INTERNATIONAL SPILL CONTROL ORGANIZATION

ISCO NEWSLETTER

The Newsletter of the International Spill Response Community

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SEASON'S GREETINGS TO ALL OUR READERS

A TREASURE TROVE OF USEFUL INFORMATION FOR OIL SPILL RESPONDERS

If you haven't yet visited the site http://www.oilspillsolutions.org you are strongly recommended to do so now.

For more than 30 years the creator of this site has responded to some of the worlds largest oil spills from oil tankers, offshore platforms, pipelines onshore and offshore and carried out training courses and consultancy work for the oil industry and government agencies in over 50 countries. This experience has been applied in developing a comprehensive source of knowledge and practical experience that will be of benefit to all who work in oil spill response.

The creator of the site says "It has taken a few years to put the site together and it is an ongoing thing. My first thoughts were that when ever there was a spill there is so much misinformation for the public to access so a site with good reliable information and links to places where more reliable information can be found would help in getting the real story out there for them to read. There are many personal opinions and anecdotes in the sections to give it a human rather than a text book feel. It is also a useful tool to those within the oil spill community and those who are thinking of joining or have just joined".

The address of the site has been added to the LINKS page of the ISCO website and is also in the Technical & Reference Section at http://www.spillcontrol.org/Joomla/index.php?option=com_content&task=view&id=51&Itemid=72 The owner of the Oil Spill Solutions website invites ISCO Members and other readers of the ISCO Newsletter to join by registering on the site.

USA: SUPERFUND'S 30TH ANNIVERSARY: 30 YEARS OF PROTECTING COMMUNITIES AND THE ENVIRONMENT

Toxic spills. This train wreck near San Antonio, Texas, spilled 60 tons of poisonous chlorine liquid from the tank cars.

It's easy to forget that there was a time in the United States when EPA lacked the legal authority to clean up hazardous waste sites like Love Canal, New York, or to respond to emergencies such as train derailments involving dangerous chemicals. Even though the EPA had been established for ten years, it was not until December 11, 1980, that President Jimmy Carter signed into law the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund). This historic new statute gave EPA the authority to clean up uncontrolled hazardous waste sites and spills. (To view an interactive 30-year timeline of the Superfund program, click here.)

The Superfund law authorizes the Agency and its partners to address abandoned, accidentally spilled, and illegally dumped hazardous wastes that pose current or future threats to human health or the environment. Through the years EPA has used its Superfund authority to address national crises like the Columbia space shuttle disaster, and hurricanes Katrina and Rita, and most recently, the British Petroleum oil spill response.

Equally important, however, are the sites where EPA has used its long-term cleanup authority to remediate sites where the hazardous waste release did not occur through a sudden tragedy like the Columbia shuttle disaster or through natural causes like hurricanes, but, rather, through years of poor and sometimes illegal waste management practices. Some of these sites can involve hundreds of chemicals with tons of contaminated waste spanning hundreds of acres; often the contamination affects groundwater in addition to soil. Sometimes housing developments are in close proximity if not on the site itself. These can be highly complex sites, requiring years of cleanup activities. Nonetheless, EPA works with its partners to address these sites so that they can be returned to communities for productive use. Read the complete article at: http://www.epa.gov/superfund/30years/index.htm

AUSTRALIA: HAZARDOUS SUBSTANCES INFORMATION SYSTEM (HSIS) UPDATE

Safe Work Australia has updated the Hazardous Substances Information System (HSIS) online database to reflect changes in Europe's 31st Adaptation to Technical Progress to Directive 67/548/EEC. Note: the update does not include updated entries for nickel compounds as these classifications are currently under reconsideration and legal action in the European Union. A decision on the inclusion of these entries in HSIS will be made once the outcome of those deliberations is clear.

The HSIS online database is an internet resource that allows users to find information on substances that have been classified in accordance with the Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)] 3rd Edition and/or have National Exposure Standards declared under the NOHSC Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)].
The update comprised of a total of 456 entries of which there are 92 amendments to existing entries, 360 new entries and 4 deletions. View the full list of the schedule of changes for the HSIS online database update can be found here. Email queries about the update can be directed to HSIS feedback. [Thanks to Malcolm Perrins of ISCO Associate Member, DG & Hazmat Group, for passing on this information]

USA: OBAMA ADMINISTRATION SUES BP, OTHER COMPANIES IN GULF OIL SPILL

December 16 - The civil complaint alleges violations of federal safety and operational regulations and seeks up to $21 billon in damages - The Obama administration filed a civil complaint Wednesday against BP and eight other companies over the gulf oil spill this year, setting up a lengthy and complex legal battle over cleanup costs and penalties that could amount to billions of dollars.

