



A HAPPY NEW YEAR TO ALL OUR READERS



AMAZON POPCORN SPILL.....THE REST OF THE STORY

Clean Caribbean & Americas (CCA), along with its Member partner Petrobras, recently concluded MOBEX Amazônia 2010 in Manaus, Brazil which was the 7th International Mobilization and Preparedness Exercise (MOBEX). The objective of MOBEX is to demonstrate CCA's capability to respond in the region and to work with governments and industry to exercise transferring equipment and personnel across borders and to integrate with a local response system. MOBEX exercises include a conference & technical seminar, simulation exercise, equipment mobilization and deployment, government-industry exchange, and recently, the IOSC Workshop. During this past technical seminar, presentations on subjects such as Environmental Sensitivity Mapping, Risk Assessment and Net Environmental Benefit Analysis, Dispersant Use Decision-making, Strategies of In-Situ Burning, Oiled Wildlife Response, and the use of Incident Command System were given. Since 1985, MOBEX events have been held tri-annually in various locations including the Bahamas, St. Kitts, Bermuda, Santo Domingo, Martinique, Panama.



With over 200 representatives of government and the oil industry in attendance, this was the largest MOBEX to date and representing 22 countries. With coordination from our Brazilian partners including the Navy, Receita Federal (customs), Polícia Federal (immigration), IBAMA (Brazilian Institute of Environment and Renewable Natural Resources), and Petrobras, CCA equipment and personnel were able to integrate into a sophisticated oil spill contingency plan and tabletop exercise.

CCA equipment was flown to Manaus, Brazil on a DC10 out of Miami International Airport. Several types of equipment were mobilized from CCA including a large capacity Rapid Deployment Skimming System, a Vessel-of-Opportunity advancing brush skimmer, dispersant application systems, and boom vanes just to name a few.

To support the conference and field deployment, CCA deployed Technical Advisors and Response Specialists to Manaus. The team integrated with Petrobras' CDA technicians (Centros de Defesa Ambiental) and worked alongside them during the equipment deployment in the Rio Negro, one of the main tributaries of the Amazon River.



Clean Caribbean and Americas is an International Tier 3 Response Center covering the Caribbean and the Americas. For more information on MOBEX Amazônia 2010 and Clean Caribbean & Americas, please visit www.CleanCaribbean.org

[Thanks to Erik DeMicco of Clean Caribbean & Americas for sending in this report. Editor's Note - The mention of popcorn refers to the story that appeared in issue 262 of the ISCO Newsletter and described the use of popcorn to simulate spilled oil during this exercise]

A SECRET JOURNEY TO TAKE SERBIAN NUCLEAR FUEL TO SAFETY

A shipment of nuclear fuel has arrived in Russia after a top-secret international operation to remove it from Serbia, where it was feared terrorists could seize it to make a nuclear or dirty bomb.

In the dead of night, armed men in balaclavas surround a long convoy of trucks in the woods just outside Belgrade. Radios crackle as they prepare for a long journey. Their mission is to escort a dangerous cargo, the

kind terrorists would dearly like to get their hands on.

Inside blue, bomb-proof, fire-proof containers on the trucks are 2.5 tons of radioactive material, including 13kg of highly enriched uranium that could be used for a nuclear weapon. This is the largest shipment of its type ever made, and will clear Serbia of all its civilian highly enriched uranium.

Just before two in the morning, the president of Serbia, Boris Tadic, sweeps in. "We have significant security here," he tells me. "This is extremely important." Two hours earlier I had been taken into the decommissioned reactor building where the Soviet-origin nuclear material had been stored.

During the Cold War, the US and Soviet Union both provided countries with reactors to carry out research. Some, like that here in Vinca, ran on highly enriched uranium which came from the USSR. Most of Vinca's highly enriched uranium was removed in 2002, but the remaining enriched uranium and large amounts of spent fuel were still kept here, in often poor conditions.

Yellow tape seals off corridors and wires hang loose. Security has been improved in recent years with new access controls and CCTV cameras, but this site was still top of the global worry list. Around the world there is a race to secure vulnerable material before terrorists can get their hands on it.

At 0200, the long, snaking convoy heads out of the gate. About 3,000 Serbian police have been drafted in for the operation. The roads have been cleared of traffic and police line the route.

