MARITIME INDUSTRY

Supporting Vessels at Risk for Hazards at Sea and Ashore

SPILL CENTER WHITE PAPER

The global ocean, incorporating the Atlantic, Pacific, Indian, Arctic and Southern oceans, covers 71% of the Earth. More than 80% of the world's trade is carried by seagoing vessels, and over 70% of global trade by value is carried by sea and handled by ports worldwide. Spill Center™, a North American leader in environmental spill support and claims management has expanded its services to the maritime and maritime-related industries, offering emergency services that help ship owners, ship managers and ship masters minimize damage to the environment, while controlling spill-related costs and limiting any potential liability after spills.

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Maritime Industry: Supporting Vessels at Risk for Hazards at Sea and Ashore

By Thomas Moses, Esq.
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Abstract

The global ocean, incorporating the Atlantic, Pacific, Indian, Arctic and Southern oceans, covers more than 70% of the Earth. Over 80% of the world's trade is carried by seagoing vessels, and over 70% of global trade by value is carried by sea and handled by ports worldwide. More than 11 million maritime containers arrive at United States seaports each year. Ships at sea lack the same kind of support and emergency response mechanisms that are available to land-based transporters after environmental spills of hazardous materials and pollutants. Spill Center™, a North American leader in spill support and environmental claims management since 1990, has expanded its support to the maritime industry, offering emergency services that help ship owners, ship managers and ship masters minimize damage to the environment while controlling spill-related costs and limiting any potential liability after spills.

Helping Clients Respond to Emergencies on Land and Sea

Spill Center™ has been serving clients whose operations put them at risk for environmental releases of hazardous materials and other regulated substances since 1990. In that time, the company has grown to become the North American leader in spill support and environmental claims management. Based in Hudson, Massachusetts, Spill Center serves a diverse client base, including motor carriers, shippers, truck leasing and rental companies, industrial service providers, chemical and manufacturing companies, some of the world's largest insurers, and ship owners and vessel management companies.

The mission of Spill Center is to help clients contain costs and limit potential liability after pollution events on the road, at sea and at their facilities. The Spill Center team is on call 24/7, 365 days a year, to provide:

- Immediate spill management
- Comprehensive regulatory expertise
- Timely, accurate spill reporting
- Automated alerting of key managers
- Spill contingency planning
- Cleanup contractor referrals
- Coordination of cleanup operations
- Invoice auditing to save clients money

- Thorough documentation of spills
- Claims resolution and negotiation
- Spill training for clients' employees
- Integrated mobile app for spill alerting

Spill Center has developed a proven method to place clients in a legally defensible position against third-party claimants and avoid being included as a responsible party to a pre-existing contamination problem. With a single call, website message or contact through the Spill Center mobile app, spill generators can get help finding cleanup contractors, completing required reports and thoroughly documenting incidents. The Spill Center team does it all in a low-cost way designed to help clients minimize costs and limit liability arising from environmental releases requiring cleanup.

Supporting Ships at Sea with Chemical and Medical Emergencies

Spill Center has been offering support to the maritime and maritime-related industries since 2013. One client is Hong Kong-based Fleet Management Ltd., which has offices around the world. Fleet Management provides a comprehensive range of ship management services to cargo ship owners worldwide and is responsible for the full technical management of more than 260 modern ships. It leverages the resources of Spill Center whenever one of its ships requires emergency assistance after an environmental release or other pollution event.

Spill Center is positioned to provide support to owners and managers of vessels involved in marine pollution events and spill-related claims wherever they occur around the world, helping them contain costs and limit liability arising from environmental releases. Spill Center offers chemical incident response support services, including immediate response management, comprehensive regulatory expertise and reporting, cleanup contractor referrals, invoice auditing, and a proven method to place the spill generator in a legally defensible position. Spill Center provides advanced communications technology and up-to-date listings of local, federal and international regulations, as well as spill reporting contacts and reporting deadlines. Spill Center also provides global communications and other services as required by clients.

