frogs, while the seas support coral, cetaceans and the occasional Mediterranean monk sea, a critically endangered species …

… Smit's experts and equipment are now in place near the stricken ship, and are ready to begin extracting the oil. The process involves drilling holes at the highest and lowest points of the tanks and fitting valves to them.

Seawater exerts pressure from the bottom, forcing the oil up and and out of the top valve. The sticky oil is encouraged to flow by using heat from a steam generator on a nearby barge.

The process could take two to four weeks. The big risk in the meantime would be if the vessel began breaking up. *BBC News* Read more

Storms threaten to shift marooned cruise liner and release oil spill into a wildlife haven

January 21 - Teetering on a narrow rock shelf, its tanks filled to the brim with thousands of tonnes of fuel, the marooned cruise ship Costa Concordia has been described by an environmental expert as "a bomb ready to go off in the most protected natural area in the Mediterranean". With predicted rough weather threatening to send the 114,000-tonne vessel plummeting from shallows off the island of Giglio into 70-metre depths, fears are growing that 2,400 tonnes of fuel could be released into the crystal-clear waters, home to whales, dolphins, turtles and dozens of rare plant species. *The Guardian* *Read more*

Italian authorities face the acute moral quandary of when to abandon the search and rescue effort and allow a Dutch salvage firm, Smit, to begin extracting the fuel.

January 22 - The new head of the operation, who was given an over-arching

coordinating role after the Italian cabinet on Friday declared the capsized ship a state of emergency, has asked experts to determine whether it might be possible to carry out the search operation and the fuel removal at the same time.

A scientific and technical committee is expected to give an answer to Franco Gabrielli, the head of the Civil Protection Authority, on Sunday evening. *The Telegraph* *Read more* *Euronews:* "Decision on Costa Concordia salvage operation imminent"

COLOMBIA: SABOTAGE ON OIL PIPELINE

January 18 - A stretch of an oil pipeline was dynamited on Wednesday in a rural zone of the Colombian department of Norte de Santander, a bordering region with Venezuela, confirmed a source from the oil sector.

"We can not blame anyone yet, but we do know that it was sabotage, a bomb blast", the technical director of Petroleo del Norte Company, Renzo Coronado, told the press.

The specialist also stressed that the blast caused an oil spill, the magnitude of which has not been established yet, as action to assess the damages and repair the oil pipeline are being coordinated with security forces. *Prensa Latina* Read more
[Thanks to Don Johnston of ISCO Industry Partner, DG & Hazmat Group]

USA: RUSSIAN TANKER COMPLETES FUELTRANSFER TO ICED IN ALASKA CITY

January 19 - A massive effort to pump fuel from a Russian tanker to the iced-in Alaska city of Nome is complete, moving an estimated 1.3 million gallons into the city that faced a shortage after missing its last delivery.

Stacey Smith, manager of Vitus Marine LLC — the company that arranged for the tanker to deliver gas and diesel to the city — said the operation finished up Thursday morning.

The Russian tanker Renda began its journey from Russia in mid-December, picking up diesel fuel in South Korea before heading to Dutch Harbor, Alaska, where it took on unleaded gasoline. It arrived last week off Nome on Alaska's west coast, more than 500 miles from Anchorage.

A Coast Guard icebreaker cleared a path for the 370-foot tanker through hundreds of miles of a slow journey stalled by thick ice and strong ocean currents. In total, the tanker traveled an estimated 5,000 miles.

Two parallel hoses, 700 yards long each, stretched between the Renda and a pipeline that delivered the estimated 1.3 million gallons of fuel to storage tanks near the harbor of the iced-in city. *Fox News* Read more

USA: THE LATEST IN THE KEYSTONE XL PIPELINE SAGA

January 19 - On January 18, 2012, the Obama administration officially denied the TransCanada application for a Presidential Permit for a 1,700-mile-long pipeline, known as Keystone XL, which would bring approximately 800,000 barrels of oil per day from the Canadian oil sands to the U.S. Gulf Coast. The White House and Department of State press releases and statements make it clear that from their vantage point the decision to deny the permit was not based on the merits of the project but was forced on them by "the rushed and arbitrary deadline insisted on by Congressional Republicans," which "prevented a full assessment of the pipeline's impact, especially the health and safety of the American people, as well as our environment." Proponents of the project reject this line of reasoning citing the nearly three years of investigation into the environmental and economic consequences of the pipeline that preceded this decision.