The complaint, filed in U.S. District Court in New Orleans, alleges a series of violations of federal safety and operational regulations that resulted in the April 20 explosion and fire on the Deepwater Horizon drilling rig in the Gulf of Mexico. It charged that the companies "failed to take necessary precautions" to properly control the well and "failed to use the best available and safest drill technology" in the gulf waters.

It also accuses several companies of violations of the Clean Water Act, which could result in penalties based on the amount of oil spilled — estimated by the government to be 206 million, but disputed by BP.

"We intend to prove that these defendants are responsible for government removal costs, economic losses and environmental damages without limitation," said U.S. Atty. Gen. Eric H. Holder Jr. "We intend to hold them fully accountable."

Lisa Jackson, administrator of the Environmental Protection Agency, said the government hopes to win up to $21 billion in damages for the oil that spewed for months into the gulf. "This is about getting a fair deal for the region that suffered enormous consequences from the disaster," she said. "And it's also about securing the future of the Gulf Coast."

The defendants include BP, the primary partner and operator of the oil well that ruptured; units of Anadarko Petroleum Corp.; MOEX; and units of Transocean Ltd. and its insurer, QBE Underwriting. Anadarko and MOEX were minority partners in the well. Transocean leased the Deepwater Horizon rig to BP. Read more: http://www.latimes.com/news/nationworld/nation/la-na-oil-spill-suit-20101216,0,3894332.story

USA: OILSPILLHUB.ORG PROVIDES PUBLIC VIDEO ARCHIVE OF GULF OIL SPILL FOR EDUCATORS, SCIENTISTS & ENGINEERS

Oilspillhub.org is an online resource for those studying the largest environmental disaster in U.S. history. The site provides an archive of the underwater video of the event, as well as additional tools and resources for educators, scientists, and engineers who are expanding our knowledge of environmental issues. Oilspillhub.org is developed and hosted by Purdue University working in cooperation with the U.S. Senate Committee on Environment and Public Works and the House Select Committee on Energy Independence and Global Warming and the Energy and Environment Subcommittee in the House Energy and Commerce Committee. Go to: http://www.oilspillhub.org/ [Thanks to Don Johnston of ISCO Associate Member, DG & Hazmat Group, for passing on this news]

NIGERIA: OIL COMPANIES URGED TO ADOPT ESI MAPPING

The Minister of Environment, Mr. John Odey, has urged oil companies in Nigeria to acquire Environmental Sensitivity Index (ESI) and operational maps to aid oil spill management. Reports say that the ESI maps, which captures sensitivities stretching from Calabar to Badagry and 50 km inwards from the shoreline, were recently presented to stakeholders in the oil and gas industry. Speaking at a national workshop on oils spills in Lagos, Odey said that the ESI maps would help protect and conserve the environment and marine life for sustainable development.

The minister also announced government's plan to support NOSDRA to implement the Oil Pollution Preparedness and Response Cooperation Convention (OPRC 90) in the country.

Mr. Stephanie Grenon, Consultant to International Maritime Organisation (IMO) and International Petroleum

Industry Environment Conservation (IPIECA) said that it was imperative for Nigeria to come up with a dispersant policy. Grenon said that an effective national oil spill contingency plan and regional co-operation agreement were essential to oil spill management. He said that IMO was committed to an efficient co-operation between governments and industry in order to improve maritime safety and environmental protection. Read the complete report at: http://nigerianobservernews.com/16122010/businessservices/businessnews3.html

USA: FEDERAL OIL SPILL RESPONSE TRANSITIONS TO REGIONAL STRUCTURE, RELEASES SCIENTIFIC REPORT

December 17 - As planned and in coordination and consultation with state and local partners, the federal government's response framework for the Deepwater Horizon BP oil spill will transition on Friday, allowing for long-term response operations to be overseen by regional U.S. Coast Guard units rather than surge forces.

Capt. Lincoln Stroh will assume duties as the Federal On-scene Coordinator from Rear Adm. Paul Zukunft and the Unified Area Command, which Zukunft led, will transfer oversight of cleanup operations to the existing Gulf Coast Incident Management Team as part of the Coast Guard's 8th District.

Stroh has been working alongside Zukunft and the UAC for several weeks in preparation for a smooth transition. He will report to the Coast Guard's 8th District Commander, Rear Adm. Mary Landry, who leads all Coast Guard operations in the Gulf Coast from her headquarters in New Orleans. This transition to the permanent regional command structure will ensure that response activities continue to effectively target the areas requiring cleanup.

Additionally, in conjunction with the transition, a scientific report identifying the location and distribution of subsurface oil was provided to the Federal On-Scene Coordinator on Thursday. The report, produced by the interagency Operational Science Advisory Team, provides findings based on more than six months of subsurface monitoring in the Gulf, and gives the response organization detailed information about where recoverable oil remains to guide efforts moving forward.