With a helicopter buzzing overhead, the convoy heads north toward Subotica near the Hungarian border. It arrives at dawn and the containers are unloaded on to a train at a depot outside the town.

The next morning the train, with a few officials in a special carriage, heads over the border into Hungary where the security guards are changed.

Restrictions meant the material could not be flown and transporting it by land directly proved impossible because some countries did not want it to cross their borders. Negotiating the route and gaining permission for the material to pass through countries that would accept it took five years of planning, and close co-operation between US, Russian officials and International Atomic Energy (IAEA) officials.

The Vinca fuel rods are considered particularly dangerous because of their handy size (about 15cm/6in long) and the fact that their radioactivity has lessened, making them easier to handle. This makes them ideal for a so-called dirty bomb.

"You can put it in your hand. You can wrap a stick of dynamite around it and you can put it in your backpack or purse," explains John Kelly of the IAEA. "And you can create a disaster in just about any city."

The train pulls into the Slovenian port of Koper at dawn the next day. Heavy rain falls as the containers are loaded on to a ship. There will be no armed guards on board, but special security precautions are being taken, according to Sergey Naletov of the Aspol Baltic shipping line. "There is special equipment installed on board the vessel to trace its location," he explains as we are shown round the ship.

Once it departs, a US official shows me how he can monitor its exact position using software on his phone.

Officials also hint that special measures are taken to track the boat in international waters, but are unwilling to say exactly what these are. The ship travels through the Mediterranean, past Gibraltar and through the English Channel on its way to the Russian Arctic port of Murmansk. In all, the containers will have made a journey of close to 11,300km (7,000 miles) taking over a month.

In Murmansk, the material is unloaded on to a train to be taken on the final stage of its journey to the Mayak reprocessing facility in the Urals.

Read more and see Video available at: <http://www.bbc.co.uk/news/world-europe-12049784> [Thanks to ADR Training UK for passing on this story]

MEXICO, DECEMBER 20 2010. DEADLY BLAST ON MEXICAN OIL PIPELINE



At least 28 people have been killed and many others injured in an oil pipeline explosion in central Mexico, officials say. The blast in a town in Puebla State was apparently caused by thieves attempting to steal fuel from the pipeline.

Oil gushed through the streets and caught fire, destroying homes and cars and forcing hundreds of people to flee.

Mexican President Felipe Calderon has visited the scene and promised to launch an investigation.

Puebla State Secretary Valentin Meneses said the explosion injured 52 people as well as destroying 32 houses and damaging scores more in San Martin Texmelucan - a small community about 80km (50 miles) east of Mexico City.

He said that according to early indications, a criminal gang had punctured the pipeline. "They lost control because of the high pressure with which the fuel exits the pipeline. The streets began to flood, then came a spark and we saw rivers of fire in the streets," he said. Read more and view video at <http://www.bbc.co.uk/news/world-latin-america-12034038> [Thanks to Don Johnston of ISCO Associate Member, DG & Hazmat Group for providing the link to this BBC report. Editor's Note – This incident underlines the importance of addressing possibilities of oil theft and vandalism in the context of spill prevention and response contingency planning]

LEBANON, BEIRUT, DECEMBER 23 2010. ARABS PLEDGE TO HELP LEBANON CONTINUE CLEAN-UP OF 2006 OIL SLICK

Arab environment ministers have made pledges to help Lebanon pursue the clean-up of the oil spill that resulted from Israel's bombing of the Jiyeh power plant during the 2006 summer war, Environment Minister Mohammad Rahhal said Wednesday. "Arab ministers will inject money into an Arab fund set up to help Lebanon clean the oil spill," the minister told The Daily Star upon his return from the 22nd meeting of Arab Environment Ministers held at the headquarters of the Arab League in Cairo.

This week, the UN held Israel directly responsible for the catastrophic oil spill off the Lebanese coast and called on Israel to compensate Lebanon.

Rahhal explained that the Arab contribution would be used to ship the waste resulting from the clean-up outside of Lebanon for incineration. He said that Arab countries were expected to make a contribution of no less than \$5 million, adding that the cleaning of the oil slick was "almost complete."

The environment minister said waste collected from the clean-up of the oil spill was temporarily being stored in secure containers in the coastal towns of Deir Ammar and Zahrani, awaiting shipment abroad. "Unfortunately," he said, "Lebanon does not possess techniques for the disposal of [oil-polluted] water."