In November 2011, coming into the final phases of the Presidential Permit process and ostensibly on the cusp of making a decision, the Obama administration extended its timeline for considering the permit application until 2013, when questions arose about the environmental integrity of the pipeline through the environmentally sensitive region of the Nebraska Sand Hills, causing the Nebraska state legislature and governor to insist on an alternative pipeline route. The Obama administration announcement to delay its decision was construed at least partially as politically motivated given the intense opposition to the pipeline from environmental groups. In response, congressional Republicans sought and passed legislative measures (then signed into law in December as part of the payroll tax cut extension) to force the administration to make a decision in 60 days' time, in an effort to move the pipeline project forward or risk the political backlash from pro-pipeline labor unions of denying the project.

Centre for Strategic and International Studies Read more Related Reports: *Las Vegas Sun* *The Wall Street Journal*

USA: EPA SEEKS EXPERTS TO REVIEW WYOMING POLLUTION STUDY

January 20 - The U.S. Environmental Protection Agency is seeking nominees for a peer review panel that will be asked to take a close look at an EPA draft report that theorizes a link between hydraulic fracturing and groundwater pollution in a Wyoming gas field.

A notice published in the Federal Register on Tuesday says the EPA is seeking panelists with technical experience in areas including petroleum engineering, hydrology, geology and chemistry. The panelists must also be impartial and not have any conflicts of interest.

Those interested may self-nominate. Nominations are due no later than Feb. 17.

Hydraulic fracturing, or fracking, is a method for breaking open rock deposits inside oil and gas wells. The EPA draft report released last month theorized that industry activity including fracking might have polluted groundwater in the Pavillion area.

Local residents for years have complained about their well water reeking of chemicals, although the report did not speculate that fracking polluted their well water. That part of the report focused on two wells drilled to test for groundwater pollution.

Environmentalists welcomed the report as confirmation of their long-held suspicions, while the petroleum industry, including Encana Corp., the major operator in the Pavillion gas field, has cast doubt on the EPA's methodology and preliminary conclusions.

Associated Press / K2 Radio Read more

NIGERIA: DUTCH ENVOY BLAMES OIL SPILLS ON WEAK REGULATORS

January 20 - Nigeria needs a very good regulator and an independent inspectorate to check the activities of oil companies like the environmental pollution by major oil companies like Royal Dutch Shell.

Dutch Ambassador to Nigeria Mr. Bert Ronhaar said this while fielding questions from journalist in Abuja while on a visit to the Director General (DG) and Chief Executive Officer (CEO) of the National Oil Spill Detection and Response Agency (NOSDRA) in Abuja.

He said NOSDRA as an agency needs to be strengthened and given more independence in carrying out its mandate so that it will not be at the mercy of oil companies whenever it needs to embark on any inspection tour. *AllAfrica.com* Read more

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ECUADOR: CHEVRON APPEALS ECUADOR POLLUTION JUDGMENT

January 22 - U.S. oil supermajor Chevron has appealed an $18 billion judgment in an Amazon pollution case in Ecuador, arguing that an appellate court based its ruling on "fraudulent" evidence.

The company filed the appeal on Friday's deadline with the Provincial Court of Sucumbios, in northeastern Ecuador, and that tribunal now has three days to evaluate its merits and decide whether to send the case to Ecuador's highest court, said a Chevron official who requested anonymity. *Latin American Herald Tribune* Read more

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NEW ZEALAND: CONTAINER REMOVAL CONTINUES ON RENA

January 22 - The crane ship Smit Borneo was today working alongside the bow of the stricken vessel, which remains wedged on the Astrolabe Reef where the ship grounded in October.

"They're continuing to work removing containers from the vessel, trying to make the most of the good weather conditions," a Maritime New Zealand spokeswoman said.

