



ISCO NEWSLETTER

The Newsletter of the International Spill Response Community
Issue 345, 30 July 2012

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Headline article

HOW WOULD CHEMICAL DISPERSANTS WORK ON AN ARCTIC OIL SPILL?

If there were a huge oil spill in the Arctic, would chemical dispersants work under the frigid conditions there?



An arctic cod, a key part of the Arctic food web, rests in an ice-covered space in Alaska's Beaufort Sea, North of Point Barrow. This species was one of the subjects of the research program on dispersant effects in the Arctic. (Shawn Harper/Hidden Ocean 2005 Expedition: NOAA Office of Ocean Exploration)

Headline article (continued)

If there were a huge oil spill in the Arctic, would chemical dispersants work under the frigid conditions there?

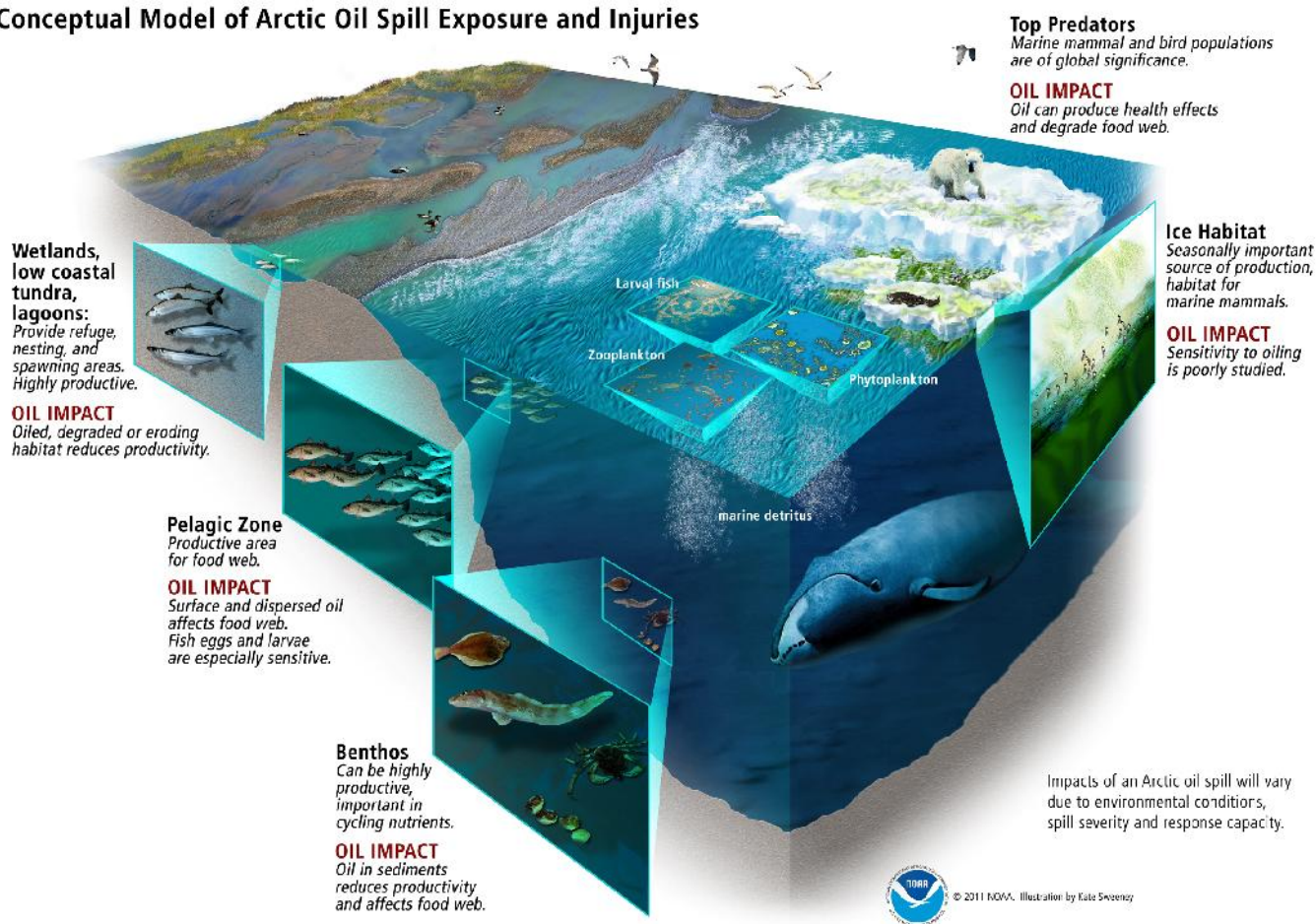
And once dispersants break down oil into smaller droplets, how toxic are the oil and chemicals to key species in the short Arctic food web?

