

Ship source spills and transboundary risks

Petroleum Association of Japan (PAJ) - Oil Spill Workshop 2015, Tokyo, Japan, 29th January

Nicky Cariglia, Technical Adviser, ITOPF Ltd.

(S1) Introduction

Good morning/afternoon, my name is Nicky Cariglia, I am a technical adviser with ITOPF and today I am going to spend some time talking about the potential for spills from vessels to become a transboundary situation, requiring the cooperation of two or more states. I will be discussing this in the context of current trends in ship source spills, and what kind of international cooperation these may necessitate, on a practical basis. As I am sure, you are all aware, and as I think, many of my colleagues may have mentioned over the last few years at previous PAJ workshops and symposia, that large oil spills from tankers have been falling in number over the years. At the same time, our attendance at smaller, bunker source spills from multiple types of vessel has been increasing.

(S2) Introduction to ITOPF

Although I am sure that most you here are familiar with the work of ITOPF, and who we are, I would like to briefly recap, for those who may not have heard of us, or our work. ITOPF has been around for 45 years and is relied upon for its objective technical advice by ship-owners, their insurers, the IOPC Funds, governments and many other marine and environmental organizations worldwide.

Originally ITOPF was established to administer the ship-owners voluntary compensation scheme TOVALOP, which was put into effect shortly after the TORREY CANYON Incident off the south coast of the UK in 1967 and, which was intended to provide compensation to victims of oil pollution damage without the need to establish fault. This voluntary system worked very well and was eventually terminated in 1997 to make way for the more widespread ratification of the CLC & Fund Conventions. Over the course of this period, the need for technical and scientific advice on the consequences of oil spills grew and ITOPF evolved to meet this need. Now we are an organization of 32 people of which about 2/3rd are technical and the remaining 1/3rd provide the important administrative back-up, such as IT, publications, finance, personnel, secretarial etc.

We are a not for profit organisation and we have just the one office in London. Because of the specialist and incident-specific nature of our advice, we do not have ITOPF representatives in offices around the world, preferring instead to attend on site ourselves after liaising closely with the P&I insurer, industry, ship-owners, and of course, the authorities.

Image on slide: Torrey Canyon – 18th March 1967. Ship struck Pollard's Rock on Seven Stones Reef between the Scilly Isles and Lands End, UK.

(S3) Our work

Depending on the country and location, the nature of the incident, and the capacity and experience of that country to responding to spills, our role on site can be highly varied.

Regardless of the level to which we are involved, our role is ALWAYS:

- Advisory (we are independent and therefore do not have authority to impose our advice)
- Based on co-operation and mutual agreement
- To promote reasonable & cost effective clean-up response
- Aiming to minimise damage to resources
- Offer guidance on admissibility of claims

ITOPF does not act as loss adjusters.

The essence of ITOPF's existence and our Vision is to provide objective technical advice on behalf of all ship-owners and insurers. Consequently, when we are advising on any particular incident, we work hard to ensure that our advice is governed by good science and is unbiased. Clearly it is not in the interest of our collective Membership and their insurers if we were to change our advice in response to the multitude of political and social drivers that may be present in an incident, especially as another incident could occur the following day with a different owner, a different P&I Club and a different set of drivers.

That is not to say that we should not be made aware of other political and social issues that may be influencing the situation. As technical advisers we not only need to ensure our scientific skills are finely tuned but we need to be able to apply diplomacy in difficult situations.

(S4) Global trends

In order to assess the specific requirements and issues regarding international cooperation that may influence a particular spill, we first need to examine the trends of spills, which can give us an indication of the likely risks: the causes, frequencies, distributions and the product spilled are all important. One of the things we do at ITOPF is to produce statistics relating to oil spills.

This graph shows the number of major oil tanker spills, over 700 tonnes, per year since 1970.

What it clearly shows us is that the number of these major spills has declined dramatically since the 1970's, when there were around 25 a year to the situation now where we have around 2 a year on average. Some of the likely reasons for the decline in spills (MARPOL, ISM Code, AIS, use of inert gas systems in cargo tanks, double-hulled tankers, segregated ballast tanks, mandatory towing arrangements, improved traffic management schemes by various states). The big drop in the late seventies could also be partially explained by other factors, such as the oil crisis. But the numbers have since stayed low since then, despite dramatically increased quantities of oil carried at sea.

(S5) It is important however, to remain prepared because serious accidents involving oil tankers do still happen from time-to-time. Most spills from tankers are due to accidental releases during operations, such as loading and discharging but groundings and collisions account for the larger spills. An example from relatively recent history being the HEBEI SPIRIT spill in South Korea, where a fully laden VLCC was struck by a drifting crane barge resulting in a 10,900 tonne spill of three different crude oils and pollution damage stretching across the majority of the west coast of the country.

(S6) For the most part however, the nature of the risk of spills is changing. In recent years, our attendance worldwide has been at bunker spills from non-tankers, or indeed HNS spills from containerships.