The relatively clam sea allowed salvors to make good progress on Friday, removing 19 containers from Rena's bow. *New Zealand Herald* Read more

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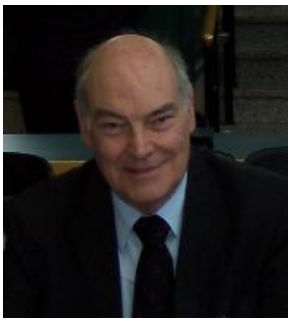
Cormack's Column



In this issue of the ISCO Newsletter we are printing No. 60 in a series of articles contributed by Dr Douglas Cormack.

Dr Douglas Cormack is an Honorary Member of ISCO. As the former Chief Scientist at the British Government's Marine Pollution Control Unit and head of the UK's first government agency, the Warren Spring Laboratory, Douglas is a well known and highly respected figure in the spill response community. He is the Chairman and a founder member of the International Spill Accreditation Association

KNOWLEDGE OF DISPERSANT USE (CHAPTER 60)

Using the ship borne apparatus described in article 59, it was shown that when the dispersant Corexit 9527 was premixed in the ratio of 1:20 with fuel oil blends in the viscosity range 40-4000mPa they were totally transferred from carpets to the water column within 10-30 minutes to produce average oil concentrations in the range 5 - 6ppm at 0.5 metre depth and 2.5ppm at 2metre depth. Again, when the premix ratios were set a 1:20, 1:40 and 1:100 with oil blends of viscosities 54, 1,950 and 13.0690mPa, it was found that all of these blends were dispersed at 1:20, while at 1:40 only the lowest viscosity blend was dispersed with little observed effect at either of the higher viscosities, and that at 1:100 even the lowest viscosity blend remained more or less unaffected. However, for dispersion at the premix ratio of 1:20 the fluorimeter results showed a spread in concentration of 1-10ppm at 1 metre depth and 0.1-2.0ppm at 3.00 metres.

In contrast, when oil blends were discharged as carpets prior to dispersant application in the standard manner (article 48), it was estimated that about 80% of a carpet of 0.2-0.4 mm thickness was transferred to the water column for a viscosity blend of 50mPa, almost irrespective of the above application ratios to produce oil concentrations of 3-5ppm at 1 m depth and 2ppm at 2m depth. In addition, when a carpet 1km long, 5m wide and 0.1 mm thick was sprayed by two passes of one of the Islander aircraft, the IR/UV imagery obtained (c.f. articles 63-68) showed a less well defined carpet and subsurface concentrations of 0.3-0.5ppm which is an order of magnitude less than for the above results while the layer thickness was less than that of the above by up to a factor of 4, there being correspondingly less oil to disperse per unit area.

Thus, it is clear that dispersants can disperse oils, though they are not so effective when applied post-release as they are when premixed; that ratios more dilute than 1:20 are unlikely to be effective in practice since the 1:40 ratio was only effective for the low oil viscosity of 54mPa with premixing; that the premixing at the ratio of 1:20 is effective up to viscosities of at least 13,000mPa; that existing spraying techniques are operational from both ships and aircraft; that ship spraying onto slick thicknesses of 0.2-0.4mm appeared to be more effective than aircraft spraying onto a thickness of 0.1mm. As to agitation energy requirements, it should be noted that for the above ship and aircraft spraying investigations wind speeds were 6.5 -7.5 m/s and 11 m/s respectively which may account for some of the observed difference in overall efficiency. On the other hand, this difference could be due to dispersant droplets passing through the thinner slicks without contributing to dispersion, thus pointing again to the possibility of gaining greater efficiency by spraying thicker layers closer to source by aircraft which could be on scene quicker than ships and more capable of observing the overall task from their variable altitude. Further to this question of layer thickness, WSL has also shown that stranded water-in-oil emulsions up to 4-6mm in layer thickness have been dispersed by application of dispersants at the ratio of 1 : 20, prior to subsequent agitation by incoming surf. It should be noted for future reference, that this shoreline technique might be considered more akin to premixing than to post-release application to slicks floating on water, in that dispersants may penetrate stranded pollutants in the interval between application and surf arrival.

