Implementing the Polar Code; Education about requirements and fostering best practice in operational safety to make it work: Insurance Industry Contributions

Ship Arc Conference
World Maritime University;
International Maritime Organisation; and
Arctic Council

Malmo
Sweden
25-27 August 2015

Michael Kingston
Marine Trade & Energy, DWF LLP
26 August 2015
The Polar Code – Entry into force January 2017

- The Polar Code is not a stand alone Convention. It will come into force as an amendment to 3 existing Conventions:

  - International Convention for the Prevention of Pollution from Ships (MARPOL)

  - The Safety of Life at Sea Convention (SOLAS) 1974
    Adoption: 1 November 1974; Entry into force: 25 May 1980

  - The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW)
    Adoption: 7 July 1978; Entry into force: 28 April 1984; Major revisions in 1995 and 2010
BP agrees to pay $18.7 billion to settle Deepwater Horizon Oil Spill Claims
Wall Street Journal – 02 July 2015

BP Agrees to Pay $18.7 Billion to Settle Deepwater Horizon Oil Spill Claims

Settlement of all federal and state claims brings total costs to nearly $54 billion

By DANIEL GILBERT And SARAH KENT
Updated July 2, 2015 6:31 p.m. ET

BP PLC agreed to pay $18.7 billion to settle all federal and state claims arising from the 2010 Deepwater Horizon oil spill, including the biggest pollution penalty in U.S. history.

If approved by a federal judge, Thursday's deal would conclude a monumental legal showdown over the Deepwater Horizon disaster, which killed 11 crew members aboard the drilling rig and caused the largest oil spill in U.S. waters.

The agreement...
Deep Water Horizon – Criminal Charges

BP oil spill: Criminal cases largely unresolved 5 years after Deepwater Horizon blowout

Robert Kaluza, second from right, a BP well site leader from the Deepwater Horizon oil rig explosion, arrives with his legal team at Federal Court to be arraigned on manslaughter charges in New Orleans, Wednesday, Nov. 28, 2012. (AP Photo/Gerald Herbert)

Most Read
- Komodo dragon bite sends Nebraska zoo worker to hospital
- Strong thunderstorm enters Baton Rouge area with hail, high winds; flooding possible
Polar Code – A Brief History
September 9\textsuperscript{th} 2012 – Arctic Sea Ice Hits Smallest Extent In Satellite Era (Photo Courtesy of NASA)
Deepwater Horizon 2010

- 20 April 2010
- 11 people killed
- Result – high level review of regulation on an unprecedented level
In Memoriam

Jason Anderson
Senior tool pusher

Dewey Revette
Driller

Stephen Curtis
Assistant driller

Donald Clark
Assistant driller

Dale Burkeen
Crane operator

Karl Kleppinger
Roughneck

Adam Weise
Roughneck

Shane Rohto
Roughneck

Wyatt Kemp
Derrick man

Gordon Jones
Mud engineer

Blair Manuel
Mud engineer

- The Gulf Oil Disaster and the Future of Offshore Drilling
- US Commission Report to the President
- 11 January 2011
Piper Alpha, UK North Sea 1988

- July 1988
- 167 people killed
- Result – high level review of UK regulatory regime
Alexander L Kielland 1980, Norway

- 27 March 1980
- 123 people killed
- Result – High level review of Norwegian regulation
International Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of seabed Mineral Resources – in draft since 1977
## Lack of Consistency in Liability Regimes Across World

