

'Operationalising the Polar Code in the Arctic Ocean Insurance Industry Contributions'

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Thank you Paul

It is a great honour to speak here at IMO headquarters and I would like to firstly, personally and as an Irishman, take this opportunity to thank Secretary General Sekimizu and Dr Deggim for the great work that you do to protect those who work in the marine industry, and also, in this instance, the indigenous communities of the Arctic.

I would also like to complement the National Science Foundation of the United States and the European Commission for convening this Conference with the IMO, and of course Professor Paul Berkman for his titan efforts in this regard.

I have been asked today to speak in relation to the operationalising of the Polar Code and the perspective of the insurance industry.

By way of background, I have in the past few years been working closely with the insurance industry in relation to Arctic matters, and I worked with Lloyd's on their 2012 Arctic report, which I have been asked to refer to. I have also recently worked on Lloyd's Wreck Removal Report and their earlier report in 2011 on 'Drilling in Extreme Environments'

It was Brad Spence of Transport Canada who suggested that Insurance be part of the programme at this Conference. The importance of insurance is clearly recognised as a key component in Arctic operations, not just in the industry's suggestions to reduce risk, but the concerns that it raises may serve to exclude certain operations as un-insurable.

Slide 2 – Pictures of Lloyd's



LLOYD'S

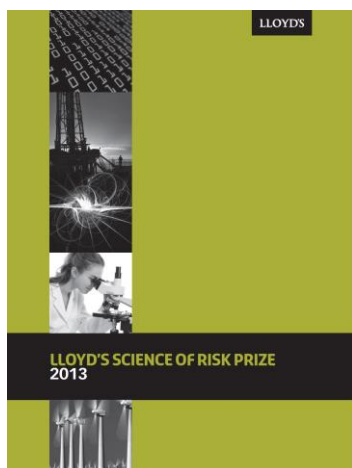


The insurance industry in its analysis of risk employs scientists, mathematicians and actuaries with various specialisms depending on the type of markets the insurers are specialising in.

Lloyds' as an insurance market supports many businesses across the world in all types of specialised sectors, with a heavy emphasis on new and emerging sectors.

Lloyd's Emerging Risk Team is dedicated to looking at new issues of concern that arise in the insurance world or new frontiers.

Slide 3 –Lloyd's Science of Risk Awards

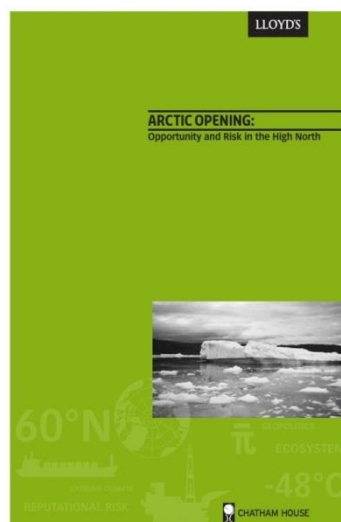


The team runs a competition each year called the Lloyd's Science of Risk Awards and frequently prepares reports working with leading industry experts in an attempt to reduce the parameters of risk. The importance Insurers place on research cannot be over emphasised.

Slide 4 –Lloyd's Arctic Report 2012

In order to analyse risk in the Arctic, Lloyd's Emerging Risk Team decided to commission an Arctic Report:

You will see here in this slide the main points in the Executive Summary. I don't have time here today to go into the report in detail. Of particular relevance to the operational using of the Polar Code are the points highlighted in blue



Significant knowledge gaps

Others in this Conference have spoken about this at length. Charting is obviously an issue for mariners, but I would particularly like to focus on the need for more knowledge in relation to ice data and the need for an Arctic-wide ice regime which is very important for the operational using of the Polar Code.

Environmental consequences of disasters likely to be worse than other regions

In the absence of knowledge incidents will occur. The potential environmental consequences, difficulty and cost of clean-up may be significantly greater, with implications for governments, businesses and the insurance industry. Trans border risks, covering several jurisdictions, add further complications.