The waste will be sent outside Lebanon, mainly to countries in western Europe, for incineration. Following incineration, the remains will be converted into usable fuel.

Roughly 30,000 tons of oil leaked into the Mediterranean Sea when Israel, on July 14, 2006, bombed storage tanks of Jiyeh's thermal power station, resulting in a 10-kilometer-wide oil slick which covered 170 kilometers of the Lebanese coastline. The spill led to the death of marine fauna and flora and threatened the habitat of endangered green sea turtles.

The World Bank had estimated the economic costs of the 2006 oil spill at around \$203 million. Read more: http://www.dailystar.com.lb/article.asp?edition_id=1&categ_id=2&article_id=122833#ixzz19ggiMF44 [Thanks to Don Johnston of ISCO Associate Member, DG & Hazmat Group for passing on the link to this news report]

PRODUCTS & SERVICES

VIDEOTEL TRAINING SERIES ADDRESSES RISKS POSED BY DANGEROUS BULK CARGOES

Dangerous solid bulk cargoes which have the potential to sink a ship are the focus of both new legislation and a new training package from leading maritime training expert Videotel.

On January 1st 2011 the International Maritime Solid Bulk Cargoes Code – the IMSBC Code - officially comes in force. The IMSBC Code is mandatory under the provisions of the SOLAS Convention and supersedes the Code of Safe Working Practice for Bulk Cargoes (BC Code). The Code details how to handle some 150 different types of cargo and to assess their suitability for carriage. It also presents additional information including the Code of Safe Working Practice for the Loading and Unloading of Bulk Carriers (BLU Code) and makes recommendations on the safe use of pesticides in ships, applicable to the fumigation of cargo holds.

Many solid bulk cargoes have serious risks associated with them that can affect ship stability, cause structural damage or pose health hazards to those on board. Videotel's Dangerous & Difficult Cargoes series addresses this potentially life - threatening issue. Part 1 – Dangerous & Difficult Bulk Cargoes: Best Practice & the IMSBC Code — has already been released, while Dangerous & Difficult Bulk Cargoes Part 2 — Minerals & Man Made Derivatives will be released this spring.

The first program details the IMSBC code, outlines best practices and highlights the group system used to identify cargoes: (Group A —cargo that may liquefy and therefore cause stability issues; Group B — cargo that may chemically change to cause explosion or toxic gas; Group C— cargoes not liable to liquefy or cause chemical hazard). Dangerous & Difficult Bulk Cargoes Part 2 outlines the catastrophic failures which can occur to the structural soundness of even the largest bulk carriers when corrosive chemical reactions take place in hazardous cargoes and identifies effective risk - management strategies. Read more: <http://www.maritime-executive.com/article/videotel-training-series-addresses-risks-posed-dangerous-bulk-cargoes/>

EVENTS

For more comprehensive information on upcoming events & training courses click [HERE](#) and select "Events"

USA: CONFERENCE TO DISCUSS GREAT LAKES PREPAREDNESS, PROTECTION

January 10-12, Traverse City, Michigan - The conference will provide updates on spill technologies, mitigation, planning, preparedness, response and recovery. On the agenda will be presentations covering topics of interest to professionals and concerned citizens alike. Attendees may register for all sessions, or purchase a day pass for the date that topics of special interest will be presented. The keynote address will be presented by U.S. Coast Guard Captain McGuiness and Larry Trigatti of the Canadian Coast Guard. More info: http://www.morningstarpublishing.com/articles/2010/12/27/grand_traverse_insider/news/grand_traverse_area/doc4d18fda5e5237380881768.txt and <http://www.no-spills.org/>

DUBAI, UAE: OFFSHORE ARABIA 2011 CONFERENCE & EXHIBITION

28-30 March, 2011 - This prestigious international energy and environment Conference & Exhibition is to be held under the patronage of HH Sheikh Mohammed bin Rashid AL Maktoum Vice President & Prime Minister of the UAE and Ruler of Dubai. In keeping with the theme, "Global Partners for Energy and Environment – "from Crises to Sustainability" we have invited experts in the relevant fields to be our speakers for the Visionary Sessions and Keynote Addresses. For more info go to: <http://www.offshorearabia.ae/index.php>

CANADA: INTERNATIONAL CONFERENCE ON ENVIRONMENTAL POLLUTION AND REMEDIATION

The International Academy of Science, Engineering and Technology (a trade name for International ASET) and the University of Ottawa are pleased to organize the International Conference on Environmental Pollution and Remediation. Environmental pollution is considered the most important threat to human being and other creature lives. Every day at different places, thousands of various types of pollutants and chemicals from different sources are exposed to the environment. These sources include industries, vehicles, and even human activities like cooking. Pollutants affect different environmental resources such as air, water, soil, and generate serious danger to the ecosystem. These encountered problems require immediate scientific attention to find appropriate and cost effective solutions.