Would the dispersed oil and dispersant actually biodegrade in cold Arctic waters?

With Shell currently on track to drill several exploratory wells in the Chukchi and Beaufort Seas this summer, these are very timely questions—and finally, we are beginning to find some answers.

For the last three years, a special oil industry research group (called a "joint industry program") has been trying to resolve these questions before any major oil exploration, development, and production happens off the northern Alaskan Arctic coastline. Lead scientists Dr. Jack Word of Newfields Environmental (Port Gamble, Wash.) and Dr. Robert Perkins of University of Alaska, Fairbanks, coordinated this research program to determine the viability of using dispersants on Arctic Ocean oil spills.

Conceptual Model of Arctic Oil Spill Exposure and Injuries



The illustration, not associated with this study, shows potential oil spill impacts to wildlife and habitats in the Arctic Ocean. Credit: NOAA/Kate Sweeney, Illustration. [Read on our blog](#) about the process of developing this model.

Aiming for as realistic Arctic conditions as possible, they captured arctic zooplankton (krill and *Calanus* copepods, which are tiny marine crustaceans) as well as larval and juvenile fish (arctic cod and sculpin) from the coastal waters of the Beaufort Sea.

These organisms are key players in the Arctic food web and culturing them in order to conduct toxicity tests hopefully would reveal how negative impacts from oil and dispersants could cascade through the ecosystem. The researchers also conducted toxicity and biodegradation tests in actual waters collected from the Beaufort Sea.

Five oil companies were pooling their talents and financial resources to conduct these tests and gather information: Shell, ConocoPhillips, Statoil, ExxonMobil, and BP.

NOAA's Scientific Support Coordinator for Alaska, John Whitney, was fortunate enough to serve on a unique, yet very important, part of the group: the Technical Advisory Committee, which is composed of non-industry technical and non-technical stakeholders. We met once a month to discuss the results and advise them on ongoing scientific tests.

Headline article (continued)

Drs. Word and Perkins and their colleagues recently presented the results of this research at a workshop in Anchorage, Alaska. The workshop began with Tim Nedwed of ExxonMobil making a strong case for immediate and robust access to all the major oil spill response options—[mechanical methods, in situ burning, and dispersants](#)—in order to deal with a large oil release in the Arctic or any other location.

Mechanical methods (e.g., skimmers) and in situ burning typically encounter spilled oil at low rates, historically removing only 5% to 15% of the oil on the water's surface. This makes chemical dispersants a very attractive option when approaching a big spill using a large aircraft (such as a C-130) to deliver dispersants. After all, Dr. Nedwed pointed out, the ultimate goal of dispersants is to deliver a significant boost to the rate of oil biodegradation that happens naturally after most oil spills.

Here are some of the major findings from their research:

1. Arctic **marine species show equal or less sensitivity to petroleum** after exposure than temperate (warmer water) species.
2. The Arctic test organisms **did not show significant signs of toxicity** when exposed to recommended application rates of the dispersant Corexit 9500 by itself, which also tends to biodegrade on the order of several weeks to a few months.
3. **Petroleum does biodegrade** with the help of indigenous microbes in the Arctic's open waters under both summer and winter conditions.
4. **Chemical dispersants more fully degraded certain components of oil** than petroleum that was physically dispersed (for example, from wind or waves breaking up an oil slick).
5. Under various scenarios for large and small oil spills treated with Corexit 9500, the effects on populations of arctic cod, a keystone species in the Arctic, appeared to be **minor to insignificant**.

This workshop garnered attention from the oil industry, government regulatory and natural resource agencies, academia, Alaska North Slope residents, private consultants, and non-governmental organizations. It concluded with a brief discussion of Net Environmental Benefit Analysis, a scientific process of weighing the costs against the benefits to the environment, with emphasis on the importance of making this process both science-based and, at the same time, compatible with listening to the subsistence Alaska Native population, a significant and valuable voice in the Arctic.

Editor - Thanks to US National Oceanic and Atmospheric Administration, Office of Response and Restoration, for kind permission to print this article in the ISCO Newsletter. [NOAA Website](#)

News

USA & CANADA: ENBRIDGE PIPELINE OIL SPILL IN WISCONSIN

July 29 - Canada's Enbridge Inc. raced on Sunday to repair a major pipeline that spilled more than 1,000 barrels of oil in a Wisconsin field, provoking fresh ire from Washington over the latest in a series of leaks.

The spill on Friday, which comes almost two years to the day after a ruptured Enbridge line fouled part of the Kalamazoo River in Michigan, has forced the closure of a major conduit for Canadian light crude shipments to U.S. refiners and threatens further reputational damage to a company that launched an over \$3 billion expansion program just two months ago.