- And if we look at our attendance at spills it shows a similar downward trend

- But what we have also found is that we are attending an increasing number of incidents involving other types of ship, including bulk carriers and containerships

(S7) In fact, this trend is very much set to continue, based on our spill attendance over the last 12 months. As you can see from the map. Although there is a fairly global distribution of spills, note especially the hot spot of incidents in East Asia. Considering that ITOPF is called out for a great part of the most significant marine oil spills, it is interesting to spend a few minutes looking at trends in our activity. It is clear to see that although our origins go back to the days of frequent large tanker spills, our work has diversified. Notwithstanding the decrease in tanker spills we attend, our expertise has always been and remains relevant for spills from any source into the marine environment, although most specifically, from ship sourced spills.

(S8) There are a number of reasons for this hub of spills and incidents in Asia. Possibly the most influential factor is the sheer volume of traffic in the region. On this slide we can see the movements of oil transported as cargo throughout the region, and it can be assumed that this is reflective of all types of traffic, including large containerships as well. Other factors could be the characteristic but increasingly extreme weather events, coupled with narrow navigational channels can also exacerbate the risk. And of course...

(S9)...Human error, combined with these navigational risks can often result in these small to medium scale incidents. This slide shows the main causes for incidents resulting in spills. Large spills tend to have less variability in causes, with groundings (especially during severe storms) being a leading factor. With medium spills (approximately 7-700 tonnes), collisions become a more common issue, and most of these vessels are non-tankers colliding, which results in a spill of fuel oil. The small spills (less than 7 tonnes of oil) are, as you would imagine, more associated with operational problems, such as discharging, refuelling, etc. Because some of these smaller spills may also be from smaller vessels that are less well equipped to transmit information, quite frequently the initial cause of the spill is unknown.

(S10) As you can see from this particular slide, the incidents we have attended in Asia, have followed this global trend: less large tanker incidents, more bunker fuel (small to medium sized) spills. In fact, you can see that since 2010, most of our attendances in Asia relate to bunker fuel spills. This last map shows our attendance over the last four years only.

(S11) So, if the trend is for smaller spills, why do we need international cooperation at all? Surely transboundary incidents are becoming less likely? The images on this slide show some screen shots I took from various locations a few days ago on marinetraffic.com, which shows the AIS transmissions from all types of vessels. The volume of coastal vessel traffic is quite astounding and therefore, international cooperation has become and remains a necessity due to sheer volume of all types of marine traffic around the world. According to a UN trade conference in 2007, in 2006, 7.4 billion tonnes of goods were loaded at ports for international trade. The volume of maritime traffic exceeded 30 trillion ton-miles. According to a study published in the Royal Society's journal Interface in 2010, shipping routes for oil tankers and bulk carriers being highly varied, with routes favoured by container ships, appear to have more regular and set routes. Only time will tell if this will result in fewer incidents, due to crew having better experience of few, specific routes.

Citation: The Complex Network of Global Cargo Ship Movements. Pablo Kaluza, Andrea Kölzsch, Michael T. Gastner, Bernd Blasius. J. R. Soc. Interface:20107 1093-1103;DOI: 10.1098/rsif.2009.0495.Published 25 May 2010

(S12) Of course, OPRC is another reason that means for international cooperation and coordination remains a requirement. The realisation of the importance of international cooperation was acknowledged globally when OPRC '90 was adopted. The modern diversity of risks posed by ever increasing containership traffic prompted the adoption of the 2010 HNS protocol in several countries as well.

The need to cooperate on a bilateral, trilateral or even regional level therefore, has been enshrined within the text of this Convention. OPRC '90 therefore forms the framework and base from which international agreements of cooperation have been organised

OPRC was one of a number of measures IMO initiated as a response to the Exxon Valdez oil spill. The main objectives of the OPRC Convention are to facilitate international co-operation and mutual assistance in preparing for and responding to a marine pollution incident and to encourage states to develop and maintain adequate capability to deal credibly with oil pollution emergencies. Member states were therefore, encouraged to develop an adequate capability to deal with oil pollution emergencies and part of this was the formation of regional agreements agreeing to mutual assistance. To summarise, the key requirements under OPRC '90 are:

- Designation of a competent National Authority
- National Contingency Plan
- Minimum level of pre-positioned equipment
- Programme of training & exercises
- Flag States to ensure SOPEPs

(S13- S15) Notwithstanding the trends that we have seen and discussed, what comes to mind when we speak of transboundary incidents? I don't know about you, but for me, these sorts of images come to mind- large tanker incidents such as the ERIKA, which although only affected the coast of France, resulted in substantial international assistance from other European countries such as the Netherlands, UK, Spain and Germany. Or the PRESTIGE, which affected both the coastlines of France and Spain and involved a huge international effort. Potentially large non-tanker incidents such as the MSC NAPOLI, which placed the coastline of both the UK and France at risk, and involved the cooperation of authorities from both states.