Spill Center™ recently partnered with Q88 LLC, a technology leader in vessel management software systems for the tanker and dry bulk industries, and with Future Care, Inc., a leading provider of medical care management services to the maritime industry. Together the companies have developed the Q88 Response Center, a global support program for Milbros Onboard subscribers with chemical and medical emergencies. The Milbros System, a Q88 online platform, offers subscribers expansive data on the carriage of chemical and petroleum products in bulk.

The Q88 Response Center is designed to coordinate quick response and expert consultation for chemical spills/incidents and medical emergencies occurring onboard subscriber vessels at sea. Spill Center offers its advanced emergency response communication system and incident management services, including environmental, technical and legal expertise. At the Q88 Response Center, trained personnel monitor telephone calls, dedicated email and website messages for assistance on a 24/7 basis to gather the details, determine the issues and dispatch the right resources, according to Capt. Soren C. Ibsen, VP Milbros Systems.

“The Q88 Response Center is available to handle any issue related to chemical incidents or environmental spills requiring cleanup and reporting,” related Capt. Ibsen. “In cases of spills or other chemical incidents, the Center is able to provide expert advice, resources and contractors to Milbros Onboard subscribers to assist with mitigation of the incident and cleanup of the spill. These resources are invaluable to company managers, ship managers or ship masters in an emergency,” he added.

The Q88 Response Center also brings together the services of Future Care, Inc., a leading provider of medical care management services to the maritime and maritime-related industries worldwide. Future Care offers medical case management and cost containment services to ship owners and their crews 24/7, both onboard ships at sea and on land.

Since its founding in 2001, Q88 has been at the forefront of information technology, and its goal is to continue developing solutions to better connect the maritime industry. Q88 Milbros Onboard subscribers credit the company’s 24/7 global support and staff of maritime experts as key components in ensuring the flexibility and reliability needed to remain competitive in this ever-changing market.

The Future Care team includes physicians, nurses, and medical case managers experienced in managing seafarers’ healthcare, as well as access to preferred medical networks, explained Gordon Cooper, a Future Care spokesman. Medical emergencies in which crew members are accidentally exposed to hazardous chemicals or any other injuries or illnesses are handled by Future Care, which has been serving the shipping industry for 20 years.

“Future Care manages the medical response from the time of incident onboard the vessel through shore-side treatment, repatriation and out-patient care until the seafarer is fit to return to duty or achieves maximum medical improvement, as medically necessary,” explained Mr. Cooper. Future Care’s expert medical auditors review and negotiate all major medical and related charges incurred in the United States and in many ports worldwide, he noted.

Future Care is a leading provider of global medical care management services to seafarers, ship owners and managers and their International Group of P&I Clubs. Future Care’s experienced team of first responders and physician and nurse medical case managers actively collaborate with the treatment provider to ensure the highest quality medical care. By effectively managing the quality of the medical response in each case, Future Care reduces both the time and cost required to return the crewman safely to Fit-for-Duty status.

Providing Resources Needed After Shipboard Emergencies

Tom Moses, president and founder of Spill Center, observed: “This program gives ships at sea access to a world of resources that they need after chemical and medical emergencies.” Spill Center resources include advanced communication and geo-location technology and up-to-date listings of national and international environmental regulations, as well as spill-reporting contacts and reporting deadlines, said Mr. Moses.

Capt. Ibsen related that the Q88 Response Center gives Milbros Onboard subscribers a single call center to get help with chemical and medical emergencies while at sea. “With this partnership, our Milbros Onboard subscribers can now access expert cargo handling and cleaning, emergency response and medical advice all in one program,” he said.

“We’re extremely excited to be able to offer a program we felt the industry definitely needed. Positive feedback has been received from subscribers who have been introduced to the program,” he acknowledged. The Q88 Response Center will be available to Q88's Milbros Onboard subscribers at no additional charge. Ships will pay an hourly charge for services only when they need them.