Recognition that dispersants cannot deal with high viscosity oil-in-water emulsions prompted investigation into the possibility of breaking these emulsions by demulsifier application. However, it will be recalled that emulsion breakers tend to be emulsion-specific and are usually pressure-injected into online static mixers in a manner quite inapplicable to demulsifier or dispersant addition to free-floating water-in-oil emulsions. Again, even though demulsifiers have been shown to prevent emulsion formation, it is hardly to be supposed that they would be applied to oil slicks prior to emulsification when it is difficult enough to apply dispersants in this way. Yet again, with demulsifier : emulsion ratios being orders of magnitude less than are dispersant : oil ratios, it is difficult to see how uniform distribution of demulsifiers over the surface of slicks in the manner achieved by dispersant carriers and control of droplet size. No doubt advances in demulsifier formulation would be useful in the processing of mechanically recovered emulsions, but it is difficult to see how it could compensate for current deficiencies in dispersant formulations which themselves could be diminished were attempts to do so not precluded by current environmentalist belief in species-extinction/ecological disaster.

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

OIL SPILL REMOTE SENSING: CHAPTER 2

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

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

This is the second of a series of articles which will go into the remote sensing of oil spills. This series will cover oil spill remote sensing step by step and will present the latest in knowledge on the topic.

Introduction

Large spills of oil and related petroleum products in the marine environment may have substantial environmental impacts. Remote sensing plays an increasingly important role in oil spill response efforts. Public and media scrutiny is usually intense following a spill, with demands that the location and extent of the oil spill be accurately determined. Through the use of modern remote sensing instrumentation, oil can be monitored on the open ocean on a 24-hour basis.[1] With a knowledge of slick locations, response personnel can more effectively plan countermeasures. A strong role for remote sensing has been the detection of illegal discharges, especially in view of the large seabird mortality associated with such discharges.[2]

The operational use of remote sensing equipment lags behind the technology, Even though sensor design and electronics are becoming increasingly sophisticated and much less expensive. The most common forms of oil spill surveillance and mapping are still sometimes carried out with simple still or video photography. Remote sensing from aircraft is still a common form of oil spill tracking. Remote sensing from satellites using radar sensors is now an increasingly-common technique. Attempts to use visual satellite remote sensing for oil spills are increasing, although success is generally limited to identifying features at sites where known oil spills have occurred or for mapping known discharges or known spills.

It is important to divide the uses of remote sensing into the end use or objective, as the utility of the sensor is best defined that way. Oil spill remote sensing systems used for routine surveillance certainly differ from those used to detect oil on shorelines or land. One tool does not serve for all functions. For a given function, many types of systems may, in fact, be needed. Further it is necessary to consider the end use of the data. The end use of the data, be it location of the spill, enforcement or support to cleanup, may also dictate the resolution or character of the data needed.

There are several broad uses of remote sensing:

1. Enforcement of ship discharge laws,
2. Surveillance and general slick detection,
3. Provision of evidence for prosecution,
4. Mapping of spills for various reasons,
5. Direction of oil spill countermeasures, and
6. Determination of slick trajectories.

There are several generic problems in oil spill remote sensing including:

1. There are no cheap, commercial off-the-shelf sensors that provide ready, remote sensing capability for oil,
2. Thickness information is not present in sensors currently used nor is useful information available in the visible. Only very thin slicks show a few visible indications of oil, but this is not useful,
3. Many of the sensors and senor outputs require extensive processing to make the data useful for the many purposes or use described above, and
4. All of the highly-useful sensors require extensive aircraft modifications which are both costly and time-consuming.

Several general reviews of oil spill remote sensing have been published.[3] These reviews show that there is progress in oil spill remote sensing, however that progress is not necessarily moving at the speed that technology itself moves. These reviews show that specialized sensors offer advantages compared to off-the-shelf sensors.

