



Marine Oil Pollution Prevention and Combating: Where do we stand?

February 2 - 3, 2011 - Quebec city, Canada

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PORT DE QUÉBEC

Marine Oil Pollution Prevention and Combating:
Where do we stand?

February 2 - 3, 2011 - Quebec city, Canada

Prévention et lutte contre la pollution marine par les
hydrocarbures : Où en sommes-nous?

2 - 3 février, 2011 - Québec, Canada

Program

Wednesday, February 2

8:00	Registration and coffee	1:00	<u>Intervention in ice</u> (moderator: Martin Blouin - CCG) Martin Blouin (Canadian Coast Guard) and Kenneth Lee (DFO - Bedford Institute of Oceanography (COOGER)) Modeling of the dispersion of oil-mineral aggregates in ice-infested waters Christopher King (Petro Nav) and Marc Desgagnés (Groupe Desgagnés) Oil spill response exercise in arctic community Denis Lefavre (Canadian Hydrographic Service) Ice drift under the action of currents and winds in the Gulf of St. Lawrence Danielle Cloutier (CIMA+) Oil and Ice: Interaction, Behavior, and Impacts
8:30	<u>Opening session</u> (moderator: Larbi A. Yahia - IMQ) Larbi A. Yahia (Institut maritime du Québec) Welcoming address Martial Ménard (Canadian Coast Guard) Highlights and trends of marine transportation in Quebec Martin Blouin (Canadian Coast Guard) Framework for collaboration and interrelationship in a marine incident Josée Lamoureux (Transport Canada) National Oil Spill Preparedness and Response Regime	2:40	Coffee break and exhibition visit
10:10	Coffee break and exhibition visit	3:00	<u>Special Session : Gulf of Mexico oil spill</u> (moderator: Martin Blouin - CCG) Scott R. Lundgren (U.S. Coast Guard) U.S. Coast Guard Deepwater Horizon Response Overview: Response Organization, Operational Strategies, and Removal Outcomes Kenneth Lee (DFO - Bedford Institute of Oceanography (COOGER)) Dispersion of Oil Released from the Deepwater Horizon Oil Spill Following Subsurface Injection of Corexit 95000 Georges M. Chalos (Chalos & co.) A brief introduction to the U.S. Oil Pollution Act of 90 (OPA 90) and the National Pollution Fund Center's Oil Spill Liability Trust Fund Steve Lehman (NOAA) Title to be confirmed
10:30	<u>Regulations</u> (moderator: Larbi A. Yahia - IMQ) Lilia Khodjet El Khil and Jean-François Belzile (Shipping Federation of Canada) The Role of International Shipping in Developing Canada's Ship-Source Oil Pollution Regime Rui M. Fernandes (Fernandes Hearn) Regulation of Oil Pollution in the Canadian Arctic Éric Houde (Ministère de la Sécurité publique) The importance of coordination in all phases of risk management	5:00	Cocktail
12:00	Luncheon and exhibition visit		

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Program

Thursday, February 3

8:00 Registration and breakfast

8:30 **Technology and intervention**
(moderator: Chantal Guénette - CCG)

Michael Hebb (POLeMAR inc.)
The development and implementation of new optical technology for real-time oil spill detection

Franz Seebacher (Hermont Marine inc.)
Technologies available to remove oil from water aboard a ship today

Pierre Samson (SIMEC)
ECRC-SIMEC, a Response Organisation: 16 years later, where do we stand?

10:00 Coffee break and exhibition visit

10:20 **Planning**
(moderator: Kenneth Lee - DFO)

Vassilios Pamboukes (MEMCI & IMQ) and Éric Esclamadon (Canadian coast guard college)
Marine Oil Pollution – Training and Preparation for Emergency Response

Christophe Rousseau (CEDRE)
Accident and chemical hazards at sea : The French experience of chemical tankers accidents

Sonia Laforest (Environment Canada)
eSPACE : emergency Spatial Pre-SCAT for Arctic Coastal Ecosystems

Mario Labonté (Oiseleurs du Québec)
Training program for emergency response to wild birds during oil spills

12:00 Luncheon and exhibition visit

1:00 **Compensatory regime**
(moderator: Larbi A. Yahia - IMQ)

Frank Laruelle (ITOFFP)
International regime for compensation/ reasonableness

Richard Desgagnés (Ogilvy Renault)
Compensatory regime in Canada for marine oil spills in Canada

Chantal Guénette (Canadian Coast Guard)
Cost recovery for ship-source oil spills

2:30 Coffee break and exhibition visit

2:50 **Case studies**
(moderator: Martin Blouin - CCG)

Frank Laruelle (ITOFFP)
Case studies

Véronique Gagnon (Canadian Coast Guard)
The management of sandbags and oil buried in the dunes of the Magdalen Islands – Case of pollution following the sinking of the Irving Whale

Dr. Dagmar Schmidt Etkin, Environmental Research Consulting (on behalf of the American Salvage Association (ASA) and the North American Marine Environmental Protection Association (NAMEPA))
Risks from Potentially-Polluting Shipwrecks

Bert van der Velden (SMIT Salvage)
Oil Recovery Operations from the Deep; Projects, Developments, and Technologies

4:30 **Closing session**

Larbi A. Yahia (Institut maritime du Québec) and Martin Blouin (Canadian Coast Guard)
Closing remarks

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Martial Ménard (Canadian Coast Guard)

Highlights and trends of marine transportation in Quebec

Marine transportation has an undeniable and significant impact on the Québec economy, and plays a key role in various natural resources sectors among these aluminum works, mining companies, iron companies, oil refineries and pulp and paper companies which rely on ships for the transportation of some or all of their products (raw materials and/or finished goods). The retail trade, with a multitude of industrial products and consumer goods travelling along the St. Lawrence via container, also does brisk business with the marine transportation industry.

How will the industry fare after being battered by the 2009 worldwide recession? All of the economic indicators point to an increase in the tonnage handled by Québec ports and as such, a growth in maritime traffic on the St. Lawrence River over the coming years. This latter growth will in large part be prompted by a rise in the export of mining resources. The combination of these factors makes it highly likely that the next several years will see an increase in the tonnage handed and the maritime traffic in hazardous materials in Québec.