Continued development of Governance frameworks with reinforcements where possible

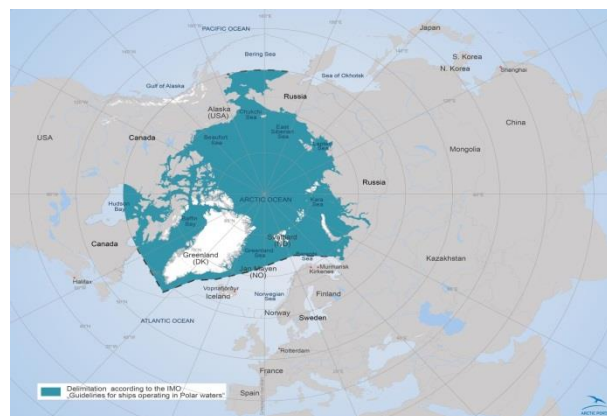
There are major differences between regulatory regimes, standards and governance capacity across the Arctic states. The challenges of Arctic development demand coordinated responses where viable, common standards where possible, transparency and best practice across the north. These frameworks need to be in place to enable sustainable development and uphold the public interest.

The Polar Code is of course one major step forward in filling this gap; but the code in itself cannot do it on its own.

Risk Management

Companies operating in the Arctic require robust risk management frameworks and processes that adopt best practice and contain worst case scenarios, crisis response plans and full-scale exercises. There are many practical steps businesses can take to manage risks effectively, including investing in Arctic-specific technologies and implementing best-in-class operational and safety standards.

Slide 5 – Map of Arctic – IMO Delimitation Guidelines

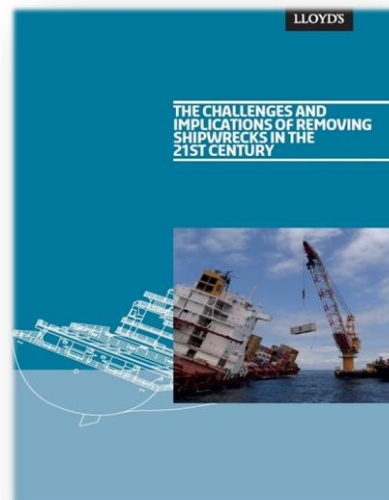


Looking at specific areas of insurance the Navigational Limits provisions of **Hull & Machinery** policies require the operator to inform the underwriter if they are going above 70 N.

The concerns are obvious:

- Extreme cold can cause engine problems and make it difficult or impossible for equipment to work
- There is reduced coverage by navigation aids such as GPS.
- Inaccurate charts and magnetic compasses are unreliable in such high latitudes
- There is restricted visibility up to 90% of the time
- Inadequate weather reports and violent storms can occur at any time.
- Salvage facilities are almost non-existent.

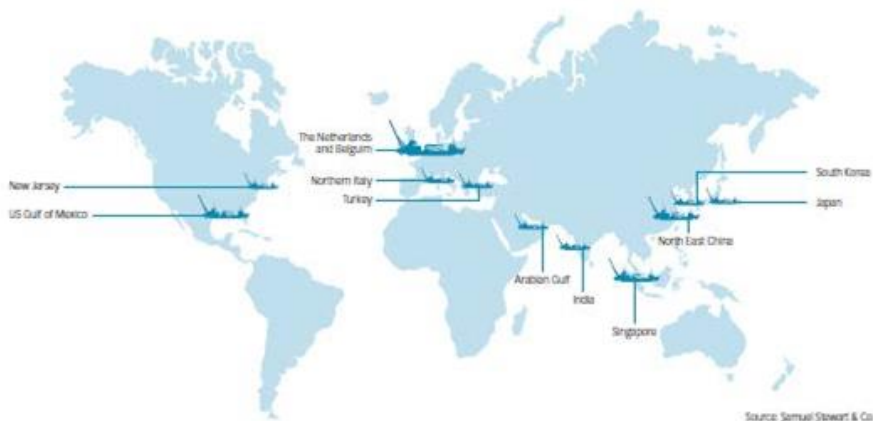
Slide 6 – Lloyd’s Wreck Removal Report – 2013 / Costa Concordia



Turning to Protection and Indemnity cover, although P&I Clubs do not generally impose navigation limits, the Club rules require the Club to be consulted if a voyage does not fall within a vessel's normal trading pattern, as the Association must be notified of any circumstances that may alter the risk covered by the club. Of course the Arctic is not a normal trading pattern for most operators.

Slide 7 – Location of Salvage Equipment

Figure 4: Principal base location of heavy lifting gear



As we can see from this slide from the Lloyd's Wreck Removal Report it is very difficult to affect a rescue or removal in the Arctic if something happens. Additionally Crew injury and hospitalisation is an issue due to remoteness

And Oil pollution presents huge problems

I was pleased to note the great effort that is being made by the Russian Federation in this regard in the Northern Sea Route area, as explained by Yuri Melenas, Russia's representative at the IMO in his excellent talk today.