<table>
<thead>
<tr>
<th></th>
<th>UK</th>
<th>US</th>
<th>Brazil</th>
<th>Australia</th>
<th>Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extent of government involvement</strong></td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td><strong>Standard response procedures in place?</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Legal process</strong></td>
<td>Efficient &amp; experienced</td>
<td>Efficient &amp; experienced</td>
<td>Slow &amp; unpredictable</td>
<td>Efficient &amp; experienced</td>
<td>Mixed bag</td>
</tr>
<tr>
<td><strong>Pollution Liability – strict or fault based</strong></td>
<td>Strict up to OPOL limit Fault based there after</td>
<td>Strict up to OPA 90 limit</td>
<td>Strict</td>
<td>Fault based under OPGGS Act 2006</td>
<td>Strict</td>
</tr>
<tr>
<td><strong>Limitation of liability for operators of vessels</strong></td>
<td>It depends on the definition of a vessel? Is drilling ship/ Little Jewel a vessel?</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Punitive damages</strong></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No but Moral Damages</td>
</tr>
<tr>
<td><strong>Are exclusion clauses enforceable?</strong></td>
<td>As a general rule, yes, subject to the precise wording. Liability to an injured party for personal injury/death cannot be excluded.</td>
<td>Yes, save for gross negligence or wilful misconduct</td>
<td>Difficult in this situation</td>
<td>Yes but often circumstances under CAA 2010</td>
<td>Yes but not EG: personal injury</td>
</tr>
<tr>
<td><strong>Criminal liability</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Executive Summary

- Rapid and Disruptive Change presents uneven prospects
- Arctic likely to attract potential $100BN investment
- **Significant knowledge gaps**
- Arctic conditions remain challenging and unpredictable
- **Environmental consequences** of disasters likely to be worse than other regions
- Politics of Arctic economic development controversial and fluid
- **Continued development** of Governance frameworks with reinforcements where possible
- **Risk Management** is fundamental
Delimitation, according to IMO Guidelines for Ships Operating in Polar Waters
Wreck Removal – The Costa Concordia
Global Location of Equipment

Figure 4: Principal base location of heavy lifting gear

New Jersey, US Gulf of Mexico, Northern Italy, Turkey, The Netherlands and Belgium, Arabian Gulf, India, Singapore, North East China, South Korea, Japan.
Political Legitimacy

LIVE action against Cairn’s Arctic oil rig
Human Error – responsible for 75% of incidents

FATIGUE
International Maritime Organisation (IMO)
Cruise Ship off the Greenland Coast
"Nordvik" is an Ice 1 class (L4) tanker and is only allowed to sail on the Northern Sea Route (NSR) in light ice conditions. The ice conditions in the northeastern part of the Kara Sea were regarded as "medium" by Roshydromet in the period when the accident happened.
Akademik Shokalskiy – Antarctic January 2013
IACS Polar Class Rules - Interpretation

- How can these be applied to a real operation?
- Where can a vessel operate?
- When can it operate?

<table>
<thead>
<tr>
<th>Polar Class</th>
<th>Ice Description (based on WMO Sea Ice Nomenclature)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC 1</td>
<td>Year-round operation in all Polar waters</td>
</tr>
<tr>
<td>PC 2</td>
<td>Year-round operation in moderate multi year ice conditions</td>
</tr>
<tr>
<td>PC 3</td>
<td>Year-round operation in second-year ice which may include multi-year ice inclusions</td>
</tr>
<tr>
<td>PC 4</td>
<td>Year-round operation in thick first-year ice which may include old ice inclusions</td>
</tr>
<tr>
<td>PC 5</td>
<td>Year-round operation in medium first-year ice which may include old ice inclusions</td>
</tr>
<tr>
<td>PC 6</td>
<td>Summer/autumn operation in medium first year ice which may include old ice inclusions</td>
</tr>
<tr>
<td>PC 7</td>
<td>Summer/autumn operation in thin first-year ice which may include old ice inclusions</td>
</tr>
</tbody>
</table>
Insurers’ attitude to insuring above 70° North
So what can we do about this to make it work?