Enbridge said it intended to begin repairs to Line 14 late on Saturday after making "excellent progress" in clean-up, allowing for visual inspection of the line. But it still did not know what had caused the incident and provided no estimated on when the 318,000 barrels per day Line 14 might resume service. *Reuters* [Read more](#)

FUJAIRAH: OIL SPILL AFFECTS FUJAIRAH BEACH

July 22 - Shores of Al Faqet area in Dibba Fujairah were exposed to an oil pollution extending nearly 1,500 metres.

The Municipality of Dibba Fujairah moved to the site with its equipment to collect and remove the oil waste that accumulated along the shore. Meanwhile, the fishermen expressed their resentment with marine violations which occurred several times, affecting the fisheries.

It was reported that big oil spills appeared at around 3.30 pm on Saturday in the waters of Dibba Fujairah in Al Faqet area before reaching the shores, leading to the emission of odours in the entire area.

According to official sources, the shores of Al Faqet area were hit by an oil pollution affecting 1.5 kilometres. They pointed out that these petroleum products which appeared in the sea and on the shores are oil waste dumped in the sea by ships, which they do from time to time in the territorial waters. The sources stressed the need to enforce the laws to prevent these ships from dumping their waste in the sea. *The Gulf Today* [Read more](#)

COLOMBIA: OIL SPILL CAUSES ENVIRONMENTAL EMERGENCY, CARACOL SAYS

July 22 - An oil spill in a river in [Colombia](#)'s northeastern Boyaca province is causing an environmental emergency, [Caracol Radio](#) reported.

The spill resulted from an attack on the Cano Limon Convenas pipeline, the station reported today on [its website](#).

Jhon Jairo Alonso, the mayor of the village of La Blanquita, said the attack occurred in the village of La Esperanza, according to the article. He said the environmental damage appeared in his town yesterday, Caracol reported. *Bloomberg* [Read more](#)

UKRAINE: EXPLOSION IN CONTAINER LOADED WITH DANGEROUS ALUMINUM PHOSPHIDE ON BOARD OF MAERSK KINLOSS

July 25 - Boxship Maersk Kinloss arrived to Ilyichevsk, Ukraine, Black sea, on July 15 2012 from Konstanza, Romania, with 2082 containers on board, including 1439 transit containers and 643 to be offloaded in Ilyichevsk.

On July 17 during offloading operations dockers opened one of the holds and found container with obvious signs of an explosion and fire, container had a dangerous cargo of aluminum phosphide. The top of the container was blown off, sides were bloated, cargo was destroyed. Neighbouring containers were also damaged.

An investigation found, that there were three containers on board of the vessel, containing dangerous cargoes of fluoric acid, aluminium phosphide and oxidizer, two of them were stacked in the hold among other containers, which is actually, a violation of safety regulations specifying the transportation of such cargoes. *Maritime Bulletin* [Read more](#) [Thanks to Peter McKay of Hazardous Cargo Bulletin]

USA: DOLPHIN DEATHS DUE TO 'PERFECT STORM' OF COLD WATER AND OIL SPILL



Dolphin deaths in the Gulf of Mexico were caused by a perfect storm of cold water temperatures coupled with the 2010 BP oil spill, according to a new study, published in the journal PLoS ONE. (Photo: Creative Commons: Mrs. Gemston)

July 23 - Dolphin deaths in the Gulf of Mexico were caused by a perfect storm of cold water temperatures coupled with the 2010 BP oil spill, according to a new study, published in the journal PLoS ONE.

More than 185 bottlenose dolphins died between January and April 2011, most washing ashore between Louisiana and Florida. Nearly half were calves, which is more than double the normal proportion of calves to older dolphins, researchers said.

"Unfortunately, it was a 'perfect storm' that led to the dolphin deaths," Graham Worthy, study author and biologist at the University of Central Florida, said, according to [NBC News](#).

"The oil spill and cold water of 2010 had already put significant stress on their food resources. It appears the high volumes of cold freshwater coming from snowmelt water that pushed through Mobile Bay and Mississippi Sound in 2011 was the final blow." *International Science Times* [Read more](#)

USA: OIL FIRMS, REGULATORS MISS MAJOR ACCIDENT INDICATORS: GULF SPILL REPORT

July 25 - Transocean and BP, trade associations, and U.S. regulators largely judged the safety of offshore facilities by focusing on routine personal injury and fatality data such as dropped objects and trips and falls when they should have been more focused on managing the potential for catastrophic accidents, a federal report on the Gulf oil disaster says.