This conference will provide a golden opportunity to develop new collaborations and gather world experts on the different topics including pollution detection, environmental remediation, and pollution prevention. The ICEPR'11 program will include invited keynote talks, oral presentation sessions, and poster sessions. More info: <http://www.international-aset.com/ICEPR2011/CallForPapers.pdf>

PUBLICATIONS

IMO: IMDG CODE 2010 EDITION AVAILABLE IN ELECTRONIC FORMAT

For the first time, IMO has introduced the IMDG Code and its Supplement in the format of a download, namely the Electronic IMDG Code for Windows for download, 2010.

The Code as amended by Amendment 35-10 is mandatory as from 1 January 2012 but may be applied by Administrations in whole or in part on a voluntary basis from 1 January 2011.

For more information about the IMDG Code publications look at the December 2010 IMO Publishing Newsletter at: <http://www.imo.org/Publications/Pages/NewslettersMails.aspx>

USA EPA: TECHNOLOGY NEWS AND TRENDS

The December 2010 issue of *Technology News and Trends* has been posted to the CLU-IN web site. This issue highlights...

- [EPA Studies Efficacy of Potassium Permanganate ISCO in Fractured Bedrock](#)
- [U.S. Navy Demonstrates Thermal Conductive Heating for DNAPL Removal in Fractured Rock](#)
- [USACE Integrates Fracturing and Iron/Carbon Injections at Colorado Site](#)

This issue is available at: <http://www.clu-in.org/products/newsletters/tnandt/>

THE HNS PROTOCOL

A paper by Dr. Rosalie P. Balkin, Director, Legal Affairs and External Relations Division, International Maritime Organization.

"The Protocol addresses the problems that are thought to be acting as barriers to ratification of the HNS Convention. Some of the problems stem from the sheer range and diversity of hazardous and noxious substances that will be governed by the Convention and the consequent difficulties in collecting data and reporting to IMO on receipts of HNS, as required by the Convention.

To give you some sense of the scale of the problem, there are thought to be between three and a half to five thousand different substances that might be covered at any one time. Contrast this situation with the IOPC Fund Convention, which covers only oil carried as cargo and where the receivers are, in the main, the petroleum companies. Read the complete text of Dr Balkin's paper at:

<http://www.imo.org/KnowledgeCentre/PapersAndArticlesByIMOSTaff/Documents/The%20HNS%20Protocol%20-%20R%20Balkin.pdf>

CORMACK'S COLUMN



In this issue of the ISCO Newsletter we are printing the seventh part of a paper 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.

HARMONISATION OF TECHNOLOGY AND MARINE ENVIRONMENT (PART SEVEN)

While volatile HNS and oil-components escape to the atmosphere with comparable ease, water-column dispersion of non-volatile HNS is generally easier than that of non-volatile oil-components, the former having lower viscosities and lacking the surfactants which produce emulsions of even higher viscosity-related dispersion-resistance with the latter. Thus, HNS with viscosities ≤ 100 cSt have dispersion half-lives similar to those of oil distillates such as kerosene and diesel, while soluble HNS dissolve at rates determined by their individual solubility and mass transfer coefficients. Again, just as evaporation of volatiles continues in the open-air until complete or until stopped by attainment of saturated vapour pressure in enclosed spaces (c.f. articles 5 and 6), solution of soluble HNS continues in sufficiently deep water until the layer thickness is totally dissolved or until a saturated solution is attained in the under-lying water. Thus, in the open sea, the total amount dissolved is proportional to the layer thickness which is inversely proportional to the area of floating HNS. Thus, whether HNS removal from water surfaces is by dispersion or solution from fully spread layers, the resulting concentrations are initially low and become vanishingly small as further dilution proceeds by diffusion and turbulence (c.f. article 2), while those dissolving without spreading would produce initially higher, but more localised concentrations prior to dilution by the ever-present diffusion and turbulence.