• The Arctic should be divided into distinct geographical areas – based on ice conditions
  – Not to detailed to start
• There shall be a number of seasons established in a year – perhaps 3-4 – that captures ice seasons with ice coverage and hardness
  – Keep it simple
  – Parameters reflects IACS and IMO Polar Code
• Avoid politics – each Arctic country responsible for rules in their “sector” of the Arctic.
• Justification: The Arctic SAR agreement signed by Arctic Council member states.
Conference on Sustainable Arctic Shipping and Marine Operations – London, March 11\textsuperscript{th} 2014

Conference on Sustainable Arctic Shipping and Marine Operations

11 March 2014
London
Bridging the Arctic Marine Risk Gap – The need for a cross Arctic Ice Regime – Lloyd’s Adam Room 12th March 2014

Workshop on
Bridging the Arctic marine risk gap -
The need for a cross Arctic Ice Regime – linking ice conditions to ice class requirements

12 March 2014
London – Lloyd’s Adam’s Room, One Lime Street
London, UK, EC3M 7HA
Progress – Recommendations for an Ice regime and forum for best practice made to the Arctic Council in time for meeting with IMO General Secretary
Developments in Working Group at MSC93 – June 2014 – ‘Arctic wide ice regime developments’

• MSC93: Agreement that limitations for operating in ice to be included on the Certificate

• MSC93 proposed initial guidance on limitations for operating in ice:
  
  • MSC93/WP.7/Add1, Para 10: in order to include the operational limitations in ice in the certificate, the group included a guidance in square brackets in part I-B of the draft Code, which will need to be further developed in conjunction with section 1.5 of part I-A, before the adoption of the Code (see part I-B, Additional guidance to chapter 1, Limiting ice capabilities for the Polar Ship Certificate).

• In this context, the group noted that the observer from IACS stated that IACS would be willing to undertake further work on the guidance with the intention to submit a document to MSC 94. The group also noted that some interested delegations would cooperate with IACS on this necessary and urgent work.
Participants and structure of informal group

Technical Group: IACS, Canada, Denmark, Finland, Russia, Sweden

Informal Correspondence Group: email group consisting of volunteer members from MSC93 WG

- Develop Technical Content
- Develop Proposal
- Review and Validate

Technical Group
Informal CG
Key Concepts: Consolidation of existing experience

Technical group’s experience with ice class rules and ship operations in ice overlaid on initial MSC93 proposal

- Canada experience: Canadian Arctic Classes (CAC), Type Classes
- Denmark experience: Baltic (FSICR) Classes in Arctic conditions
- Finland / Sweden experience: Baltic (FSICR) Classes
- Russia experience: RMRS Arctic (Arc) Categories, RMRS Ice Categories

Consolidated Level ice (100% concentration) limit

IACS Polar Classes Technical Background
Goal of Technical Group:

Develop a decision making system that can be used for voyage planning and “on the bridge” that uses the actual ice conditions, ice class and operational mode.

**Polar Operational Limit Assessment Risk Indexing System (POLARIS)**

- Actual ice conditions
- Ice class of ship
- Icebreaker escort or independent

**INPUT** → **RISK LEVEL** → **OPERATION**

- Don’t operate
- More Cautious operation
- Operate

Safer and Cleaner Shipping
## POLARIS: Evaluation Criteria (Independent Operations)

<table>
<thead>
<tr>
<th>$\text{RIO}_{\text{SHIP}}$</th>
<th>Category A &amp; B (PC1 – PC7)</th>
<th>Category C (below PC7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{RIO} \geq 0$</td>
<td>Operation Permitted</td>
<td>Operation Permitted</td>
</tr>
<tr>
<td>$-10 \leq \text{RIO} &lt; 0$</td>
<td>Limited Speed Operation Permitted (See Table 1.3)</td>
<td>Operation Not Permitted</td>
</tr>
<tr>
<td>$\text{RIO} &lt; -10$</td>
<td>Operation Not Permitted</td>
<td>Operation Not Permitted</td>
</tr>
</tbody>
</table>
Table 1.3 Marginal capability speed limitations

<table>
<thead>
<tr>
<th>Ship Category (ice class)</th>
<th>Independent Operation Speed (knots)</th>
<th>Escorted Operation Speed (knots)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (PC1 – PC2)</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>A (PC3 – PC5)</td>
<td>5 knots</td>
<td>5 knots</td>
</tr>
<tr>
<td>B (PC6 – PC7)</td>
<td>3 knots</td>
<td>3 knots</td>
</tr>
<tr>
<td>C (IA Super - IA)</td>
<td>NA</td>
<td>3 knots</td>
</tr>
<tr>
<td>C (below IA)</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