Investigators with the U.S. Chemical Safety Board (CSB) who examined the Deepwater Horizon explosion in the Gulf said that timely checks on safety critical equipment and response to well control events would provide a better assessment of the health of safety management systems. *Insurance Journal* [Read more](#)

USA & CANADA: REPORT SLAMS ENBRIDGE ENERGY'S HISTORY OF OIL SPILLS

Workers from Enbridge Energy skim oil off the surface of the Kalamazoo River after a pipeline ruptured in Marshall on Tuesday, July 27, 2010. / ANDRE J. JACKSON/Detroit Free Press

July 23 - A National Wildlife Federation report released today criticizes Enbridge Energy's plans to expand its pipeline capacity in Michigan and elsewhere in North America in light of the company's more than 800 oil spills between 1999 and 2010.

The release of the report comes two days ahead of the two-year anniversary of the spill in Marshall that dumped, depending on the estimate, more than 800,000 to more than 1 million gallons of tar sands oil into a creek that feeds into the Kalamazoo River. The more than \$800-million cleanup is continuing, although most of the affected portions of the river were reopened to recreation this year. The Pipeline and Hazardous Materials Safety Administration has proposed a \$3.7-million fine against Enbridge for its handling of the spill. *Detroit Free Press* [Read more](#)



USA: OIL SPILL CONTAINMENT SYSTEM IS TESTED IN THE GULF OF MEXICO



July 24 - The first deep-sea test of a state-of-the-art containment system for stopping an oil spill akin to **BP's catastrophic 2010 spill** began on Tuesday, regulators said.

The Bureau of Safety and Environmental Enforcement said the Houston-based Marine Well Containment Company was to move a **capping stack system** it has developed onto a ship and carry it out to where a test wellhead has been placed on the bottom of the Gulf.

The stack will be lowered by wires onto the test wellhead sitting 7,000 feet below the surface of the Gulf.

"Testing this equipment in real-time conditions and ultra-deep water depths will help ensure that the MWCC is ready and able to respond in a moment's notice should the need arise," said BSEE Director Jim Watson.

BSEE staff -- including inspectors, engineers and spill response experts -- planned to monitor the drill and see firsthand how it is conducted, regulators said.

The capping stack is similar to the one BP used to stop the flow of oil from its out-of-control well in July 2010. That stack finally closed the well after 85 days of leaking oil. The BP spill, which caused more than 200 million gallons of oil to leak out, exposed the oil industry's inability to stop a deep-sea spill quickly.

Tougher drilling rules passed after the BP spill required oil companies to prove they can control a blowout similar to the April 20, 2010, incident at the Macondo well where 11 workers were killed in explosions that sank the drilling rig Deepwater Horizon. NOLA / *The Times Picayune* [Read more](#)

The capping stack is the centerpiece of the new blowout containment system.

SHELL SCALES BACK ARCTIC DRILLING PLANS



Shell's Kulluk drilling unit is towed through Seattle's Elliott Bay in late June 2012, as it begins a long journey to Arctic waters north of Alaska. Shell plans to use the Kulluk and the Noble Discoverer drillship to search for oil in the Chukchi and Beaufort seas once ice clears this summer. (AP Photo/Donna Gordon Blankinship)

July 26 - Shell is scaling back plans to drill up to five wells in Arctic waters this summer amid a series of setbacks, including stubborn sea ice still clinging to Alaska's shores and delays in construction of an emergency oil spill containment barge.

Royal Dutch Shell CEO Peter Voser told analysts Thursday that the company now anticipates completing just two exploration wells in the Chukchi and Beaufort seas.

In an apparent bid to take advantage of drilling rigs and support vessels already in the region, Voser said Shell is considering initial top-hole drilling in other parts of the area — allowed as long as the company does not penetrate hydrocarbon zones. Shell could then come back to those sites in future years to complete the wells.

"Ice conditions will dictate how long the drilling season will last, with a slower start due to heavy ice conditions," he said. [Fuel Fix.com](#) [Read more](#)

UK: HAZARD DEBATE HEIGHTENS AROUND NANOMATERIALS

July 24 - Defra is seeing growing awareness of nanomaterials and their potential hazards, which have the potential to lead to over-precautionary responses that could impact on the waste sector.

The department's nanotechnologies policy adviser Steve Morgan was speaking at an event in London last week (July 17) held by the Nanotechnology Knowledge Transfer Network where he told delegates that while there was a need to understand exposure and risk to these nanomaterials, this hazard-based response was not practical.

Morgan said that measures which were unsupported by evidence of risk could be overly burdensome, difficult to regulate and open to challenge.

He added that Defra was keen to take a [risk-based approach](#) to the development of the fledgling nanotechnology industry, maintaining that the goal was the safe production and use of nanomaterials, which contributed to consumer confidence.