References

1 Robbe, N., and T. Hengstermann, Remote Sensing of Marine Oil Spills from Airborne Platforms Using Multi-sensor Systems, *Water Pollution VIII: Modelling, Monitoring and Management*, 347, 2006

2 Serra-Sogas, N., P. D. O'Hara, R. Canessa, P. Keller, and R. Pelot, Visualization of Spatial Patterns and Temporal Trends for Aerial Surveillance of Illegal Oil Discharges in Western Canadian Marine Waters, *Mar. Pollut. Bull.*, 815, 2008

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

Technology

HYPERSOLAR'S GREEN GAS "MAKES FRACKING OBSOLETE"

The California company HyperSolar is developing a way to produce renewable hydrogen and natural gas from wastewater using solar energy, and that could spell trouble for the fracking industry. In contrast to fracking, a method of natural gas drilling that can put communities and agricultural areas at risk for water contamination, HyperSolar's new technology would do the reverse: it could provide communities with a financial offset to improve wastewater treatment operations that clean up polluted lands, and enable future growth without increased pollution. As a special bonus feature, the whole system is pretty much guaranteed to be earthquake-free.

From Wastewater to Renewable Gas

CleanTechnica covered HyperSolar late last year, when the company announced it was seeking a patent for a system that uses solar energy to produce hydrogen and methane gas from water. In its latest move, the company is one-upping itself by applying the system to wastewater rather than using pure water as a feedstock. HyperSolar has teamed up with Suncentrix to perform a feasibility study for using its renewable technology at California's Salton Sea. The state's largest lake, Salton Sea has become degraded with agricultural runoff, and its nutrient-rich waters would actually enable HyperSolar's system to generate more renewable energy. From *CleanTechnica.com* Read the complete article

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RADIOACTIVE SOIL, CROPS, VEGETATION DECONTAMINATION

Power Plus Cleaning Solutions has announced the development of the "PowerPlus DCU Earth Decontamination Machine" said to be able to clean tons of contaminated soil per day. It is controlled by computer and tracks every inch of soil using meters and specially designed software that will speed up processing or slow it down as needed. It automatically sends soil back to the beginning of the line to be re-cleaned if needed. A "cleanliness certification" backed by third party inspectors is also offered as a guarantee that the work was done correctly.

Kevin Wang of Power Plus states "Along with that PowerPlus DCU also showed decontamination results that were taken from actual radiated fields and surfaces within Fukushima Japan. The numbers were quite impressive and proved that the system can actually remove radioactive contaminates from any surface instead of destroying those surfaces to be contained elsewhere. Containment is potentially a very dangerous solution as the containment units themselves break down and eventually will crack to expose the soil and eventually drinking water to radiation once more".

"Power washing is not what PowerPlus DCU does. It's specifically designed tools incorporate years of technologies and solutions that give them a unique approach. They are enhanced tools with specific modifications that allow them to achieve in-field and in-lab results as high as 95% decontamination. Along with that they show a promise of a no-legacy-waste solution which protects the environment and stops the senseless destruction of land that does not need to be destroyed".

"New chemicals have also been developed to enhance the productivity of these technologies. Rad-Cap, Rad-Out, and Refresh are specifically formulated to the specific isotopes that have to be addressed in nuclear contamination clean up. The chemical blends have also been proven in both lab and field work in Japan". More info or contact Henri Brownell at henrib@powerplusonline.com

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DISTILLERY SLUDGE USED TO TREAT RADIOACTIVE SITES

According to a new study, contaminated sites can be treated with sludge from the treatment of distillery wastewater in bioreactors.

The study demonstrates an efficient method for decontamination of groundwater based on bacteria in sludge that naturally convert uranium into an insoluble form that can be more easily removed. Uranium is radioactive and toxic to animals and humans, accumulating in and causing damage to the kidneys. In the US, the safe limit or maximum contaminant level (MCL) for uranium in drinking water, established by the Environmental Protection Agency, is 0.30µg/L.

Different regulations for uranium in drinking and bottled water exist across the EU. The European Food Safety Authority concluded in a 2009 study that most people in Europe would never be exposed to anything approaching the World Health Organization's Tolerable Daily Intake of 0.6µg per kilogram of body weight.

However, where there is a high concentration of uranium in drinking water, the limit may be exceeded locally. Contamination of groundwater near to mine tailing sites is one such case.