Martin Blouin (Canadian Coast Guard)

Framework for collaboration and interrelationship in a marine incident

Through its Environmental Response program, the Canadian Coast Guard (CCG) ensures the clean-up of Canada's waters in the event of an oil spill or spill of other pollutants from a ship. The intervention measures adopted consist of:

- supervising the polluters' clean-up efforts;
- managing the clean-up initiatives when the polluters are unknown, cannot respond to a spill, or refuse to intervene.

Regional and local intervention plans provide precious guidelines for responding to a spill to the employees responsible for implementing the program. Under Canadian legislation, polluters must assume all clean-up expenses associated to spills, which include the costs for the CCG's environmental monitoring or management activities.

Josée Lamoureux (Transport Canada)

National Oil Spill Preparedness and Response

Environmental Response Systems is responsible for developing and administering policies, regulations and programs to protect the marine environment, to mitigate the impact on the environment of marine pollution incidents in Canadian waters, and to ensure the safety of the general public. It works with other federal agencies and departments, such as Fisheries and Oceans Canada, the Canadian Coast Guard and Environment Canada, to establish guidelines, the regulatory framework and mechanisms for the preparedness and response to oil spills. It also manages the National Aerial Surveillance Program, which serves to detect pollution violations in Canadian waters and to collect evidence for use in the prosecution of offenders, as well as the department's response to spills of hazardous noxious substances. Environmental Response Systems is an active member of the Arctic Council and works with stakeholders through the Regional Advisory Councils.

Lilia Khodjet El Khil and Jean-François Belzile(Shipping Federation)

The Role of International Shipping in Developing Canada's Ship-Source Oil Pollution Regime

As the pre-eminent voice of international ships engaged in Canada's world trade, the Shipping Federation of Canada played a key role in the development of the Canadian regulatory regime on ship-source oil spill prevention, preparedness and response, and in the establishment of Canada's oil spill response system in particular. The Federation's involvement in these efforts is a testament to the close collaboration established between the international shipping industry and the Canadian government, and to the industry's essential role in the movement of Canada's imports and exports. This dynamic partnership has resulted in the establishment of a highly effective, industry-financed oil spill response regime based on the polluter pay principle, which has now been in existence for almost two decades.

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Rui M. Fernandes (Fernandes Hearn)

Regulation of Oil Pollution in the Canadian Arctic

Environmental issues in the Canadian Arctic have become a public concern as a result of the recent Deepwater Horizon oil spill and forecasts that the Northwest Passage may soon be navigable year-round. There is much concern that oil exploration, drilling and shipping activities will cause environmental damage to a sensitive area.

Marine oil pollution is heavily regulated in Canada and internationally through treaties and domestic federal legislation. The *Arctic Waters Pollution Prevention Act* (and its accompanying regulations) is the primary vehicle through which shipping is controlled in the Arctic area, and which has recently been amended to include a wider scope of geographic coverage, up to 200 nautical miles from the previous 100 nautical miles.

This presentation will discuss the current regulatory regime governing oil discharge into Arctic waters under the AWPPA and potential areas for improvement.

Éric Houde (Ministère de la Sécurité publique)

The importance of coordination in all phases of risk management

The efficiency of the Québec government's response in the event of a disaster depends on the coordination mechanisms included in the provincial civil protection plan (*Plan national de sécurité civile*), which calls for the sharing of responsibilities among government departments and agencies according to their respective skills. The government's interventions, moreover, can be adapted depending on the type of disaster, and the plan also allows for coordinating governmental, municipal, private and volunteer resources to ensure the most effective response. Civil protection authorities coordinate the actions and resources of provincial departments and agencies so as to support municipalities once they are no longer able to cope with the impacts of a disaster.

Martin Blouin (Canadian Coast Guard) et Kenneth Lee (DFO - Bedford Institute of Oceanography (COOGER))

Modeling of the dispersion of oil-mineral aggregates in ice-infested waters

From January 27 to February 1, 2008, a group of researchers and technicians from the Canadian Coast Guard (CCG) and Fisheries and Oceans Canada tested a new intervention method designed to counter the negative environmental impacts of an oil spill in the icy waters of the Gulf of St. Lawrence. The exercise, carried out aboard the ice-breaker NGCC Martha L. Black, sought to achieve in situ confirmation of the effectiveness of an experimental process developed to break up oil-mineral aggregates in a natural environment characterized by the presence of ice. The process rested on combining fine minerals with the energy produced by the ice-breaker's propellers to break up the oil spill and disperse it in the water column. Three tests were carried out, during the course of which around 600 litres of Heidrun crude oil were inserted into the waters at about 12 km from the Matane shoreline.

Water samples were gathered at different depths during the tests, and initial observations under a fluorescent microscope confirmed the formation of oil-mineral aggregates. The a posteriori analysis of the total oil content of the water samples allowed for illustrating the changes in the contaminant plume surrounding the ice-breaker during the tests. The Department of Fisheries and Oceans' Centre for Offshore Oil, Gas and Energy Research (COOGER) conducted additional tests in the lab, which indicated that 55% of the oil had undergone biodegradation due to microbial activity, and this after an incubation period of 56 days at 0.5°C.

Christopher King (Petro Nav) and Marc Desgagnés (Groupe Desgagnés)

Oil spill response exercise in arctic community

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Denis Lefavre (Canadian Hydrographic Service)

Ice drift under the action of currents and winds in the Gulf of St. Lawrence

The presentation considers the case of an ice drift that occurred in March of 2005, and explores certain simultaneous factors, i.e., wind, currents, and ice thickness and cover. The currents and winds are identified as key elements, and their relative contribution to the drifts observed in the following two regions is assessed: the northwestern region of the Gulf of St. Lawrence, between Sept-Iles and Mont-Louis, and the Gaspésie coast between Rimouski and Cap-Chat. The analysis reveals that similar to open water, two separate forces, namely currents and winds, control the movement of ice fields. Once an ice field reaches shore and finds itself sheltered from the wind, however, it stops moving and can even spread. An oil spill on an ice field would behave in much the same way. This analysis has proven useful, compensating for the difficulties in visually monitoring oil spills in ice fields and improving our understanding of how such an oil spill would spread. The presentation also addresses the most recent forecasts involving air-ocean-ice models. This initiative is ongoing, and includes the participation of Environment Canada, the Meteorological Service of Canada, the Canadian Ice Service, and Fisheries and Oceans Canada.