Defra's policy adviser on nanotechnology provided an update on the European regulatory position. One of the challenges, he said, was how to regulate a fast growing industry that was outpacing legislation. [Edie Waste](#) [Read more](#)

ISCO News

INTERNATIONAL RESPONSE RESOURCE INVENTORY – DEADLINE EXTENDED

Are you a response contractor, equipment manufacturer or spill response expert ?

The deadline for Corporate Members of ISCO to register their interest in joining the ISCO Correspondence Group has been extended.

As reported in previous issues of the ISCO Newsletter, an international group has started to work on the creation of an international Response Resource Inventory (RRI) for spill response. The initiative is part of a project introduced at the IMO Marine Environment Protection Committee by the delegation of the United States.

The Deepwater Horizon (DWH) mobile offshore drilling unit (MODU) oil pollution incident highlights the importance of international stakeholder planning and coordination as a method to ensure maximum resource availability and utilization during a catastrophic oil spill or hazardous substance event. Several nations stepped forward to assist the United States during the course of the incident. These offers included equipment, technical expertise, and general assistance. The generosity of support from the international partners of the United States cannot be overstated, however, the process for requesting and receiving emergency assistance during DWH was proven ineffective and antiquated. Given today's robust worldwide oil exploration initiatives and transportation patterns, the international community must be prepared to address the challenges faced by responders under a myriad of conditions.

Lessons learned from the DWH incident indicate a need to develop collaborative processes regarding cooperation, in particular, robust mechanisms for handling and coordinating international offers of assistance during a major pollution incident. Using the International Convention on Oil Pollution Preparedness, Response and Cooperation (1990 OPRC) as a basis for the establishment of such guidelines provides the mechanism for such an undertaking. The guidelines will address the challenges of ensuring situational awareness of the incident among Member States, while effectively supporting the response resource needs of the affected Member State. The guidelines should identify common terminology that assists the Member State in identifying resources needed and the status and disposition of available resources. The guidelines should also address issues related to customs and trade issues, transport logistics, categories for offers, mobilization and demobilization. Furthermore, the guidelines should identify a specific process for costing, invoicing, and paying for resources provided. Ideally, this would lead to the establishment of a Resources Inventory System.

The initiative was further progressed at the OPRC-HNS Technical Group Meeting in March 2012 when several delegations, including ISCO, agreed to form a Correspondence Group to work on the project and present recommendations to the next meeting of the Technical Group in September 2012.

As the organization representing the international spill response community, with a membership that includes most of the world's leading spill response contractors, equipment manufacturers and consultants, ISCO is planning to focus its work on the proposed Response Resource Inventory and specifically to concentrate on the resources available from the private sector. ISCO is forming an internal working group and over the coming weeks and months will be consulting with interested members on how best to move forward. It is anticipated that response contractors, manufacturers and consultants will be quick to realize the commercial advantages of being part of this project.

In the paper on International Assistance submitted by the US delegation to the March 2012 meeting of the IMO OPRC-HNS Technical Group the authors identified five groupings for classifying international offers of assistance ...

- 1 Government to Government
- 2 Private sector to private sector
- 3 Private sector to Government
- 4 Private sector-through-Government to Government
- 5 Offers coordinated by Regional Organizations on behalf of governments.

... and the initial thinking of the ISCO delegation is that ISCO should focus its efforts on the groupings 2, 3 and 4.

Clearly, the project will be of extreme interest to manufacturers of response equipment and materials and contractors that own significant stockpiles. The definition of resources also includes individuals with relevant knowledge and experience.

Discussions have begun within the Working Group to address the questions of how inventory information should be collated – broad categories, types, and the use of universally accepted terms in defining resources. Also how the resource inventory should be held, accessed and maintained. It will take time, probably at least two years, to resolve these issues but the international community represented by ISCO has a direct interest in a successful outcome.

Your Secretary has recently written to all Corporate Members on this matter but some have not yet responded – it may be that his letter was not received by the relevant decision-makers and, if you did not receive the letter, please contact the Secretary as soon as possible at john.mcmurtrie@spillcontrol.org

Technology

ANSWERING THE NEW CALL FOR HELP

How public safety agencies around the globe are preparing to answer the evolving call for help with next generation public safety solutions

Whether the number is 9-1-1, 9-9-9 or 1-1-2, emergency call systems are one of the world's most crucial public safety applications. Young or old, rich or poor, city or country, every citizen counts on being able to call for help whenever they need it. More important, they count on receiving that help as quickly as possible. For the last 30-plus years, our emergency call centers have aided millions of people and helped save countless numbers of lives. But times — and communications technologies — are changing rapidly. The old reliable systems that have served us so well for so long are beginning to show their age. More powerful, more effective new systems are on their way, inexorably driven by a convergence of social, technological and economic trends.