Bioremediation options for groundwater contaminated with uranium include applying bacteria that can transform uranium from a

Technology (continued)

soluble to an insoluble form. It is then possible to extract the uranium as a black solid. The researchers used bacteria in sludge from a wastewater treatment bioreactor for a sugar beet distillery in the Netherlands. Unlike previous studies, they used the raw sludge rather than a concentrated solution of bacteria, and mixed it into sand. From *Environment Expert.com* Read more

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NEW TRUCK MOUNTED STATIC GROUND VERIFICATION SYSTEM IMPROVES SAFETY IN HAZARDOUS AREA MAINTENANCE AND SPILL CONTROL OPERATIONS.

An innovative new truck mounted Static Ground Verification System – the Earth-Rite® MGV from Newson Gale - enhances safety during transfer of flammable or combustible materials. In cleaning, maintenance or spill control operations in the petrochemical industry, vacuum trucks are often used to collect waste or contaminated products for disposal. With the operation taking place in a hazardous area, the need to control all types of ignition sources is absolutely paramount however the vacuum transfer process of potentially low conductivity liquids or highly resistive loose solids can generate large amounts of static electricity, meaning that all equipment, including the truck should be properly bonded to a verified earth point (ground).

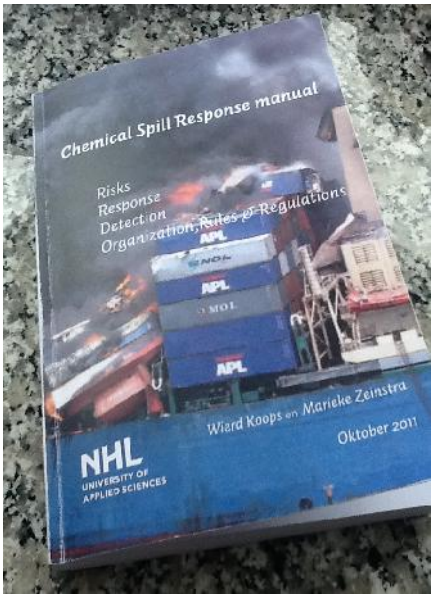
API and NFPA guidelines recommend that such bonding connections are tested to verify an adequately low resistance to earth/ground prior to starting up the recover/transfer process, however until now the equipment required to do this required specialist training and may not always have been suitable for safe use within the hazardous atmosphere. Furthermore, long delays and downtime can sometimes be experienced while waiting for a qualified electrician to sign off that the truck is properly bonded and grounded before the operation commences.

The new truck mounted Earth-Rite® MGV (patent pending) derives its power source from the vehicle battery, and uses certified Intrinsically Safe monitoring techniques to verify not only a good bond to a valid ground point, but more importantly confirmation that the ground point to which it is attached represents a satisfactorily low resistance to true earth. The unit is simple to install and operate and provides confirmation of positive bonding and grounding to the operator by way of a bright flashing green LED cluster.

With acknowledgement to the *JOIFF Catalyst Newsletter*. Read the complete article in the January 2012 *Catalyst*

Publications

CHEMICAL SPILL RESPONSE MANUAL IS NOW AVAILABLE TO THE WORLD



The Chemical Spill Response manual that was presented on Wednesday 26th October 2011 at the NHL University of Applied Sciences (The Netherlands) and announced in the ISCO Newsletter of 31 October 2011 is now accessible on the Wiki website at http://www.wkoops.nl

Not only is the manual available on-line but it is also interactive, allowing logged-in users to make additions and changes as well as make use of dynamic formulae by changing the values of variables and being able to immediately see the effects on the result.

The research was made possible by RAAK, an innovation project assisted by Syntens. Its aim is to link business with sources for research and knowledge and experience.

Authors of the manual Dr. Wierd Koops and project engineer Marieke Zeinstra have prepared the manual over the last two years with the help of various Dutch private companies and NGO organizations.