Danielle Cloutier (CIMA+)

Oil and Ice: Interaction, Behavior, and Impacts

When oil is spilled at sea, one of the challenges is to assess the overall impacts on the environment. It is mostly the case when oil is spilled in the presence of ice. This includes spills that occur on top of or underneath solid, stable ice extending off shore (land-fast), into an area of drifting ice floes (pack ice), or onto an ice-covered shoreline. Oil spills in the presence of ice are a subject of great concern to corporations, local residents, and government agencies involved in oil exploration, production, and transportation. Oil and gas exploration, extraction, and transport can impact wildlife in several ways, from acute and highly visible effects of a large spill, to the less obvious, longer-term impacts of ingestion or uptake of toxic substances. Being able to assess the impacts on wildlife and identifying sensitive habitats is crucial in order to establish an adequate efficient emergency and cleanup program. This paper will present a review of the impacts of oil spilled at sea in the presence of ice. The purpose of this presentation is to raise questions on the knowledge we need to acquire in the near future.

Scott R. Lundgren (U.S. Coast Guard)

U.S. Coast Guard Deepwater Horizon Response Overview: Response Organization, Operational Strategies, and Removal Outcomes

The Deepwater Horizon oil spill was the largest and most complex ever faced by the United States, prompting a response effort that reached unprecedented levels and remains an active cleanup to this day. Using the U.S. coastal oil spill classification standard, the Macondo well spilled the equivalent of a “major discharge” on nearly an hourly basis for the 87 days before the source was secured. This response-focused presentation will offer a summary of the incident and the immense and complex response organization that employed a peak of 48,200 responders and used the full spectrum of spill response countermeasures. The Deepwater Horizon response highlighted the strengths of the U.S. National Oil and Hazardous Substance Pollution Response System, but adaptations to challenges over the course of the response reveal potential areas for systemic improvements. Multiple incident reports have been issued or are forthcoming that capture lessons and recommendations to improve future spill response preparedness.

Kenneth Lee (DFO - Bedford Institute of Oceanography (COOGER))

Dispersion of Oil Released from the Deepwater Horizon Oil Spill Following Subsurface Injection of Corexit 95000

The Deepwater Horizon MC252 released methane gas and oil into the marine environment. To reduce the impact of the surface oil reaching sensitive coastal environments, the dispersant Corexit 9500 was directly injected into the wellhead at a depth of 1500m. Based on our knowledge of physical and chemical processes very small oil droplets (<100 microns in diameter) were predicted to form within the water column. Indeed, a subsurface oil plume (between 1000 and 1300 m depth) was observed to emanate from the Deepwater Horizon spill site in the Gulf of Mexico. Sea-

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going data was collected from the *R/V Brooks McCall* to monitor the presence of the small oil droplets and their subsurface dispersion. The vessel was also equipped with standard oceanographic equipment to measure conductivity, temperature and depth (CTD), Colored Dissolved Organic Matter (CDOM) and *in situ* dissolved oxygen (DO₂). During the study period, over 190 discrete locations were sampled from the wellhead to a distance of approximately 50 km. Based on real-time data recovered during the CTD down-cast, sample depths were selected for the recovery of water samples for analyses of oil droplet size (LISST laser particle size analysis) and hydrocarbon fluorescence. The LISST particle size analysis correlated with CDOM results which showed an anomaly attributable to oil at 1000–1300m depth with the strongest signal near the wellhead during oil release and reduced levels with distance in the direction of ocean currents along the isobath. The CTD DO₂ showed a depression attributed to biochemical oxygen demand from the microbial degradation of subsurface oil. The data provided insights on the transport, fate and effects of oil released from the Deepwater Horizon MC252 well.

Georges M. Chalos (Chalos & co.)

A brief introduction to the U.S. Oil Pollution Act of 90 (OPA 90) and the National Pollution Fund Center's Oil Spill Liability Trust Fund

On August 18, 1990, and in the wake of the EXXON VALDEZ oil spill, the U.S. Oil Pollution Act ("OPA 90" or "OPA") was enacted into law in response to the need for specific legislation governing the discharge or substantial threat of discharge of oil into navigable waters, adjoining shorelines, and exclusive economic zones of the United States. The Oil Spill Liability Trust Fund was established and designated as the funding source for carrying out the statute with its administration having been delegated to the Coast Guard, sparking the creation of the National Pollution Funds Center ("NPFC"). Together, we will briefly visit the historical underpinnings of current US pollution legislation, its strict liability regime, recovery rights and remedies for aggrieved and Responsible Parties, and look to future reforms following the ATHOS I and DEEPWATER HORIZON pollution incidents.

Steve Lehman (NOAA)

NOAA Response to the Deepwater Horizon release

NOAA responded in several capacities during the response to the Deepwater Horizon. It provided scientific support to the US Coast, acted as the Federal Trustee for marine resources, provided weather forecasting, managed the closure and subsequent reopening of over 50% of the Gulf of Mexico's commercial fisheries and is managing the injury and damage assessment related to the release. In the process of this response, NOAA was at the center of a variety new response techniques and tools. Among these is the use of dispersants in the very deep ocean, a common operating picture using geo-spatial data broadcast over the internet, satellite telemetry and interpretation for oil footprint calculations and management of the most intensive subsea data collection effort in spill response history. This presentation will briefly touch on all this efforts and will discuss on-going shoreline treatment activities.

Michael Hebb (Pol-E-Mar inc.)

The development and implementation of new optical technology for real-time oil spill detection

Michael Hebb of Pol-E-Mar will discuss the development and implementation of new optical technology for real-time oil spill detection. This newly developed technology is now successfully used by oil & gas sector entities/operators as a reliable cost-saving mechanism for containing and preventing accidental discharges of oil pollution, including many industrial and marine applications.

Key system attributes include: 1) Near-zero maintenance, 2) High (micron-level) sensitivity for a comprehensive range of oils, i.e. detection of heavy crude-oil to lighter-fractions such as jet-fuel, and 3) System flexibility and adaptability for varied application requirements and installation environments (freshwater, marine, wet/dry industrial drainages, ports and harbors, coastal and offshore).

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Franz Seebacher (Hermont Marine inc.)

Technologies available to remove oil from water aboard a ship today

Getting oil into bilge water is easy; removing oil from the bilge water is difficult and complex, sometimes impossible.

Oil in bilge water is present as free oil, macro and micro emulsion as well as in solution. The distribution of oil in the bilge water depends on what type of oil it is, how the oil gets into the bilge, how the oil/water mixture in the bilge is agitated and also how long oil and water are in contact. While the term oil suggests specificity, oil is far from that. It is complex and diverse, ranging from light distillate via different fuel grades, to complex lube oils and synthetic oils.