“Oil spill response is well covered around the world with existing services, but the response organizations are not fully equipped or ready to handle a hazmat release from a tanker,” said Capt. Ibsen. “While the chemical tanker industry has been relatively safe and there are not many spills or releases, this new resource could prove invaluable in the case of a release. The Q88 Response Center has access to a global network of environmental experts and qualified contractors that can be called in to help with the mitigation and clean-up of an incident,” he noted.

Chemicals and hazardous substances can be found aboard all vessels at sea. When small amounts of these products are spilled on board or if drums or containers are leaking, the Center can assist with immediate response to the incident with advice on how to handle it or provide a list of contractors that would come aboard to help with resolving the hazard and complete the clean up operation.

Regarding the medical care aspects of the Response Center, the Future Care team is ready 24/7 to take the call from the Q88 Response Center to provide medical advice and take any steps necessary to resolve medical situations, related Capt. Ibsen.

“Future Care looks at the whole situation with the intention to get the patient back on duty with the best care in the right time frame at the overall lowest cost.” He observed that other medical services are available to the maritime industry, but oftentimes they first want to evacuate the patient from the ship, requiring the vessel to change course – at significant expense for the owner.” The Response Center alerts all parties on a notification list after incidents and documents all dates, times of calls and actions taken for future reference and to serve as a legal defense in the case of any third-party litigation.

Q88 Connects the Maritime Industry, Provides Technical Answers

Q88 is well-positioned to head up this new service with Spill Center and Future Care. Since its founding in 2001, Q88 has been at the forefront of information technology for the tanker and dry bulk industries. Its goal is to continue developing solutions to better connect the maritime industry. Q88 Milbros Online subscribers credit the company’s 24/7 global support and staff of maritime experts as key components in ensuring the flexibility and reliability needed to remain competitive in this ever-changing market.

“The Q88 Response Center adds a new dimension to the Milbros platform. Already the industry

leading database of over 12,300 chemical and oil cargoes carried on tankers, including cargo handling, cleaning, regulatory, safety and personal protective equipment (PPE) information for all cargoes, the new service further enhances on board decision making and safety," said Capt. Ibsen.

He explains that if a spill occurs at sea, the Response Center would provide assistance and advice over the phone regarding mitigating and clean-up of the spill. If needed, the Center can provide a list of contractors in the next planned port and arrange for disposal of the spilled substance and cleanup materials. If an incident occurs in port, the Center will provide a list of local contractors who can respond.

In the case of an unexpected chemical reaction, such as the off-gassing of volatile organic compounds, which give off smoke or produce a rise in temperature, the Response Center will put the caller in contact with experts related to the chemicals involved to provide assistance and advice on how to best mitigate the situation on board, relates Capt. Ibsen.

"If a major release occurs at sea, the Center will follow the vessel's previously filed Spill Response Plan, making notifications and contacting spill response agencies as detailed in the plan. Additionally, the Center can provide the names and contacts of other qualified response contractors available to assist with the emergency," he added.

During a Medical emergency or in response to a request for medical services after a crew member is accidentally exposed to a hazardous chemical or is splashed in the eyes or ingests a dangerous substance, the Response Center immediately puts the caller in contact with Future Care. A medical team of doctors and nurses can provide prompt telemedical diagnosis and treatment options on board ship and/or manage subsequent shoreside medical care, as and when required.

The same prompt response occurs when a crew member is seriously injured or becomes ill at sea. Future Care will also arrange for a medical appointment ashore with an appropriate treatment provider and coordinate the crew member's transportation with the Master and port agent. The Future Care team will also initiate follow-up contact with the provider for details of diagnosis and treatment and report results to the ship's Master and/or shoreside personnel, as instructed.