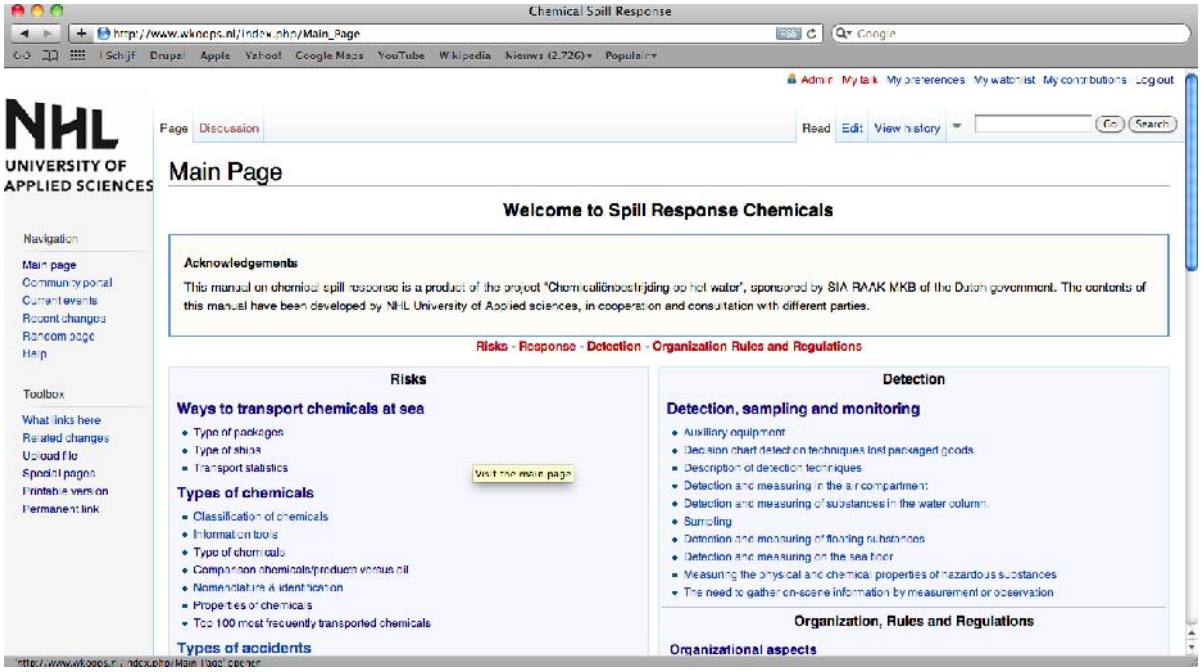
The research group; Maritime, Marine, Environmental and Safety Management (MMES) has conducted studies on risks, response, detection and organizational aspects regarding chemical spills.

Publications (continued)

Above: the joint authors Dr Weird Koops (left) and project engineer Marieke Zeinstra

The advantage of the Wiki format is that additions and changes can continuously be made. Viewing the information can be done by anyone, but in order to add or change information, a user is required to log in. We do, however, invite everyone to add or change information as they find necessary. In order to obtain a personal log-in, contact: MMES@nhl.nl

The wiki website (http://www.wkoops.nl) has been setup in four parts: (1) Risk, (2) Response, (3) Detection and (4) Organization, Rules & Regulations.



You can click on the links below to view manual content

(1) Risk

Ways to transport chemicals at sea

- Type of packages
- Type of ships
- Transport statistics

Types of chemicals

- Classification of chemicals
- Information tools
- Type of chemicals
- Comparison chemicals/products versus oil
- Nomenclature & identification
- Properties of chemicals
- Top 100 most frequently transported chemicals

Risk (continued)

- Sinkers
- SEBC

Hazards of substances released in the aquatic environment

- Hazard Assessment
- Hazards to human beings
- Hazards to the marine environment
- Relevance of the SEBC for hazard classification
- Toxicity

Types of accidents

- Case histories
- Distress scenarios

Publications (continued)

Risk (continued)

- Spill scenario's
- Statistics

Behaviour of substances released into the aquatic environment

- Calculated prediction of the behaviour of spilled substances
- Dissolvers
- Floaters
- Gases/evaporators
- Lost packages

(2) Response

Response options

- Chemical releases
- Lost packaged goods
- Response to ships in distress

Maritime assistance services

- Classification of Salvage
- Services
- Financial aspects of salvage

Personal Protection

- Description of personal protective (non-respiratory equipment)
- Description of respiratory equipment
- Fire fighting
- Introduction
- General
- Personal protection equipment: air compartment
- Protection in Water Compartment
- Summary