Compliant bilge water effluent is generally achieved by removing oil from the bilge water through static separation and skimming in the pre-separation process, enhanced gravity separation in the oily water separator and adsorption as the most common effluent polishing process.

The paper discusses the impact and benefits of the various technologies on the production of compliant bilge water effluent aboard a ship.

Pierre Samson (SIMEC)

ECRC-SIMEC, a Response Organisation: 16 years later, where do we stand?

ECRC-SIMEC with its six response centres, its three operational regions, its inventory of specialized response equipment, its fulltime personnel, its trained responders assures to over than 2 300 members a level of oil spill response preparedness, in line with the Canadian regulations. Oil Handling Facilities and ships can then have in place a contract giving them quick response in case of a need.

When facing a marine oil spill, they can contact ECRC-SIMEC which will immediately activate its own resources, will quickly evaluate the situation in collaboration with their representative and the governmental agencies involved, will plan and execute the appropriate response strategies, assuring, through a Spill Management System, the coordination of all the operations going on in the field: confinement, protection, recovery, shoreline treatment, wildlife hazing, waste segregation, etc.

Since its beginning, ECRC-SIMEC responded to over 240 incidents involving a variety of products, in different climatic conditions and locations, for durations of one day to many months, involving few up to many hundreds of responders.

Over all those years, ECRC-SIMEC has evolved, changed and improved its equipments, tools and ways of doing things. Sixteen years later, where do we stand?

Vassilios Pamboukes (MEMCI & IMQ) and Éric Esclamadon (Canadian coast guard college)

Marine Oil Pollution – Training and Preparation for Emergency Response

Effectively combating an oil pollution emergency within maritime jurisdictions where bulk petroleum products are imported can only be accomplished through cooperative training and exercising between all the key stakeholders.

Do we fully understand the *Maritime Interface*, and how it is supposed to work during an oil pollution emergency? What are the key connections between our land-based emergency responders, mariners, industry officials and governmental agencies having jurisdiction?

How capable are we in organizing an effective Unified Command, fully capable of developing viable Incident Action Plans (IAP)?

A Maritime Incident Resources & Training Association (MIRT) is one proven way to provide a proactive, regional emergency management and response partnership whose primary goal is to provide:

- Common methodologies and pre-planning for marine emergencies
- Specialized training and expertise

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- Shared equipment resources
- Periodic exercises for the marine environment

The marine environment is shared by all, and the ecological threats we face today know no borders. Therefore, we must commit to greater cross border alliances between nations, state and provincial authorities, local officials and academic learning centers.

Christophe Rousseau (CEDRE)

Accident and chemical hazards at sea : The French experience of chemical tankers accidents

Oil slicks are the uncontested media darlings of all accidental marine pollution, primarily due to the masses that gather in response to each new incident. There is, however, another more clear and present danger: the risks involved in the transportation of hazardous materials. The global chemical industry involves major flows of merchandise from production to consumption zones. 2,000 of the 37 million chemical products used by man are habitually shipped by sea, a fast-growing mode of transportation. The shipping trade has increased 3.5 times in the past two decades, keeping pace with expanding world markets. This growth in marine transportation, combined with the sheer size of today's ships, constitutes a certain risk. The threat of an accidental chemical product spill at sea is worrisome to many economic and institutional stakeholders, for the ensuing pollution is often invisible and seemingly difficult to control. A recent CEDRE study identifies the rise in the worldwide number of maritime accidents involving HNS between 1917 and 2009, specifying the causes of the accidents as well as the types of cargo and the products spilled. France, the site of several chemical tanker accidents (Ievoli Sun, ECE), has developed an expertise in the management of these maritime events and the associated scientific, technical and operating difficulties.

Sonia Laforest (Environment Canada)

eSPACE : emergency Spatial Pre-SCAT for Arctic Coastal Ecosystems

Many federal departments have functional security and emergency preparedness responsibilities in Arctic Canada. Environment Canada has an important role for preparedness for a potential environmental emergency along the coastlines; however there is a significant gap in Environmental Sensitivity Mapping and coastal information (shoreline segmentation) in general in most of the Arctic region. The Arctic presents different challenges and its geography is impressive for traditional methods of shoreline interpretation and mapping. Northern economic development including more ship traffic increases the risk of an incident that may impact local populations and the fragile ecology. Increased exploration activities and ship traffic, compounded with predicted impacts of climate change are major drivers of why Environment Canada intends to initiate this project to improve emergency preparedness and response in Canada's north.

The objectives of the eSPACE project is to identify and map shoreline characteristics, coastal habitats, and resources at risk using current protocols (video by helicopter) and assess the potential for producing comparable outputs using satellite technology and also, to examine the potential of satellite tools to monitor and predict biodiversity in the Beaufort Sea with a focus on marine birds and mammals.

Mario Labonté (Oiseleurs du Québec)

Training program for emergency response to wild birds during oil spills

The Fondation des Oiseleurs du Québec has for more than twenty years been holding training sessions as part of the emergency oil spill response plan. Offered in partnership with the Canadian Wildlife Service (CWS), the Environment Canada office for Québec, the Canadian Coast Guard, and the Eastern Canada Response Corporation Ltd. (ECRC), this training program aims to prepare people for responding in the event of an oil spill.

The presentation will briefly address certain key steps in the process (inventories, bird scaring and capture) which are designed to limit the impact of an oil spill on bird life.

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Frank Laruelle (ITOPF)

International regime for compensation/ reasonableness

Compensation for accidental oil spills from ships is governed by a number of international conventions, the conditions of which depend on the type of ship and the product spilled. The presentation will focus on describing the field, limitations and criteria for the application of those conventions governing ship-based oil spills. It will notably address the 1969 International Convention on Civil Liability for Oil Pollution Damage, revised in 1992, as well as the 1971 International Convention on the Establishment of an International Fund of Compensation for Oil Pollution Damage, also revised in 1992. The scope of the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Bunkers convention), which addresses damages associated to pollution incidents by bunker oil from ships other than oil tankers, and the 1996 International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea, which was recently amended, will also be discussed.