The report includes chemical analysis of nearly 17,000 water and sediment samples collected between May and October. In the very near shore, scientists observed oil mats or indications of oil mats in shallow, sub-tidal areas. Traces of oil were also found in deepwater sediments near the wellhead. Based on this information, the FOSC has directed response teams to focus assessment and recovery efforts on the potentially recoverable near-shore oil. Read the complete press release: http://www.restorethegulf.gov/release/2010/12/17/federal-oil-spill-response-transitions-regional-structure-releases-scientific-rep

E V E N T S

For more comprehensive information on upcoming events & training courses click HERE and select "Events"

EGYPT: SUB-REGIONAL WORKSHOP ON HNS CONTINGENCY PLANNING FOR ARAB SPEAKING COUNTRIES

The Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) in collaboration with the Egyptian Environment Affairs Agency (EEAA) and the Arab Academy for Science, Technology and Maritime Transport, (AASTMT) is organising the Sub-Regional Workshop on HNS Contingency Planning for Arab Speaking Countries. The Sub-Regional Workshop financed by the Integrated Technical Cooperation Programme of the International Maritime Organization (ITCP) will be held at the premises of AASTMT, in Alexandria, Egypt, between Monday, 17 January 2011 and Thursday, 20 January 2011. For more info, go to: http://www.rempec.org/news.asp?theIDS=2_40&daChk=0&theName=News

FRANCE: SAFER SEAS 2011 CONFERENCE

The Brest Métropole Océane Urban Council is working in coordination with the Technopôle Brest Iroise Science Park, and supported by the Pôle Mer marine competitiveness cluster, the European Union, the Brittany Regional Council and the Finistère General (County) Council, to organize the 3rd international Safer Seas event to be held from 10 to 13 May 2011 at the Quartz conference center, devoted to issues of maritime safety and security. More info: http://www.saferseas-brest.org/Introduction-527-0-0-0.html

FRANCE: THE 14th INTERNATIONAL CONFERENCE ON ENVIRONMENTAL REMEDIATION AND RADIOACTIVE WASTE MANAGEMENT

Reims, France, 25-29, September, 2011 - ICEM promotes a broad global exchange of information on technologies, operations, management approaches, economics and public policies in the critical areas of environmental remediation and radioactive waste management. The conference provides a unique opportunity to foster cooperation among specialists from countries with mature environmental management programs and those from countries with emerging programs. Attendees include scientists, engineers, technology developers, equipment suppliers, government officials, utility representatives and owners of environmental problems. More info: http://www.asmeconferences.org/icem2011/

USA: ASSOCIATION OF PETROLEUM INDUSTRY CO-OP MANAGERS

The Spring 2011 APICOM Meeting will take place over May 21-23, immediately before the IOSC Conference, at the River Place Hotel in Portland, Oregon.

PUBLICATIONS

USA EPA: TECHNOLOGY INNOVATION NEWS SURVEY

The November 1-15, 2010 *Technology Innovation News Survey* has been posted to the CLU-IN web site. The *Survey* contains market/commercialization information; reports on demonstrations, feasibility studies and research; and other news relevant to the hazardous waste community interested in technology development. The latest survey is available at: http://www.clu-in.org/products/tins/

CORMACK'S COLUMN

In this issue of the ISCO Newsletter we are printing the sixth 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 SIX)

Having previously considered evaporation and consequent air-concentrations (articles 2, 3 and 5) it must be noted that ignition-sources cause combustible-vapour/air mixtures to explode in concentration ranges between their upper and lower explosive limits, above and below which there is respectively insufficient oxygen or insufficient vapour for explosion to occur. Thus, while concentrations above the upper explosion limit are brought within the explosive range by ventilation, those within the explosive range are rendered non-explosive by ventilation which brings them below the lower explosive limit. Again, the temperature at which the lower explosive limit coincides with the saturated vapour pressure of a liquid, is known as its flash point, which means that flash points within the ambient temperature range present an explosion risk, while flash points above 61° C are considered safe in confined spaces. Nonetheless, risk of explosion is not zero even in the open-air when the evaporation-rate exceeds the vertical dilution-rate and when the amount of liquid is sufficient for the lower explosion limit to be attained in a significant air-volume. Thus, while production of an explosive mixture in a column of air say 1cm high would require a sufficient layer thickness, those of spilled liquids on un-confined water-surfaces catch fire rather than explode, this knowledge being the basis of attempts to burn oil on water surfaces even though the volatiles which burn would evaporate anyway, and may burn without completely combusting or even igniting the less volatile, given the extinguishing heat-sink of underlying water.