Slide 8 – Cruise Ship off Greenland



This is a good example with a potential for catastrophic consequences - a cruise ship without ice class and lots of people on board off the coast of Greenland.

This is a nightmare for insurers and such incidents do not inspire confidence within the insurance industry – although I do appreciate that this is not normal practice in the cruise industry.


Slide 9 – Nordvick

Tanker accident on Northern Sea Route | Barentsobserver

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Tanker accident on Northern Sea Route



The fully loaded tanker "Nordvick" hit an ice floe when sailing in fragile Arctic waters. (Photo: Josty.net)

A tanker loaded with diesel fuel was holed by an ice floe on the Northern Sea Route and suffered ingress of water. There are no reports on any oil leakage and the tanker is now slowly sailing towards Murmansk.

By **Trude Pettersen**
September 09, 2013

The 138 meter long, 6403 dwt tanker "Nordvick" was struck by ice while sailing in the Malmøen Strait to the north of the Taimyr Peninsula on September 4. The vessel, which was loaded with diesel fuel, struck an ice floe and started taking in water. "Nordvick" was built in Bulgaria in 1985.


The vessel is sailing towards Murmansk at 4 knots. There is no information on any oil leaks or other damages to the environment.

According to information from the Northern Sea Route Administration's nsr.ru, the vessel had permission to sail in the Kara Sea and the Laptev Sea.

The Seafarers' Union of Russia says the tanker should never have sailed in the area, and blames the ship owner, Khobalga Commercial Port, for putting the crew's and the fragile Arctic ecology in danger.

"Yesterday's accident was a direct threat to the lives of sailors and the ecology of the Arctic", Aleksander Bodnyrs says to the union's nsr.ru. "Vessels like that should not be sailing on NSR, simply

Location:



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- "Northern Sea Route comes to life"
- First summer ship on Northern Sea Route
- First Chinese merchant ship on Northern Sea Route
- Finally commercial breakthrough for Northern Sea Route

In September *Nordvick* entered ice waters and punctured her hull while transiting the Northern Sea Route.

The problem with the *Nordvick* as I understand it from reports is that she was not prepared for the ice conditions that were in play at the time. It was the wrong ship for the conditions and could have been an enormous environmental catastrophe.

Slide 10 – The Akademik Shokalskiy – Antarctic January 2014



And of course we had the recent well documented problem in the Antarctic with the Akademik Shokalskiy. It was no laughing matter for the Australian Maritime Authorities who have incurred a \$1.6 million bill.

Slide 11 – Insurers attitude at present to insuring above 70°N



So insurers' automatic default at present is to turn risk away, and this is impacting on operators who are operating with best practice.

So how can the Polar Code address some of these issues?

What factors need to be taken into account in order that the Polar Code has the desired effect of reducing risk?

Slide 12 – The Draft Polar Code

- Polar Ship Certificate
- Polar Waters Operations Manual (PWOM)

As we know under the code ships will need a Polar Ship Certificate and a Polar Waters Operations Manual the combination of which will include key operational capabilities and limitations, such as Polar Ship Category and ice class, acceptable range of operating drafts, temperature, safe ice-going capability, and ice transit capability.

Any ship that makes a polar voyage needs to be aware of the hazards that may be involved, and the operational procedures that will be needed to avoid these hazards, or to mitigate the risks that they may incur. The knowledge and experience of the bridge crew is an essential element of ensuring safety, and training and manning requirements are incorporated in the Polar Code system. Voyage planning is also very important, and such plans need to be developed with an understanding of the ship's capabilities and limitations. Additionally ships and mariners need to be adequately prepared for worst case scenarios that go beyond what is to be normally expected in normal circumstances as envisaged.

The Polar Waters Operation Manual is therefore intended to give guidance for a range of planned and possible situations.

It is therefore left very much up to the Owner, subject to satisfying the Flag State, that the content is appropriate.

Now that is all well and good in a Flag State that has a tried and tested ice regime. But what if that is not the case and how will it be enforced. On an Arctic wide basis and in international waters this is an issue of concern for the insurance industry.

It is a matter of concern in the operationalising of the Polar Code because at the moment there is a knowledge gap that we cannot get away from which makes it difficult for insurers to agree to operations in 70 degrees north.