Richard Desgagnés (Ogilvy Renault)

Compensatory regime in Canada for marine oil spills in Canada

Chantal Guénette (Garde côtière canadienne)

Cost recovery for ship-source oil spills

The Canadian Coast Guard is the main marine civilian organization of the Canadian Government and the lead agency for response to ship-source spills and spills entering Canadian waters from another country or from the high seas. Following the general principle of international environmental law, Canada subscribes to the “polluter pay principle”. The polluter (shipowner) is liable for reasonable costs and expenses for pollution damage and clean-up. In addition to Canada’s domestic Ship-source Oil Pollution Fund, Canada is a state party to the 1992 Civil Liability Convention, the 1992 Funds Convention and its Supplementary Fund Protocol. The legislative authorities under which the Canadian Coast Guard manages its cost recovery activities are found in the *Marine Liability Act*.

The presentation outlines the legislative authorities, policy and procedures for the preparation and submission of pollution claims including the documentation requirements and the concept of reasonableness of costs and expenses

Frank Laruelle (ITOPF)

Case studies

The role of ITOPF (International Tanker Owners Pollution Federation) and the response operations following marine accidents will be described in this presentation. Wherever possible, the choice will cover accidents that occurred in cool temperate and sub-polar regions.

Véronique Gagnon (Canadian Coast Guard)

The management of sandbags and oil buried in the dunes of the Magdalen Islands – Case of pollution following the sinking of the Irving Whale

On September 7, 1970, the *Irving Whale* barge sank in the Gulf of St. Lawrence, causing an oil spill with effects felt as far away as the Magdalen Islands. At the time, the PCB-contaminated oil washing up on beaches was captured in bags that were then buried in the nearby dunes. While the exact number of bags thus buried remains unknown, estimates range between 150,000 to 200,000.

These bags, because of ongoing dune erosion and movement, are rising to the surface on a regular basis. This phenomenon has been controlled by the Canadian Coast Guard (CCG) since 1996. Thus far, the CCG has conducted around forty recovery exercises and reclaimed 7,400 or so bags.

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In 2008, the concerns of the residents of the Magdalen Islands and the recurring nature of the recovery activities led the CCG to execute *the first comprehensive evaluation of the impacts of these buried bags*. The integrated and multidisciplinary approach adopted by the CCG allowed for evaluating the pros and cons of recovering all of the buried bags immediately or waiting until they slowly rose to the sand's surface. The conclusions, while twofold (it was agreed that the contents of the bags could potentially contaminate the environment, but that the CCG's interventions were also modifying this same environment), allowed the CCG to modify its work methods and thereby minimize the impacts of its recovery activities on the environment.

Dr. Dagmar Schmidt Etkin, Environmental Research Consulting (on behalf of the American Salvage Association (ASA) and the North American Marine Environmental Protection Association (NAMEPA))

Risks from Potentially-Polluting Shipwrecks

Over 8,500 potentially-polluting wrecks of large ships have been identified in marine waters worldwide. These wrecks contain an estimated 1.5 to 15 million tonnes of oil and hazardous materials. About three-quarters of the wrecks are from casualties related to World War II. Each wreck presents a pollution risk, the magnitude of which depends on the vessel construction and condition, its oil and hazardous material content, marine conditions, and the proximity to sensitive environmental and socioeconomic resources. With this large number of continuously-aging wrecks, there is great concern about potential leaks and releases of oil and hazardous materials that could cause significant damage. Previous experience with leaking wrecks, such as the S.S. Jakob Luckenbach off California in which there were serious impacts to birds before the source of the leakage was discovered, suggest that an assessment of these wrecks need to be done nationally and internationally. With the large number of wrecks and the significant resources required to remediate each wreck, the magnitude of the issue is quite overwhelming. This presentation will discuss the progress made in the last several years to address the issue of these wrecks based on risk assessment approaches.

Bert van der Velden (SMIT Salvage)

Oil Recovery Operations from the Deep; Projects, Developments, and Technologies

Increasing awareness and public concern for the environment are causing more attention for the issue of potentially polluting shipwrecks. This has contributed to the further development of wreck survey technology to detect oil in wrecks and the associated oil recovery systems. These new systems take account of the need for rapid intervention when an object sinks and safe transfer pollutants to the surface if feasible. SMIT Salvage continues with their pioneering work on new systems for the cost effective assessment of pollution threats and the (diverless) recovery of pollutants from sunken vessels. SMIT Salvage has a vast experience of many diver assisted hot tap operations and remotely operated Pollutant Recovery (PolRec) by ROVs, either in emergency response salvage operations or planned wreck removal/oil recovery operations. This presentation will highlight the different solutions and technologies that can be applied to pollutant recovery of wrecks, depending on the depth, vessel type, environmental conditions and type of pollutant.

Biographies

Biographies

Larbi A. Yahia (Institut maritime du Québec)

Larbi A. Yahia, manager at the Institut maritime du Québec's emergency measures training centre, holds a Master's degree in Maritime Administration from the World Maritime University in Malmö, Sweden, as well as a Master's degree in Maritime Resources and Marine Transportation from Université du Québec in Rimouski. Mr. Yahia also has a Bachelor's degree in Maritime Management and obtained his unrestricted navigation officer diploma in 1980. He joined the Institut maritime team in February 2000, and has been responsible for developing and overseeing marine transportation research projects and training programs. Mr. Yahia began his maritime career in 1977, on board ships such as roll on/roll-off ships, gas tankers and passenger vessels. After having obtained his Master Degree in Maritime Administration in 1986, he became responsible for managing maritime navigation and safety issues at a regional, national and international level. Since 1989, Mr. Yahia has held several positions in the areas of teaching and marine research, where he has focused on marine policy issues. He is the author for various publications on the delimitation of maritime spaces and the marine environment protection, particularly in the Mediterranean Sea

Martial Ménard (Canadian Coast Guard)

Martial Ménard has a Bachelor's degree in Theology, a second bachelor's degree in Business Administration (with a minor in Finance) from Université Laval, and an M.B.A. with a major in Marketing from Université de Sherbrooke. Once he had completed his studies, Mr. Ménard worked as a marketing analyst for the GREPA (Groupe de recherche en économie et politique agricoles) research group at Université Laval. He began his career as a federal public servant in 1999, and has since then held positions as a public opinion analyst at Communication Canada and a marketing analyst at Parcs Canada in Québec. He has since 2000 been an economist with Fisheries and Oceans Canada for the region of Québec. In addition to his regular duties, he also carries out various economic studies for the Canadian Coast Guard.