Q88 Response Center Scenarios

Chemical Spill Incident – A Spill Center operator receives a call from a Qualified individual (QI) for a covered ship docked at the Stolthaven Terminal in Houston Texas. During the course of loading various chemicals at the dock, several cargo hoses broke, resulting in the spill of quantities of Acrylonitrile, Butyl Acrylate and Ethylene Glycol on deck and into the water. The Q88 Response Center was contacted for advice and assistance.

The QI was en route to the scene with an ETA of one hour and was requesting an email list of the chemical cleanup contractors in the area that could handle those cargoes. The QI also requested the Response Center to contact the various contractors to determine which have resources for immediate response and their ETA to the scene. Spill Center sent an email back to the caller with contact details for contractors in the area and began making calls to check availability.

Crewmember Needs Doctor – The Spill Center operator receives a call from a ship at sea to request a doctor's appointment or hospital visit at the next port of call in two days. The patient suffered a badly sprained or broken wrist after a fall on board. The Spill Center operator contacts Future Care, advising the medical team of the situation. Future Care confirms to Spill Center that they got it and a team is handling the request.

Emergency Medical Call – a Ship's Master calls the Center to report that one of the crew members is experiencing severe abdominal pain and fever and is going in and out of consciousness. The Master provides all the information to complete an online intake form for Spill Center/Future Care, but the Master feels that patient may be critical and wants to be transferred to the Future Care first responder. Spill Center takes the information, sends the intake form to Future Care, and transfers the call to a Future Care First responder. The caller gives the first responder information needed during the initial emergency call. Future Care confirms to Spill Center that they got it and are handling the request.

Issues Contacting Q88 Milbros – The operator receives a message via the website (https://response.q88.com) that the sender is having issues with the Q88 or Milbros websites or programs. Spill Center advises the QI to contact support@milbros.com or support@q88.com for further assistance.

Regulating the Transport of Hazardous Materials by Sea

Maritime transport remains the backbone of international trade and globalization, with over 80% of world merchandise trade being carried by sea, according to the Review of Maritime Transport 2015, published by the United Nations Conference on Trade and Development (UNCTAD). More than 70% of global trade by value is carried by sea and is handled by ports worldwide, reports the UNCTAD. These shares are even higher in the case of most developing countries.

The International Maritime Organization (IMO) adopted guidelines for the development of the Inventory of Hazardous Materials required under the 2010 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention). The IMO has made further progress with respect to measures helping to prevent and combat pollution of the sea from oil and other harmful substances.

"Efforts to improve the energy-related, environmental and social performance of the maritime transport sector are largely driven by regulation, including in particular rules adopted under the auspices of the IMO. Sustainability and resilience-motivated regulations span a broad range of issues and include safety (accidents), security (regulatory measures and piracy), marine pollution (for example, oil spills, ballast water, garbage and ship paint), labor conditions (seafarers' rights and working conditions), air pollution (SOx) and nitrogen oxides (NOx)), as well as greenhouse gas emissions. [1]

"Market requirements and growing customer demands for greater corporate social responsibility in global supply chains, transparency, agility and reliability, as well as lighter environmental footprints are also increasingly driving significant changes in the maritime transport industry.

Customers across supply chains are increasingly expecting transportation service providers, including maritime transport service providers, to act as strategic partners that can help them achieve economic benefits as well as value for the environment and society (Business for Social Responsibility, 2010). [1]

In response to the growing demands both at the regulatory and the market levels, the maritime transport industry is increasing, in addition to regulation and mandated measures, taking voluntary measures and adopting private self-regulation to integrate sustainability and resilience principles into activities, policies and decisions."[1]

As regards developments in the United States, according to the U.S. Customs and Border Protection (CBP), more than 11 million maritime containers arrive at the country's seaports each year. The UN International Labor Organization estimates that over 1.5 million people around the world are employed as seafarers, the vast majority of whom come from developing countries. Protecting their welfare and establishing internationally agreed standards, including on their working conditions and necessary training, is critical, not only for the seafarers themselves, but also for the ability of the global shipping industry to operate ships safely and in an environmentally responsible manner.