As to sunken HNS, dissolution and dispersion are subject to the same considerations, though the thickness and area of the sunken layer depends on the configuration of the under-lying seabed, while its persistence as a layer depends on localised surface : volume ratios. Thus, as with floating layers, the resulting concentrations of HNS in water are dependent on solution/dispersion rates from the exposed surface of the layer, while its greater thicknesses in the hollows of sea-, lake- and river-bed enable recovery rates to exceed those attainable with fully spread floating layers.

Further to the viscosity of HNS carried in bulk, the UK R&D programme of the 1970s could identify only fifteen dispersers with viscosities ≥ 5 cSt, the highest of which were mono-isopropanolamine (750 cSt), branched chain alkylbenzene sulphonate (600-700), di-isopropanolamine (200 at 45°C), and straight alkyl benzene sulphonate (80-100). Thus, recovery is impossible and dispersion is unnecessary with the majority of floating HNS which evaporate, dissolve or disperse rapidly. As to response problems specific to HNS, only twenty solidifiers were identified as remaining liquid or solidifying within the range of global sea-temperature or as remaining solid to higher temperatures, the latter being phthalic anhydride (131.6°C) chloro-acetic acid (63), di-isopropyl amine (44), hexa-methylenediamine (41) and phenol (40.9).

Again, it was concluded as of the 1970s that the quantities of packaged HNS which could enter the sea were much less than those from the integral cargo tanks of bulk shipment which in turn were less than from the bulk shipment of oil; and that while packages containerised on deck do enter the sea and may subsequently strand; the contents are not released unless the containment is damaged. Thus, as with oil releases, it behoves believers in species extinction/ecological disaster to reality-evaluate¹ their beliefs at the concentration-related toxicities of HNS as these are known to be presented to the environment in reality.

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.

EVENTS PAGES

As a public service, ISCO continues to publish international listings of Conferences, Exhibitions, Seminars, Workshops and other events at http://www.spillcontrol.org/Joomla/index.php?option=com_joomlabook&e_id=4

If you are an organiser and want to announce a forthcoming event, you can send details to the editor. Usually, we will publish the information in both the Newsletter and the Events Page listing.

The Events Pages also give information on Scheduled Training Courses – Response to Oil and Chemical Spills, and dealing with decontamination following on CBRN incidents. For example, you can find information on oil spill response courses at http://www.spillcontrol.org/Joomla/index.php?option=com_joomlabook&e_id=1

Here is a typical entry -

2011-06-06 to 2011-06-06

CANADA

Boat Handling – Recertification

In order to operate WCSS watercraft, WCSS requires all watercraft operators need to possess a valid WCSS Boat Handling certificate and the Transport Canada MED A3 or MED A4 certificate. To ensure that the WCSS boat operators remain competent, WCSS has created a new one-day Boat Handling - Recertification course. This recertification will be valid for three years. To pass, all students will be assessed on their practical abilities related to the safe operation and proper handling of WCSS watercraft and to deploy oil spill equipment to contain and recover oil spills on rivers or lakes. This field-based course is open to all personnel involved in operating watercraft at oil spills on water bodies.

Enform Nisku Training Campus.

More info :http://www.wcss.ab.ca/training/boatHandling_Recert.asp

Many training providers now routinely forward their training course calendars to ISCO in order to ensure listing of their courses. ISCO does not make a charge for providing this service.

Work on updating the Events Pages is continuing and event organisers are invited to submit entries. ISCO's Events Pages aims to be the best worldwide resource on the internet for finding information about forthcoming events.

ISCO's IT advisors continuously monitor the number of visitors using the ISCO website and have reported that the site has a high ranking in terms of hits received.

JOINING ISCO

If you're not yet a Member, make it your New Year Resolution to join now and become part of an organization that aims to raise worldwide preparedness and co-operation in response to oil and chemical spills, to promote technical development and professional competency, and to provide a focus for making the knowledge and experience of spill control professionals available to IMO, UNEP, EC and other organisations. ISCO has members in 35 countries and is the only international organization dedicated to representing the worldwide community of individuals, companies and other entities who have a professional interest in spill control.

To apply on line, click on -

http://www.spillcontrol.org/Joomla/index.php?option=com_content&task=view&id=21&Itemid=35

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