Martin Blouin (Canadian Coast Guard)

Captain Martin Blouin has a diploma in Nautical Science from the Canadian Coast Guard College. During his more than fifteen years sailing on board CCG ships, he completed numerous missions aboard ice-breakers in the Canadian Arctic. For the last thirteen years, Captain Blouin has been a superintendent with the Environmental Response program for the Canadian Coast Guard, Québec region. The Canadian Coast Guard is the federal agency responsible for responding to incidents involving the pollution of Canadian waters by ships, oil facilities and other unknown sources.

Josée Lamoureux (Transport Canada)

Josée Lamoureux is the Acting Manager of Environmental Response System in Marine Safety at Transport Canada in Ottawa. Josée has been in her current position since 2009. Prior to this, she held the position of Senior Advisor on Hazardous and Noxious Substances in Marine Safety within Transport Canada. She has a solid background in emergency response and has worked as a Chemical Advisor in Transport Canada's Emergency Center, CANUTEC for several years. Having received her bachelor degree in Chemistry from Montreal University, she also worked as an environmental advisor for the department. Josée is currently the head of the Canadian delegation at the OPRC-HNS technical group at the International Maritime Organization in London.

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Lilia Khodjet El Khil (Shipping Federation)

Ms. Lilia Khodjet El Khil is Director of Environmental Affairs at the Shipping Federation of Canada. Lilia holds a PhD in Law (2001) and examined ship-source pollution as her doctoral thesis. In 2002, she joined a Centre of the International Maritime Organization in Malta, first within the framework of a reception facilities project, and then as a manager dealing with issues related to the protection of the marine environment.

Jean-François Belzile (Shipping Federation)

Jean-François Belzile is Director of Marine Operations at the Shipping Federation of Canada. Jean-François is a graduate of the Institut Maritime du Québec (Rimouski) and has sailed in both the coastal and foreign-going ships. In addition to his experience in the dry cargo and RO/RO sectors, he also has tanker experience on petroleum product carriers (Soconav) and LPG vessels (Maersk). Jean-François came ashore in 2000 to work for a major container terminal operator in Montreal, most recently as Senior Terminal Superintendent and Vessel Planner.

Rui M. Fernandes (Fernandes Hearn)

Rui Fernandes, B.Sc., J.D., LL.M., was admitted to the Ontario Bar in 1982 and practices civil litigation. He is involved in all aspects of transportation law (aviation, marine, trucking, rail, freight forwarding, logistics and warehousing). His insurance practice includes coverage issues, errors and omissions claims, professional liability claims, marine and aviation, inland marine, property and casualty liability defense, and subrogation. Rui Fernandes has been included in the *Lexpert*[®]/*American Lawyer Guide* to the Leading 500 Lawyers in Canada. Mr. Fernandes is listed in the International Who's Who of Shipping and Maritime Lawyers, in Woodward and White's Best Lawyers in Canada in the areas of transportation and maritime law and is noted in *Lexpert* as a maritime law practitioner. He is ranked by *Martindale-Hubbell* as a leading practitioner. Mr. Fernandes holds certificates from the University of Windsor for its ADR Workshop and for its Advanced ADR Workshop. Mr. Fernandes has appeared before the courts of Ontario, British Columbia, Alberta, Nova Scotia, the Federal Court of Canada, the Federal Court of Appeal and the Supreme Court of Canada. Mr. Fernandes also brings experience to his practice from his business background in running a number of successful businesses including vessel chartering, bio-technology, and publishing.

Éric Houde (Ministère de la Sécurité publique)

Mr. Houde has been working for the Ministère de la Sécurité publique since 1978. From his first position with the general office of correctional services, he went on to hold an administrator position, between 1990 and 1998, in several Québec detention centres, including the Centre de détention de Sherbrooke. While stationed at the Sherbrooke detention centre, Mr. Houde developed and managed emergency measures for a prison setting.

In March 1998, he agreed to work at the DGSCSI (Direction générale de la sécurité civile et de la sécurité incendie) headquarters for civil protection and fire safety. While initially assigned to the position of regional director, he was subsequently promoted to head of operations, which brought him supervising the work of seven regional offices, the government operations centre, and the regional support team. In November 2008, Mr. Houde was named acting head of the division that oversees all of the DGSCSI's laws and regulations as well as its disaster prevention program. He was subsequently named assistant general manager of the DGSCSI in August 2009.

Kenneth Lee (DFO - Bedford Institute of Oceanography (COOGER))

Dr. Kenneth Lee started his career with Fisheries and Oceans Canada in 1982 as an NSERC Visiting Scientist at the Institute of Ocean Sciences in the Marine Chemistry Division studying the fate and effects of oil spills and oil dispersants. He is currently the Executive Director of Fisheries and Oceans Canada's Centre for Offshore Oil and Gas Energy Research (COOGER). In terms of oil spill response research, Dr Lee has conducted numerous research studies including field trials

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to develop and evaluate the efficacy of natural attenuation, oil dispersant use, bioremediation, surf-washing. Dr. Lee is the recipient of Fisheries and Oceans Canada's Prix d'Excellence (Science) for his research contributions on environmental issues associated with offshore oil and gas activities; and the Government of Canada's Federal Partners on Technology Transfer (FPTT) Leadership Award for the development of marine oil spill countermeasures.

Marc Desgagnés (Groupe Desgagnés)

Mr. Desgagnés holds a Bachelor's Degree in Civil Engineering from Laval University since 1989. In 1994, he obtained a Master Degree in Business Administration.

Mr. Desgagnés' shipping career begins in 1994 when he joins Groupe Desgagnés. He has then been in charge of special projects and responsible for the development and the implementation of the Quality and Safety Management System for the ISM certification of all the company's vessels. In 1999, Mr. Desgagnés is appointed Quality and Safety Manager and the following year the crewing department is added to his responsibilities. In 2004, he is designated Company Security Officer (CSO). Following the reorganization of the company in 2008, Mr. Desgagnés is appointed Quality, Safety, Security and Environment Manager.

His main responsibilities include the development, implementation and follow-up of plans and procedures regarding quality, safety, security, and environment protection, as well as the compliance with all regulations such as the ISM Code, ISO 9000, the ISPS Code, and the TMSA program (Tanker Management Self Assessment Program) for all the company vessels.

Denis Lefavre (Canadian Hydrographic Service)

Mr Lefavre graduated from the University Laval with a PH D. in Physics. Research Scientist and Manager of the Division of Modelling and Operational Oceanography, Canadian Hydrographic Service (Maurice Lamontagne Institute, Fisheries and Oceans Canada), he works on water-level forecasts in the St. Lawrence River. Mr Lefavre is also the National CHS Chairman of the Committee on Tides, Currents and water Level.