Communications are in the midst of a startling worldwide revolution. It wasn't so long ago that mobile phones were the ultimate in high-tech communications. Today, those days seem like the dark ages. People don't use their new smartphones and other devices just for talking anymore. They text. They tweet. They send photographs. They upload videos. It's only natural that they expect to be able to call for emergency help in the same ways they communicate every day. But that's easier assumed than done.

Technology (continued)

The Internet is transforming how we communicate. Internet-based communication is fast becoming the new standard virtually everywhere in the world. As it does, the legacy Public Safety Answering Point (PSAP) infrastructure that has served our communities so well for all these years is fast becoming not just old, but is actually getting in the way of necessary change. Traditional equipment is quickly becoming obsolete and it's limiting the ability of today's PSAPs to begin leveraging the substantial benefits of new Internet Protocol (IP)-based technology.

Today, virtually all PSAPs utilize older narrowband, circuit switched communication networks generally capable of delivering only voice messaging. Enhanced systems in some countries are also able to carry a limited amount of data, like the caller's location. But they aren't able to support the astonishing new abilities of all-IP networks.

Next generation emergency call networks employ IP-based packet switched technology and are able to support powerful new capabilities including emergency text messaging and the ability to send and access more robust data including images, documents and even video. They also allow PSAP personnel to easily access valuable supporting data ranging from medical records to telematics to building plans over a common high-speed data network. Just as important, they enable streamlined new interoperability between agencies and jurisdictions to promote collaborative responses in emergencies. This critical need for this interoperability has been shown in emergencies ranging from the World Trade Center, Mumbai and Oslo to the Indian Ocean Tsunami and the recent earthquake in Japan.

In almost every country in the world, these are the issues driving the need for next generation emergency calling systems. Using the NG9-1-1 initiative in the United States as an example, this overview will explore the technologies, the benefits and the current status of next generation solutions.

This article, forwarded by ISCO Committee Member, Marc K. Shaye, describes the latest developments in communications systems. [Read the complete text of this article](#)

Cormack's Column



In this issue of the ISCO Newsletter we are printing No. 87 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](#)

CHAPTER 87: KNOWLEDGE OF MECHANICAL RECOVERY

With the investigative system described in article 86, the results obtained with the 10mm Spate pump are as tabulated below.

Transported Substance	Pump Rate m ³ h ⁻¹	Natural Flow m ³ h ⁻¹
Water	30	-
Ekofisk emulsion (1500cP)	11	10
Ekofisk emulsion (2000cP)	10	-
Ekofisk emulsion (2000cP) + 25% water	25	-
Ekofisk emulsion (7000cP) + 10% water	8	4.5

Thus, we see that there is a reduction in pump rate on changing from water to emulsion; that at a viscosity of 1,500cP the pump rate still equates to the natural flow rate through the weir entrance; that with 25% water as conveyer/lubricant the pump rate almost returns to that of water; and that 10% water as conveyer/lubricant maintains a pump rate for 7,000cP at almost the pump rate for 2,000cP and at the natural flow for the 1,500cP, while for the 7,000cP emulsion 10% water maintains almost the pump rate for 2000cP at more than twice its own natural flow rate and at nearly the natural flow for 1500cP; and that clearly the deliberate or unavoidable addition of free water in small amounts is beneficial.

The need for an airflow in the vacuum system was easily confirmed by immersing the open end of the vacuum hose over and into the pollutant thus obtaining no pollutant flow by terminating the airflow which could be resumed only by provision of a 25mm air inlet pipe through the hose wall above the immersed hose-end to replace the static vacuum with a low-pressure air flow. Subsequently a 25mm water inlet from beneath the pollutant layer was also provided to benefit from the water 'lubrication' earlier revealed by the Spate pump experiments.

Cormack's Column (continued)

The results obtained by operating at a working vacuum of 250mm Hg with and without water at different hose lengths and diameters are tabulated below.

Transported Substance	Hose Length x Diameter m x mm	Pump Rate $\text{m}^3 \text{h}^{-1}$	Natural Flow $\text{m}^3 \text{h}^{-1}$
1500cP emulsion + water	30 x 75	12.5 15.0	10.0
1500cP emulsion + water	15 x 75	17.7 19.5	10.0
5700cP emulsion + water	15 x 75	8.9 19.5	7.0
4000cP emulsion + water	30 x 100	14.0 27.2	15.7

Thus, we see that the enhancement achieved in pump rate over natural flow rate diminishes with viscosity; that the enhancement achieved by air conveying is increased by water; and that pump rate increases with increase in pipe diameter and decrease in pipe length.

The results obtained by operating at a working vacuum of 375mm Hg at yet higher viscosities with one pipe length, with half of this length and with this half twinned are shown below.