Slide 13 – An Arctic Ice Regime System

Polar Class	Ice Description (based on WMO Sea Ice Nomenclature)
PC 1	Year-round operation in all Polar waters
PC 2	Year-round operation in moderate multi year ice conditions
PC 3	Year-round operation in second-year ice which may include multi-year ice inclusions
PC 4	Year-round operation in thick first-year ice which may include old ice inclusions
PC 5	Year-round operation in medium first-year ice which may include old ice inclusions
PC 6	Summer/autumn operation in medium first year ice which may include old ice inclusions
PC 7	Summer/autumn operation in thin first-year ice which may include old ice inclusions

How can these be applied to a real Operation?

Where can a vessel operate?

When can it operate?

One of the main issues of concern is that there is currently no ice regime system applied to the whole Arctic or Antarctic areas, the absence of which will make it very difficult to complete the Polar Waters Operating Manual – which will no doubt be requested by insurers. That is because if you cannot determine what ice conditions are at play in the Arctic you cannot determine what other requirements are going to be necessary. Everything flows from the encountered ice regime to determine the worst case scenario that needs to be planned for in the conditions that, as the Polar Code says, ‘may be encountered’.

Canada operates an ice regime system with zones and ice classes depending on ice conditions. Russia also has a system of ice regime that has some principal similarities with the Canadian system.

The USA, Norway, Denmark/Greenland and Iceland all lack ice regime systems. Sweden and Finland operate a Baltic system, but this is not applicable to the Arctic. An Arctic ice regime system should be established in order to have an effective application of the IMO Polar Code, a single ice regime system in the whole Arctic enabling a universal application of the rules across the Arctic. In order for the Polar Certificate and Polar Waters Operation Manual to make sense this is essential.

Slide 14 – IACS Polar Class Rules - Interpretation

- **Polar Class Rules must be linked to an Ice Regime system**
- **Ice Regime = a system that applies ice class requirement to different regions depending on season**
 - **Example: First year ice at -1 C varies a lot from first year ice at -40 C**
- **If Polar Class Rules are not linked to Ice Regime, then rules have little practical value as they cannot be applied in “real world” operations.**

Knowledge on where, when and with what tonnage operations should be carried out in industry seems to be missing at present on an Arctic wide basis.

These are the IAACs Polar class rules. It is a concern in the insurance industry that currently IACS Polar Class Rules are not fully linked to the Polar Code (draft).

The IACS Polar Class rules themselves are not easy to interpret as they do not give any guidance as to when and where the different ice classes apply.

Polar Class Rules must be linked to an ice regime system to be able to be fully understood. Ice class can then be applied to different regions depending on seasons and the actual ice conditions. As an example, first-year ice at -1°C varies considerably from first-year ice at -40°C, but the Polar Class rules use the term first-year ice as if it was one uniform feature.

If Polar Class Rules are not linked to an ice regime, then the rules have little practical value as they cannot be applied in real world operations-

Slide 15 – What Operation?

- **Nature of operation is a critical factor when determining ice class required**
- **Is there freedom to choose best (least ice) route or does vessel have to defend a position (ice management)?**
- **Ice classes are assigned for single vessel operation**
- **Escorted vessels are considered protected by escorting ice-breaker**
- **Escorted vessels shall be able handle the ice broken (managed ice) by the escorting icebreaker.**

Another key component in working towards best practice by determining ice class and working with the suggested ice regime depends on the operation. Today ice classes are assigned for single vessel operations, and escorted vessels are considered protected by an escorting ice-breaker. The escorted vessels shall be able to handle the ice

broken by the escorting ice-breaker. The Canadian ice regime rules state that the ice-breaker must meet the minimum criteria given by their ice regime, but it is up to the operator to clearly illustrate how it will deal with a worst-case scenario. This scenario will then form the minimum ice class of the escorted vessel.

The insurance market has seen a number of claims for escorted vessels being damaged by ice – particularly propellers.

Slide 16 – So what can we, as an industry, do about this, to assist the IMO?

- **The Arctic should be divided into distinct geographical areas – based on ice conditions**
 - Not too detailed to start
- **There should be a number of seasons established in a year – perhaps 3-4 – that captures ice seasons with ice coverage and hardness**
 - Keep it simple
 - The parameters should reflect IACS and IMO Polar Code
- **Avoid politics – each Arctic country responsible for rules in their “sector” of the Arctic.**
- **Justification: The Arctic Search & Rescue Agreement signed by Arctic Council member states needs to work in practice.**

It is clear that in order to make relevance to the Polar Code and reduce risk on an Arctic wide basis to prepare for a range of planned and possible situations we must do more work to link everything together, ice regime, the Polar Code and Ice Class.

Essential to this is the gathering of knowledge in an integrated approach and we see the research community working with industry as critically important.