Danielle Cloutier (CIMA+)

Ms. Cloutier has a Ph.D. in Oceanography with a specialization in Marine Geology and Sedimentology, and her graduate studies concerned the impact of oil spills in cold water. She quickly developed a growing expertise in this area, particularly while working with the Canadian Coast Guard to develop a response method for dispersing contaminants in the event of oil spills in icy waters.

Ms. Cloutier has nearly fifteen years of experience in the environmental sector. She currently holds a position as environmental project manager with CIMA+, where she manages various projects, particularly those involving coastal erosion, post-dredging sediment management, and shoreline restoration. Ms. Cloutier has also been teaching in the Master's program in Biogeosciences-Environment Sciences at Université Laval since 2007. She teaches integrated resources and space management methods and practices.

Scott R. Lundgren (US Coast Guard)

Scott Lundgren heads the environmental preparedness and response function at the First U.S. Coast Guard District in Boston, where he worked in multiple pollution-related roles since 1992. He supports five Coast Guard Sectors from New York through Maine in this mission, and serves as the alternate co-chair of Regional Response Teams I, II, and the Joint Response Team with the Canadian Maritimes. Scott holds master's degrees in Environmental Management from Harvard University and in National Security and Strategic Studies from the U.S. Naval War College. He served two month-long tours on the National Incident Commander's Staff for the BP/Deepwater Horizon spill response as the CG's pollution subject expert on the NIC's interagency solutions group.

Biographies

Georges M. Chalos (Chalos & co.)

George M. Chalos is the founding member of Chalos & Co, P.C.-International Law Firm and is experienced in all facets of maritime civil and criminal litigation. Mr. Chalos regularly acts as lead counsel in high profile U.S. Federal and State court matters, and has assisted in presenting claims before the London High Court of Justice. Additionally, Mr. Chalos is recognized as a leading advocate with respect to OPA, Marpol and other environmental pollution matters, including and particularly the defense of criminal pollution cases, as well as complex litigation arising from pollution incidents. Mr. Chalos is a published author with respect to the United States' prosecution of suspected Marpol violators, OPA '90 and the presentation of claims to the NPFC-Oil Spill Liability Trust Fund.

Steve Lehman (National Oceanic & Atmospheric Administration - NOAA)

Mr. Lehmann has served as the NOAA Scientific Support Coordinator (SSC) for the New England region since 1990, providing training, contingency planning support and coordinating scientific adviser to the US Coast Guard, state agencies and others. He has acted as the SSC for every notable marine pollution emergency in the region in addition to other major spills around the country and internationally. These include:

Marine Emergencies:

- Exxon Valdez, Alaska
- Persian Gulf War Oil Spill, Saudi Arabia and Kuwait
- Athos-1, Delaware River/Philadelphia
- M/V Selendang Ayu, Alaska
- Deepwater Horizon, Gulf of Mexico

Mr. Lehmann is the NOAA representative to Regional Response Teams for regions 1, 5 and 7, the Joint US/Canada Response Team and is the chairman of the National Response Team's Science and Technology Committee.

Michael Hebb (Pol-E-Mar inc.)

Michael Hebb has been serving the Industrial and Marine environment customers since 2001 and with POL-e-MAR for the last 5 years. POL-E-MAR is the Canadian Representative for several international companies with ties to Engineered Systems for the Marine Industry, supplying equipment and expertise for:

- **P**ollution - Detection, Containment, Remediation of Hydrocarbon spills
- **E**nvironmental Protection - Ballast Water Treatment Systems for on board vessels
- **MAR**ine Asset Protection - Marine Fendering, Port & Harbour Equipment and Corrosion Control Systems for Marine Piles

Franz Seebacher (Hermont Marine inc.)

Since January 2011, Franz is the president of Hermont. Hermont Marine represents a number of well known environmental products and Hermont Tech provides after sales service on these products.

Hermont assists ship owners with environmental expertise, enabling the ship owner to meet his operational goals in a tightening marine environment. Hermont can provide products, engineered solutions and shipboard support in areas of MARPOL Annex I, Annex IV, Annex V and annex VI. In addition Hermont represents RWO Clean Ballast, one of only 2 fresh water certified ballast water treatment systems.

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Franz will talk about bilge water, an area he has considerable experience in. Hermont participated in the 5ppm bilge water discussion, pioneered oil content meter calibration to satisfy annual compliance verification of the bilge water treatment system and does now since more than 6 years bilge water verification on board ships

Pierre Samson (SIMEC)

Mr. Samson graduated from the University of Sherbrooke (1978), with a chemical engineering degree.

He worked for the oil industry for over 15 years, at the Ultramar Canada and Gulf Canada refineries located in St-Romuald and Montreal-East, holding various responsibilities.

In June 1994, he joined ECRC ~ SIMEC as Manager for the Quebec Region.

He is responsible for the overall management of the operational activities for the Quebec region, both in the preparedness and response mode.

Vassilios Pamboukes (MEMCI)

CEO, Maritime Emergency Management Consulting and Instruction (MEMCI)

Captain Vassilios "Val" Pamboukes has over 35 years of professional fire service experience, including: traditional fire suppression, mass-casualty incident planning, marine emergency management, oil spill response and marine fire-fighting.

Val has authored the DHS/FEMA-Approved Course: *Command Strategies and Tactics for Marine Emergencies*, and works with many training partners including:

- Maine Maritime Academy
- Institute Maritime du Quebec, Canada
- Maine Emergency Management Agency
- United States Coast Guard - SNNE
- Tri-State Maritime Safety Association
- NH Dept. of Environmental Services

He remains active as a working liaison for the regional Maritime Incident Resources and Training Association (MIRT), and serves as a member of the Area Maritime Security Committee - USCG Sector Northern New England

Val was awarded the Meritorious Service Award by the New Hampshire Fire Service Committee of Merit, for humanitarian work performed in Greece during the major forest fire events of 2007.

Eric Esclamadon (Canadian coast guard college)

Eric Esclamadon is a graduate of the Canadian Coast Guard College's Marine Communications and Traffic program. He also has a Bachelor's degree in Marine Biology, along with a Master's in Maritime Resources Management. His thesis notably concerned "alternative" methods of responding to oil spills. For nearly five years, he was appointed at the Coast Guard's Communications Centre in Les Escoumins, where he was involved in the management of normal marine traffic as well as communications in the case of an emergency, distress call or pollution-related situation. For the past two years, he has been teaching in the Environmental Response program at the Canadian Coast Guard College, where he trains CCG staff via ongoing educational initiatives. This training is sometimes given to personnel from other departments or to employees in the private sector.