Transported Substance	Hose Length x Diameter m x mm	Pump Rate $\text{m}^3 \text{h}^{-1}$	Natural Flow $\text{m}^3 \text{h}^{-1}$
7000cP emulsion	30 x 100	18.2	7.8
4000cP	15 x 100	29.0	15.7
5700cP	Twin 15 x 100	56.5	31.4

Thus, we see that even at higher viscosities, performance is enhanced over normal flow by use of wider hose, by shorter hose length, and by twining the pipe half-lengths.

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.

Publications

USA: REVISIONS TO THE HAZARD COMMUNICATION STANDARD (HCS)

July 24 - The Occupational Safety and Health Administration's (OSHA) groundbreaking revisions to the Hazard Communication Standard (HCS) are now final. OSHA's central purpose in making its major modifications is to align the HCS with the United Nations' Globally Harmonized System (GHS), adopted in 2003, to achieve worldwide uniformity in classifying and labeling chemicals. OSHA's goal is that such uniformity will reduce confusion and ensure improved quality and additional productivity in connection with chemical hazards in the workplace.

The recently published HCS — six years in the making — represents OSHA's most significant rulemaking in more than a decade and the most substantial changes to the HCS since its inception nearly 30 years ago. These changes will affect more than 40 million workers across five million workplaces in the United States that use, store or transport chemicals, including nearly 100,000 chemical manufacturers, importers and distributors. All such employers across myriad industries, no matter their size, must comply. *Holland & Knight* [Read more](#)

USA: CSB RELEASES NEW SAFETY VIDEO ON INHERENTLY SAFER DESIGN AND TECHNOLOGY: "INHERENTLY SAFER: THE FUTURE OF RISK REDUCTION"

July 11 - The US Chemical Safety Board today released a new safety video that examines the concept of inherent safety and its application across industry; "[Inherently Safer: The Future of Risk Reduction](#)" stems from the August 28, 2008, explosion that killed two workers and injured eight others at the Bayer CropScience chemical plant in Institute, West Virginia. As a result of ongoing concern regarding the safety of the facility Congress directed the CSB to commission the National Academy of Sciences (NAS) to study the feasibility of reducing or eliminating the inventory of methyl isocyanate (MIC) stored at the Bayer plant.

The [NAS study](#) explored how the concept of "Inherent Safety" could be applied at the Bayer facility. The NAS panel noted that the goal of inherently safer design is not only to prevent an accident, but to reduce the consequences of an accident should one occur. The elevenminute video features interviews with NAS panel members and staff as well as commentary from the CSB Chair and investigators.

Publications (continued)

The video is available to stream or download on www.CSB.gov and may be viewed on the CSB's YouTube channel, USCSB (www.youtube.com/uscsb). DVD copies of the CSB's safety videos can be requested by completing the [online request form](#).

In the [video](#) CSB Chairperson Rafael Moure-Eraso discusses the findings from the CSB's investigation and the catastrophic consequences that the 2008 accident could have had on the surrounding community, "The CSB determined that the explosion at Bayer could have caused a release of MIC into the nearby community. And it raised a question – was there an inherently safer alternative to storing and using this highly toxic chemical?"

The NAS report found that while Bayer and previous owners of the site incorporated some considerations of inherently safer technology, these companies "did not perform systematic and complete inherently safer process assessments on the processes for manufacturing MIC or the carbamate pesticides at the Institute site." Thus large amounts of MIC, phosgene, and other toxic materials were produced or stored at the site for decades.

The video discusses the four main components of inherently safer design as identified by the NAS study. They are substitute, minimize, moderate and simplify and are described as:

- Substitute: replacing one material with another that is less hazardous
- Minimize: reducing the amount of hazardous material in the process
- Moderate: using less hazardous process conditions such as lower pressures or temperatures
- Simplify: designing processes to be less complicated, and therefore less prone to failure.

The video includes an interview with industry expert Dennis Hendershot, "Inherently safer design is a philosophy for design and operation of any technology, including chemical processing. It's not a specific technology or a set of tools and activities, but it's really an approach to design and it's a way of thinking."

On March 18, 2011, Bayer announced that it would not seek to restart MIC production at the plant and would end the manufacturing of carbamate pesticides deemed hazardous by the World Health Organization. The Bayer plant no longer produces or stores MIC. But the CSB believes the NAS study and other publications illustrate how the chemical industry could benefit from incorporating the principles of inherently safer design into making decisions – decisions which will satisfy the interests of chemical companies, workers, and members of the communities near their plants.

The video concludes with a call from CSB Chairperson Rafael Moure-Eraso for industry to look towards the future, "The principles of inherently safer processing can be an effective way for chemical companies to eliminate or reduce hazards, prevent accidents, and protect nearby communities.