Small to medium sized incidents, which many well-prepared countries such as Japan will have the resources to deal with internally rarely come to mind.

(S16) As regards this particular region, as we have seen, the most frequent incidents are those that are small to medium, and from the bunkers of virtually any type of vessel. But, in a country such as Japan, what would it take for a small to medium oil spill to become a risk to the coastlines of other states (and vice versa)? The risks of a spill becoming an issue for all the NOWPAP states are greater, regardless of the scale of pollution, given the proximity of a number of territorial waters and EEZs.

In most cases, the severity of a small to medium scale spill will not exceed the capacity of a NOWPAP Member to address and respond to it adequately. However, at the same time, if a spill is threatening another coastline, that particular state will, understandably, need to be involved as well.

(17) So, if NOWPAP states are in a relatively prepared state for a spill in their own waters, especially when compared to many other parts of the World, what are the needs when a spill becomes transboundary, and what, from experience, have been the issues raised? In order to answer this, we need to understand the different needs in terms of cooperation between major incidents and more small scale spills, which nonetheless need to be promptly and efficiently responded to, to minimise and mitigate any economic and environmental effects.

The scope for international cooperation following a spill is defined by Article 7 of OPRC '90

(1) Parties agree, where feasible, to provide advisory services, technical support and equipment for the purpose of responding to an oil pollution incident, when the severity of such incident so justifies, upon the request of any Party affected or likely to be affected.

(2) A Party which has requested assistance may request financial assistance from the IMO, in line with paragraph 1

(3) In accordance with applicable international agreements, each Party shall take necessary legal or administrative measures to facilitate: (a) the arrival and utilisation in and departure from its territory of ships, aircraft and other modes of transport engaged in responding to an oil pollution incident or transporting personnel, cargoes, materials and equipment required to deal with such an incident; and (b) the expeditious movement into, through, and out of its territory of personnel, cargoes, materials and equipment referred to in subparagraph (a).

In practical terms, this international cooperation has very different requirements depending on the size or complexity of a spill...

(S18) For larger spills, international cooperation may be matter of seeking and providing assistance in terms of resources, personnel, and advice. The most common requirements are:

- Typical requirements:
 - - Equipment and other resources
 - - Technical expertise
 - - Facilitation of customs procedures
 - - Definition and integration of chain of command

The most frequent issues we see with this are:

- Common issues:
 - - Variable quality of contingency planning
 - - Lack of clarity on roles and responsibilities
 - - Over-reliance on external resources
 - - Inadequate logistical/customs support
 - - Inadequate consideration of waste issues
 - - Insufficient documentation for claims

(S19) Where smaller, more manageable spills are concern, consistently, there is one need that consistently emerges and that is COMMUNICATION between states. The issues associated with this quite frequently lead to needless delays and superfluous response measures, often resulting in a greater impact. Commonly, the issues are associated with surveillance, coordination and integration of objectives and strategies. In terms of when authorities are involved, this is especially important when an incident falls within the scope of the liability and compensation conventions (CLC '92 or Bunkers Convention). Needless duplication of effort or inappropriate responses driven by inadequate communication may lead to measures deemed as inadmissible under the prevailing regime.

(S20) Over the next few slides, I will discuss these communication challenges in the context of recent incidents we have attended.

As far as aerial surveillance is concerned, the difficulty in obtaining access to a neighbouring state quite frequently delays work and critically, reduces the amount of first-hand information that can be obtained in a timely manner. One of my colleagues has recently been commuting between Indonesia and Singapore to attempt to locate an oil slick because there is no permission for the aircraft to transition airspace!

Notification between states of a pollution incident that may potentially affect them is generally quite good and formalised within NOWPAP Members. In recent experience this occurs at the point of the incident. In some cases, states may wait until they know a slick is moving into the neighbouring state prior to issuing notification, which clearly delays a response. On the other hand, is the correct procedure to notify a state Members to an agreement every time a drop of oil is spilled into the water? This may cause undue administrative burdens and also serve to hinder a response when for an incident that requires it.

Given that the international regime governing oil spill response allows a state to undertake preventive measures even when the threat of pollution exists (e.g. the oil is not yet in their waters), there may be some cases where the command in two or more states favours different strategies. In terms of admissibility for compensation, if these strategies do not complement each other or are incompatible, the measures may not be subject to compensation within the scope of the Conventions. An integrated approach with specified communication procedures between the command should always be established where the threat of pollution exists.

It is not only the command posts that need to integrate. Once a joint approach has been chosen, the teams on the ground effecting the response need to be able to communicate and if necessary share resources. Frequently language barriers can be an overlooked issue; potentially pre-selecting a common language to use operations can assist. Ensuring all response personnel understand their tasks through conducting joint briefings where possible can be helpful. Where response personnel are in different locations, modern communications can ensure that joint briefings can be held over conference calls etc.

(S21-31) Examples of commonly encountered communication issues in recent cases.

(S32) Thank you for your attention, I will gladly take any questions you may have at this point.