It has been suggested by ice experts that perhaps the Arctic should be divided into distinct geographical areas – based on ice conditions with a number of seasons established in a year – perhaps 3-4 – that captures ice seasons with ice coverage and hardness. Each Arctic country can be responsible for rules in their “sector” of the Arctic. The Arctic Council is essential in this process and they can perhaps establish a central forum to be run by the research community with industry and Government making contributions. I am aware of the Arctic Council’s evolving Arctic Economic Forum which is being promoted under the Canadian Chairmanship, and it was very helpful that Finnish Arctic Ambassador Hannu Halinen highlighted this earlier today and also the Arctic Council’s scientific forum. These initiatives will help to make it easier for business and the research community to work together in a more formal way on these issues going forward.

Slide 17 – Happy Insurers – if we work to make the necessary advances

Polar Code
 +
Ice Regime
 +
Best Practice
 =
Insurance
 =
Trade and Investment
 =
Sustainable Arctic Development



So if we work together and focus on some of the issues that I have highlighted we will have a sustainable path way going forward that will enable a Polar Ship Certificate and Polar Waters Operating Manual to function and it will give comfort to insurers.

I appreciate that these issues are complex, and I really have skipped through them to highlight a few points. It is **SO** important to work on an integrated approach – the IMO, Government, the marine & insurance industries, and the Arctic Council working as a collective to get this right. I commend the IMO, the United States, and the European Commission for supporting today's discussion. I must mention here the leadership being shown by Canada and indeed their Minister for Transport travelled to London in January to meet the Insurance and Marine Industries. I also noted earlier today in the excellent talk by Hon. Sara Olsvig of the Greenland Parliament and Danish Parliament, the desire by Greenland and Denmark to focus on such an approach.

Slide 18 – Sustainable Shipping Conference 11th March 2014 London



On that theme I have also been working with Swedish ice experts in relation to standards of operation in industry in the Arctic, helping to draft and drive forward an industry-led 'Arctic Marine Best Practice Declaration', the aim of which is to facilitate trade and complement the work of the IMO. It is significant that that Declaration has been supported by the International Union of Marine Insurers, who see it as a way forward in the interim period before the Polar Code comes into effect. I would like to acknowledge the great industry leadership of Secretary General, Lars Lange, of the International Union of Marine Insurers, and the Chairman of their Political Forum, Helle Hammer, who is also the director of the Nordic Association of Marine Insurers, both of whom are here today.

I also commend the Swedish Ministry of Foreign Affairs who, with the support of the Nordic Council, are putting their shoulder to the wheel to help industry and ultimately the IMO, by organising this Seminar in London on 11th March where after industry recommendations about Best Practice will be made.

Slide 19 – Workshop- 'Bridging the Arctic Marine Risk Gap – the need for a Cross-Arctic Regime – linking ice conditions to ice class requirements'



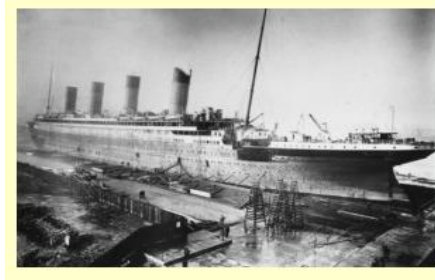
On the following day a workshop will take place at Lloyd's, the aim of which will be to look at creating an Arctic-wide ice regime where after industry recommendations will also be made.

Such initiatives will help us achieve the goal of reducing risk, increasing trade, which will either include further sensible requirements in the Polar code, or complement the Polar code, thereby creating a happy Arctic World!!

Slide 19 – Learning from the lessons of history – Helping the IMO to prevent disaster



**Betelgeuse, Bantry Bay,
Ireland, January 1979**



**Titanic, Newfoundland, April
1912**



**Deep Water Horizon, Gulf of
Mexico, April 2010**



**Alexander Kielland, Norway,
March 1980**



**Piper Alpha, United Kingdom,
North Sea, July 1988**



**Costa Concordia, Italy,
January 2012**

Too often the lessons of history tell us that we have acted too late. Whilst the IMO has been doing its great work, in the interim industry has not always pushed for standards that will both assist that work, help to push for the ratification of that work, and in the meantime prevent unnecessary disaster.

I get the feeling that this time, the great positivity that I have seen in relation to the Arctic, and from what I have heard here today, we may just get it right this time around if we put our shoulder to the wheel. There is no doubt that TOGETHER in an integrated approach WE CAN MAKE A DIFFERENCE.

Thank you very much

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