The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) has developed technical specifications for data exchange on transboundary movement of wastes (TMW), noting that hazardous wastes contain chemicals, heavy metals, dangerous pathogens, or other substances of concern that make them, among other things alia, explosive, flammable, infectious or toxic. The movement of such wastes poses serious risks of adverse effects to human health and the environment.

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention), adopted in 1989, is an international treaty aimed at reducing hazardous waste generation and restricting the movements of such waste across borders, particularly from developed to less developed countries. It also puts in place a regulatory system for permissible transboundary movements of hazardous wastes (Article 6).

Safety of Life at Sea and Prevention of Pollution from Ships

Shipping dangerous goods and marine pollutants in vessels is regulated by the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL). Relevant parts of both SOLAS and MARPOL are included in the International Maritime Dangerous Goods (IMDG) Code, which has become recognized as the legal instrument for maritime transport of dangerous goods and marine pollutants. The Code is intended to protect crew members and to prevent marine pollution in the safe transportation of hazardous materials by vessels.

The implementation of the code is mandatory in conjunction with the obligations of the members

[1] Review of Maritime Transport 2015, United Nations Conference on Trade and Development (UNCTAD), Oct. 2015.

of the United Nations under SOLAS and MARPOL. It is intended for use not only by the mariner but also by all those involved in industries and services connected with shipping. The Code contains advice on terminology, packaging, labeling, placarding, markings, stowage, segregation, handling, and emergency response. The HNS Convention covers hazardous and noxious substances that are included in the IMDG code.

The classification of dangerous goods, by type of risk involved, has been drawn up by the UN Committee of Experts on the Transport of Dangerous Goods. Among those are substances which are known to be toxic to humans, producing a hazard to health during transportation, or are presumed to be toxic to humans because they fall within a toxic category when tested on laboratory animals. Also classified as dangerous are any materials having an anesthetic, noxious or other similar property which could affect the performance of a crew member's assigned duties; also included are hazardous wastes, marine pollutants or any material which at an elevated temperature becomes a hazardous substance.

The basic statute regulating hazardous materials transportation in the United States is the Hazardous Material Transportation Law, 49 CFR 100-185. The U.S. Coast Guard has authority to enforce regulations pertaining to hazardous materials carried by vessels. The National Oceanic and Atmospheric Administration (NOAA) is charged with responding to oil spills, hazardous material releases, and marine debris, primarily through the Ocean Service's Office of Response and Restoration (OR&R). This office's Emergency Response Division provides scientific expertise to predict where the spill is going and what impacts it might have, identifying resources at risk, and recommending clean-up methods.

Advanced computer modeling is used to forecast where a given spill might travel and its potential effects on the coastal environment. To help in planning and responding to spills, scientists also create environmental sensitivity index maps. These maps serve as quick reference guides that describe the characteristics and uses of the shorelines near spill areas – critical information that helps responders decide how to deploy resources and manpower.

About Spill Center: Helping spill generators navigate the regulatory maze

Spill Center was founded in 1990 as a service to help spill generators comply with environmental regulations after releases of dangerous substances. The company has grown to become the North American leader in spill support and environmental claims management. Technology has always played a major role in Spill Center operations. Proprietary systems were developed to manage the company's own data and support operations, then evolved to support clients.

The company started out helping transporters and shippers level the playing field when they suddenly were forced to deal with regulatory authorities, cleanup contractors and third-party claimants. Spill Center worked at enrolling truck fleets, large and small, then truck leasing and rental companies as clients. Chemical manufacturers and others at risk for spills started enrolling in the Spill Center program of spill support and environmental claims management.

Insurance companies began enrolling as a proactive measure to minimize spill-related costs. And they encouraged their insureds to enroll as a way to avoid fines and penalties for non-compliance with reporting laws since insurance does not pay them. Zurich North America partnered with Spill Center to leverage the company's resources on behalf of Zurich clients in the U.S. and Canada.