- Acknowledges that there is not a finite point when the ship cannot operate
- Based on IACS ice class rule formulations
Key Concepts: Partial Ice Concentration Approach

Increasing ice thickness (severity)

<table>
<thead>
<tr>
<th>POLAR SHIP CATEGORY</th>
<th>ICE CLASS</th>
<th>ICE FREE</th>
<th>NEW ICE 0-10 cm</th>
<th>GREY ICE 10-15 cm</th>
<th>GREY WHITE ICE 15-30 cm</th>
<th>THIN FIRST YEAR 1ST STAGE 30-50 cm</th>
<th>THIN FIRST YEAR 2ND STAGE 50-70 cm</th>
<th>MEDIUM FIRST YEAR 1ST STAGE 70-95 cm</th>
<th>MEDIUM FIRST YEAR 2ND STAGE 95-120 cm</th>
<th>THICK FIRST YEAR 120-200 cm</th>
<th>SECOND YEAR 200-250 cm</th>
<th>SECOND YEAR 250-300 cm</th>
<th>SECOND YEAR 300+ cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PC 1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PC 2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PC 3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>PC 4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>PC 5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>PC 6</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>PC 7</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-2</td>
<td>-2</td>
<td>-2</td>
</tr>
<tr>
<td>C</td>
<td>IA Super</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
</tr>
<tr>
<td></td>
<td>1A</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
<td>-3</td>
<td>-4</td>
<td>-4</td>
</tr>
<tr>
<td></td>
<td>1B</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
<td>-4</td>
<td>-4</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td>1C</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
<td>-4</td>
<td>-4</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td>NO ICE CLASS</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-2</td>
<td>-3</td>
<td>-3</td>
<td>-4</td>
<td>-5</td>
<td>-5</td>
<td>-6</td>
</tr>
</tbody>
</table>
• Considering a voyage through the Northwest Passage at the time of year that historically coincides with minimum ice extent (10-29 Sep 2014)
• Two ice charts used (CIS Canadian Arctic – East & West) plot overlays the minimum RIOs from each of three specific days (Sept 15, 22 and 29)
• Ship ice class = Baltic 1A
• NO GO!

Ice Class IA POLARIS Summer Minimum RIOs for 9/10-29
POLARIS: An operations / planning tool

- Consider the same voyage and the same ice charts
- Change ship to ice class = PC 4
- GO! - slow speed (cautious operations) for part of the trip

Ice Class PC4 POLARIS Summer Minimum RIOs for 9/10-29

Safer and Cleaner Shipping
More Work to be done – Tragedy in the Bering Sea 31 March 2015

“More than 50 fishermen feared dead in Bering Sea trawler tragedy”
Arctic Council Forum for Best Practice (perhaps under Protection of Marine Environment Working Group)

- As Per the proposals made following the Workshop at Lloyd’s on 12 March 2014: (See Swedish Polar Research Secretariat Website) – A Best Practice Forum would:

- 1. Harness knowledge and data to ensure best procedures for (non exhaustive):
   - Communication
   - Hydrography
   - Ice data (for example the International Ice Charting Working Group)
   - Crew Training Standards
   - Exchange of information

- 2. Ensure proper education about the Polar Code to assist in a uniform approach by:
   - Operators
   - Flag States
   - Insurance market and financial institutions
   - Port State Control

- 3. Ensure the Creation of the correct behavioural atmosphere which will help achieve:
   - Best Practice in operations subject to the Polar Code
   - Best Practice in operations not subject to the Polar Code; and
   - Help Arctic Council Sates (and Antarctic) demonstrate leadership at the IMO to help with Phase II of the Polar Code and other Conventions – i.e. Torremolinos
Insurers’ attitude to insuring above 70° North

Polar Code
+ Ice Regime
+ Best Practice
= Insurance
= Trade & Investment
= Sustainable Arctic Development
Learning from the lessons of history – helping the IMO and Arctic Council
Values

Our firm is driven by its core Values which focus on:

- Our Clients
- Our People
- Our Community
- Our Environment