(3) Detection

Detection, sampling and monitoring

- Auxiliary equipment
- Decision chart detection techniques lost packaged goods
- Description of detection techniques
- Detection and measuring in the air compartment
- Detection and measuring of substances in the water column.
- Sampling
- Detection and measuring of floating substances
- Detection and measuring on the sea floor
- Measuring the physical and chemical properties of hazardous substances
- The need to gather on-scene information by measurement or observation

(4) Organization rules and regulations

Organizational aspects

- Barcelona Convention
- Bonn Agreement
- Coastal states
- Contingency planning
- European Maritime Safety Agency (EMSA)
- International Maritime Organization (IMO)
- On board ships
- Regional Seas programmes
- The Helsinki Commission (Helcom)

Regulations, Liability and Other Legal Aspects

- Conventions, international protocols and codes
- Liability and compensation

Rules and Regulations Regarding Response Vessels

- Chemical response vessels
- Vessels in chemical spill response
- Final remarks

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Events

USA: SHALE ENVIROSAFE CONFERENCE AND EXHIBITION

The producers of the CLEAN GULF Conference & Exhibition are launching the inaugural Shale EnviroSafe Conference and Exhibition at the New Orleans Ernest N. Morial Convention Center in New Orleans, LA. Taking place November 14-15, 2012, Shale EnviroSafe will focus exclusively on the environmental, safety and health challenges faced by the oil & gas community at shale plays around the country.

As drilling technology advances, shale development and exploration will continue to increase throughout the U.S., yet the issues specific to the environment and safety concerns are still unfolding on both a State and Federal level. This is creating an urgent need for companies operating at the shale plays to focus on related issues including water treatment, air quality, worker safety, chemical use, and new regulations. Shale EnviroSafe serves as an industry friendly forum by bringing together the entire shale drilling & development community including operating companies, state & federal regulators, service companies, pipeline & storage companies, academia, and law firms to discuss shale environmental, health & safety challenges /opportunities and explore viable solutions.

"There is a vital need in the shale drilling & development community for an event where professionals can discuss environmental, safety and health issues related to hydraulic fracturing and collaborate with others on how to proactively identify solutions where needed," said Laura Couvillon, Show Director for Shale EnviroSafe. "We are utilizing the expertise and relationships we have built with the CLEAN GULF community over the past 20 years to bring together subject matter experts and service providers to

Events (continued)

collaborate with the shale community on the challenges they are facing – pending regulations, groundwater treatment, wastewater disposal and air quality control – to name a few." More info

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USA: THE SIXTH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SCIENCE AND TECHNOLOGY

June 25-29, 2012 Hilton Hotel, Houston, Texas, USA - The objective of the Sixth International Conference on Environmental Science and Technology will be to provide a major interdisciplinary forum for presenting new approaches from relevant areas of environmental science and engineering, to foster integration of the latest developments in scientific research into engineering applications, and to facilitate technology transfer from well-tested ideas into practical products, waste management, remedial processes, and ecosystem restoration. Reports on renewable energy research are especially desired. Environmental humanity and sociality such as environmental ethics, environmental law, environmental economy and environmental management are also included in the scope of the conference. Researchers, engineers, site managers, regulatory agents, decision-making officials, consultants, and vendors will all benefit from the opportunity to exchange information on recent research trends, to examine ongoing research programs, and to investigate world-wide public and regulatory acceptance of environmental protection and remediation technologies. More info

Training

TWO TRAINING COURSES FROM THE OSHA OUTREACH TRAINING PROGRAM

Disaster Site Worker Procedures More info

Maritime Industry Procedures More info

See also the OSHA Website [Thanks to ISCO Executive Committee Member, Marc K. Shaye, for providing this advice]

"HYDROGEN SULFIDE" DVD UPDATE NOW AVAILABLE

Characterized by it's "rotten egg" odor, hydrogen sulfide is a toxic gas that is encountered in petroleum and other drilling operations, and in any endeavor that takes workers under ground. It is also manufactured for use in industrial processes. Exposure to hydrogen sulfide can quickly paralyze the respiratory system, leading to respiratory failure and death.

The package from the Emergency Film Group includes a 30-minute DVD plus an Instructor CD-Rom with Powerpoints, post seminar quiz and other resources to help present a training session. More info

ISCO ANNOUNCEMENTS

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