As to layer-thickness/vapour-concentration relationships, it is known that nonane (nine carbon atoms) evaporates entirely from an 0.1mm layer in 3 minutes and from a 1mm layer in 30 minutes to produce concentrations in the bottom metre of the atmosphere of 1.5% and 15% respectively, assuming no further vertical dilution. Again, with all compounds up to nine carbon atoms accounting for 20-25% of crude oils the air-concentrations from slicks of equal thicknesses are ¼ to 1/5 of those from nonane, while 15% concentrations would require a thickness of 5mm to evaporate without subsequent dilution. Again, with all compounds up to six carbon atoms (hexane) accounting for ~ 5% of crude oils, average concentrations without further dilution are only 0.09%, while the lower explosive limits for nonane and hexane are 0.74% and 1.1% respectively. Thus, we see that while the volatiles of fresh crude oils may burn when ignited, explosions are only possible in confined spaces such as onboard ship.

Thus, we see that sufficient knowledge has long existed on which general contingency plans could have been produced for releases of crude oils, oil products, and volatile/explosive HNS; that these plans could have related the physicochemical parameters of density, volatility, viscosity, surface tension, solubility, solidification, and reaction/explosion in water/air, to fate/effect dependence on the processes of spreading, evaporation, emulsion formation, natural dispersion, component concentrations in air and water, individual-damage in identified-species and amounts stranding after half-life time lapses and movement as the resultant of 3% and 100% respectively of the transporting wind and tide vectors. Again, we see that such contingency plans could have supported preliminary evaluation of fate, effects and need for response in specific incidents by providing a framework for insertion of specific values for the physicochemical parameters necessary to calculate expected evaporation of volatiles, dispersion of non-volatiles, combustion of volatiles/non-volatiles, and the quantities remaining to impact on amenity and commercial interests at sea and onshore (c.f. article 1).

Yet again, we see that such general contingency/evaluation plans could have related physicochemical and fate/effect process parameters to the known efficiencies of the preventive techniques of well-capping and cargo/bunker transfer, and could have compared the known efficiencies/deficiencies of the viscosity-dependent spillage response techniques of dispersant application and mechanical recovery with known rates of natural

evaporation and dispersion; and that such contingency/evaluation plans could have provided a framework for insertion of incident-specific values for all parameters relevant to spillage response, thus creating a specific action plan for response to any particular incident.

However, from the *Torrey Canyon* to the *Deepwater Horizon Incidents* inclusive, no such contingency/ evaluation/action plans have so far been produced. Indeed, the reports now emerging from this most recent incident show no intention of constructing such knowledge-based plans even in retrospect, all current reviews being subject to the environmentalist beliefs which thus far have rejected the knowledge commended by this Column (c.f. article 1). [To be continued]

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.

PRODUCTS & SERVICES

WILDEN UPGRADES AIR OPERATED DOUBLE DIAPHRAGM PUMP PERFORMANCE

Wilden has announced the availability of its new Full Stroke PTFE (Teflon®) Diaphragms for use on all of its standard-setting AODD pump lines. The full-stroke design of these new diaphragms results in improved pump performance. This is the result of increased product displacement per stroke, translating into greater flow rates and higher efficiencies than are found in pumps that operate with reduced-stroke PTFE diaphragms. Read more at: http://www.maritime-executive.com/pressrelease/wilden-increases-aodd-pump-performance-development-full-stroke-ptfe-diaphragms-2010-12-16/

DECONGEL ASSISTING WITH CLEANUP OF HUNGARY SLUDGE SPILL

Immediately upon hearing of the spill, CBI Polymers, a Hawaii-based company that specializes in a unique decontamination product called DeconGel, began coordinating with U.S. Department of Commerce representatives and the U.S. Embassy in Budapest, to assist with the disaster relief efforts. Within hours of the toxic spill, the surge had killed nine people, injured dozens more and left thousands homeless. In its wake remains a poisonous path of caustic alkali that can burn skin on contact, damage the lungs when inhaled, and can damage the digestive system, or be fatal if ingested.

CBI Polymers Vice President Robert Harrison was promptly dispatched to the affected regions. After arriving in the distraught town of Devecser, Harrison had the good fortune of meeting Keve Papp, CEO of Hungaropec, a leading environmental services company.

CBI's DeconGel, a high-tech decontamination solution that requires no water to use, has been shown to remove 99.7 per cent of Alumina from bare concrete as determined by Inductively Coupled Plasma - Optical Emission Spectroscopy (ICP-OES) in laboratory analysis. DeconGel is also effective on contaminants such as arsenic, cadmium, mercury and chromium -- all hazardous elements found in the sludge.

Harrison and Papp met with the Mayor and Deputy Mayor of Devecser, who approved a test-application of DeconGel. After the gel dried, the group returned to the test site and began the process of decontamination.

"The results were dramatic" said Harrison. "You could see the sludge encapsulated in the gel and the treated areas appeared to have removal levels of between 75 and 90 per cent with just a single application." Read more: http://www.hazmatmag.com/issues/story.aspx?aid=1000395280

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