Biographies

Christophe Rousseau (CEDRE)

With a university education in Marine Biology, Christophe Rousseau went on to complete his military service as a reserve officer with the French Navy, where he was assigned to CEDRE in September 1979.

As a permanent member of CEDRE since 1980, Mr. Rousseau successively held the positions of assistant manager, then manager of the intervention department. In 1988, he was named manager of the CEDRE training centre.

Assistant director of CEDRE since 1995, he is responsible for the preliminary response activities, and as such, sees to the coordination of all of CEDRE's documentation, training, planning and audit activities. Mr. Rousseau is also responsible for quality, environmental issues and communications.

Sonia Laforest (Environment Canada)

Sonia Laforest holds a Bachelor's degree as well as a Master's degree in Physical Geography from Université de Sherbrooke, with a major in coastal geomorphology. She has been working in Environment Canada's emergency response division since October 2001 in a position of an emergency operation officer. Ms. Laforest has in fact been assigned to the marine division since her arrival at Environment Canada, with one of her main projects involving the breaking up of coastlines in the Québec region. She chairs the SCAT (Shoreline Cleanup Assessment Technique) National Working Group at Environment Canada. Ms. Laforest has participated in the management of numerous incidents, including the international initiative for management of contaminated shorelines subsequent to the Heibei Spirit spill in South Korea (January 2008). She gives SCAT courses in various regions of Canada, and was recently invited by the REMPEC and CEDRE to give training on shoreline evaluation for a group from Maghreb in Tunisia.

Mario Labonté (Oiseleurs du Québec)

Mr. Labonté obtained a college degree in wildlife development from Cégep de La Pocatière in 1981. He founded, along with other members, the Fondation Les oiseleurs du Québec inc. in 1986. He held various positions on the foundation's board, and is currently fulfilling a mandate as president. In this role, Mr. Labonté is responsible for financial management, contract negotiation and the hiring and training of human resources. He also plans and oversees the organization's various biology projects. For the past several years, he has been the coordinator of the emergency program in the event of oil spills, and has also given numerous training sessions on this same topic.

Frank Laruelle (ITOPF)

Dr Franck Laruelle is a marine biologist and previously worked with the French research organization CEDRE. He has acted as a technical adviser on behalf of the French government on a number of spills, including ERIKA and PRESTIGE. Franck joined ITOPF in 2006 and was promoted to Technical Team Manager in January 2010.

Richard Desgagnés (Ogilvy Renault)

Richard Desgagnés is a partner and co-Chair of Ogilvy Renault's Transportation Law Team.

Mr. Desgagnés handles cases involving marine pollution, charterparty disputes, ship and aircraft casualties, shipbuilding and ship repair contract disputes, product liability disputes, ship and aircraft liens, insurance and insolvency, state immunity as well as a variety of general commercial disputes.

He regularly pleads before the Quebec courts and the federal courts of Canada, and has successfully represented clients before all the courts, including the Supreme Court of Canada.

Mr. Desgagnés has also appeared as an expert on Canadian maritime law before US courts and as counsel before arbitration tribunals.

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In addition to his litigation work, Mr. Desgagnés handles transactional work involving ship and aircraft financing, charterparty agreements and other agreements for the carriage and/or storage of goods.

The Ship-Source Oil Pollution Fund and the International Oil Pollution Compensation Funds are amongst the clients that Mr. Desgagnés represents or advises.

Chantal Guénette (Canadian Coast Guard)

Chantal Guénette holds undergraduate degrees in Biochemistry and Chemical Engineering and a Masters in Business Administration from the University of Ottawa. She began her career in environmental response in 1990 with S.L. Ross Environmental Research Ltd, working with a team of engineers on R&D of marine oil spill countermeasures. She later joined SINTEF in Norway as a Research Scientist and managed projects on response in Arctic conditions.

Subsequently, Chantal joined International Tanker Owners Pollution Federation as a Technical Advisor, where she attended many ship-source spills notably the *M/T Erika* in France and the *M/V Amorgos* in Taiwan.

Chantal was appointed Manager of Environmental Response for Canadian Coast Guard in 2009. She leads a team of experts in the national delivery of policies program related to preparedness and response to marine pollution incidents in Canadian or shared international waters.

Véronique Gagnon (Canadian Coast Guard)

Véronique Gagnon has a Bachelor's degree in Geography from Université Laval and a Master's in Water Sciences from the Institut national de la recherche scientifique (water, earth and environment centre). She specializes in aquatic ecotoxicology, and is particularly interested to organic contaminants such as oil products. Active in the management of interventions during ocean spills, Ms. Gagnon has been a member of the CCG's Environmental Response team since 2008.

Dr. Dagmar Schmidt Etkin, Environmental Research Consulting

Dr. Dagmar Schmidt Etkin has 36 years of experience in environmental analysis – 14 years investigating issues in population biology and ecological systems, and 22 years specializing in the analysis of oil spills. She has a BA from University of Rochester, and MA and PhD from Harvard University. Since 1999, she has been president of Environmental Research Consulting (ERC), specializing in environmental risk assessment, spill response analysis, and spill cost analyses. ERC's work focuses on providing regulatory agencies and industry with sound scientific data and perspectives for responsible environmental decision-making. Dr. Etkin is a member of the UN's Joint Group of Experts on the Scientific Aspects of Marine Protection, the American Salvage Association, the North American Marine Environmental Protection Association, and Maritime Law Association.

Bert van der Velden (SMIT Salvage)

Bert van der Velden graduated in 1996 at Delft University of Technology in the Netherlands with a Masters degree in Mechanical Engineering.

After University, Bert started to work for the Dutch crane builder Nelcon b.v. in the position of project engineer. Later on he became project manager of the engineering, construction and commissioning of ship to shore container gantry cranes in major container ports worldwide.

In 2000 Bert started to work for the Finnish company Kalmar industries (Cargotec) and became responsible for the sales and project realisation of Automated Container Handling Systems, such as the conversion project of the Container Terminal Burchardkai in Hamburg, Germany.

After working more then 12 years in the container handling industry Bert made the transition to SMIT Salvage in 2008 where he is heading the Innovation & Business Development department.