The CSB is an independent federal agency charged with investigating industrial chemical accidents. The agency's board members are appointed by the president and confirmed by the Senate. CSB investigations look into all aspects of chemical accidents, including physical causes such as equipment failure as well as inadequacies in regulations, industry standards, and safety management systems.

The Board does not issue citations or fines but does make safety recommendations to plants, industry organizations, labor groups, and regulatory agencies such as OSHA and EPA. Visit our website, www.csb.gov {Thanks to JOIFF for passing this on}

Events

NIGERIA: OIL SPILL CONFERENCE NIGERIA : 10-11 SEPTEMBER 2012

The conference is organized by Kaku Professional Engineers Limited (Nigeria), with the collaboration of and assistance from the National Spill Control School of the Texas A & M University (USA) to promote the United Nation's Millennium Development Goal (MDG) for environmental sustainability in Nigeria. It is to provide valuable overview of the problems created by incessant oil spills, effects of such spills/ compensation and develop clean up strategies, aimed at restoration of the Nigerian environment.

We have identified the need for Nigerian oil industry to expeditiously develop the capacity to deal with oil spills that have poignantly led to unsustainable environmental quagmire. Despite over 50 years of high oil industry activities in Nigeria, the technology to deal with oil spills is relatively undeveloped.

Since in the early 1970s, oil spills both on land and in the sea have posed grave threat to the environment and source of concern to human-kind. Such threat has manifested itself in classical examples of oil spills devastations with Alaska Exxon Vandez Oil Spill (EVOS) 1989 and the recent BP Deepwater Horizon Oil spill in the Gulf of Mexico. (2010) in various consequential ramifications.

Oil spills can cause enormous damage to the soil, plants and animals as well as cause serious human hazards and destruction of economic and social activities. [More info](#)

Events (continued)

UK & IRELAND: CHANGE OF DATE – ISAA STEERING GROUP MEETING

This meeting will now take place on **Wednesday 29 August** and NOT Tuesday 28 August as previously advised.

The venue is the Lisburn office of NIEA and the time is 10.30 am. The Agenda is still under preparation and will be sent to all stakeholders in the near future.

ISCO SUPPORTING CONFERENCE / EXHIBITION EVENTS

ISCO is giving support to Clean Gulf 2012 (New Orleans), The Arctic Oil Spill Conference (London) and Oil Spill India 2012 (Goa). See front page of this Newsletter and click on the banners to see details of these events.

ISCO will have a booth at Clean Gulf and the Arctic Oil Spill Conference. Please remember to come by and say hello.

ISCO Member of Council for India, Captain D. C. Sekhar will be presenting a paper at the Oil Spill India Conference – more details on this later.

ISCO Members will qualify for a 20% discount on published rates for attending the Arctic Oil Spill Conference.

More info on all three events will be published in forthcoming issues of the ISCO Newsletter.

Correspondence

DWH OIL BUDGET – COMMENT ON DAN SHEEHAN'S ARTICLE IN ISSUE 344

Sir,

The article by Dan Sheehan in the ISCO newsletter caught my eye. It reproduces an estimate of the DWH oil budget, as published in the ISPR in January 2011. This ISPR report quotes the original US Government's *Federal Interagency Solutions Group, Oil Budget Calculator Science and Engineering Team* oil budget published in August 2010.

In November 2010 a revised oil budget report was published by this Team, updating and replacing the August 2010 version. As far as I am aware the Nov 2010 remains the latest version.

The estimate for skimming in the November version (2-4%) does not have great bearing on the thrust of the ISCO article. The main change was an increase in the estimate of amount chemically dispersed from 8% to 10-29%.

My personal view is that the oil budget contains some calculations and assumptions which can be challenged (especially in relation to chemically dispersant, where the effectiveness *could* have been even higher than 29%). However the important message is that these figures are largely estimates and presenting a range is a better way to express the uncertainties.

I do believe the August 2010 "8% chemically dispersed" figure is now outdated and reproducing it may lead your readers to believe that this remains the US Government's figure and is accurate. If quoting the US Government's DWH oil budget figures, I recommend using the ranges published in Nov 2010 version.

Best regards,

Peter Taylor

Manager

OSPRI, Oil Spill Preparedness Regional Initiative (Caspian Sea - Black Sea - Central Eurasia)

ISCO has vacancies for Members of Council to represent its members in Turkey, Italy, British Virgin Islands, Kuwait, Finland, Malaysia, Belgium, France, Indonesia, Denmark, Saudi Arabia, Ireland, Iran, Ghana, Sweden, Uruguay, Netherlands and Belize.

If you are interested and would like to know more about the ISCO Council contact john.mcmurtrie@spillcontrol.org

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