Spill Center staff includes environmental, technical and legal specialists who can provide real-time evaluation of incidents to determine the most cost-effective and efficient way to handle them. Spill Center maintains current reporting regulations and contact information for nearly 30,000 jurisdictions throughout the United States and Canada. More than 3,000 cleanup contractors across North America who are qualified to handle hazmat spills are on file with Spill Center, along with comprehensive information on their certifications, equipment and personnel. Spill Center receives no fees from contractors for referrals.

Spill Center strives to save clients money, limit potential liability

Spill Center™ offers clients a comprehensive range of spill management services to contain costs, limit liability and keep them out of trouble with the regulatory authorities. The support program is designed to help spill generators deal with spill emergencies without expending their own resources to build and maintain an internal emergency response system. Services include:

- **Contingency Planning** – Spill Center assists clients with custom spill contingency planning for each activity with the potential to produce a spill emergency. The plan, which is kept on Spill Center's password-protected, integrated website for instant access, is the key to efficient coordination of the cleanup and reporting.

- **Required Spill Reports** – Spill Center Contingency Associates can make all required incident reports within the mandatory reporting window. A database contains the latest regulations and contact information for local, state/provincial and federal jurisdictions throughout North America to ensure compliance and avoid fines and penalties.

- **Cleanup Contractors** – Listings of more than 3,000 environmental cleanup contractors are kept on file with complete information on each company, including certifications and equipment. The client chooses from a list of contractors nearest the spill site. Spill Center receives no compensation for referrals.

- **Cleanup Management** – Spill Center helps clients contain the costs of spill cleanup and site remediation by coordinating the response and actively managing the contractors on site. The Spill Center team communicates with emergency and environmental officials at the scene and keeps clients in the loop throughout.

- **Informed Decisions** – Spill Center helps clients make informed decisions on the best response to every spill – whether to have employees clean it up or call in contractors. Incidents are evaluated in real time, and the client is advised on how to respond in a fast, cost-effective manner while keeping employees safe.

- **Expert Consultancy** – Spill Center retains consultants with expertise on a range of technical topics to challenge official findings by environmental regulators that could be

very costly to clients. In addition, Spill Center has on staff experienced legal, technical and environmental specialists.

- **Document all Activities** – Thorough documentation of all reporting and remediation activities performed on behalf of clients is provided to limit environmental liability and establish a legal defense against any third-party claims that might arise from spills.

- **Invoice Auditing** – Experienced auditors are available for expert review of charges from cleanup contractors, emergency responders and other service providers to ensure fair pricing (compared to accepted standards) and accuracy. Any inflated charges are negotiated down by Spill Center.

- **Automated Systems** – Proprietary systems developed by Spill Center are designed to track incidents, produce standard and customized reports to identify conditions and trends, and generate root-cause analysis data for clients. The information can be used to improve safety.

- **Spill Training** – Spill Center training sessions are available to teach a client's managers, employees and customers how to activate their emergency response management and reporting systems to minimize costs and liability arising from a hazmat, fuel or chemical spill. Included is an interactive workshop, hands-on exercises and an "Ask the Expert" session.

Spill Center's clients are always in control of which services they want Spill Center to provide and which ones the clients' employees will handle. Clients pay only for the services that they request. The Spill Center program is designed to improve the client's preparedness to handle spills efficiently and cost-effectively and avoid making wrong decisions that could cost plenty.

About the Author

Thomas Moses, Esq., founded Spill Center™ in 1990. He is a former U.S. Environmental Protection Agency toxicologist who holds a Juris Doctorate degree and a Certificate in Hazardous Materials Control and Emergency Response. He worked in the insurance industry, providing environmental claims and spill management expertise. Also, as a legal specialist for Standard Oil, he interpreted safety and environmental regulations, developing legally defensible compliance procedures. He has served as Secretary of the Commercial Vehicle Alliance Security Committee and as a panel chair for the National Academies' Transportation Research Board.

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