

# THE CANADIAN ARCTIC

## CURRENT ISSUES

**[This paper consists of excerpts from an article to be published later this year in the *Alberta Law Review* entitled "*The Canadian Arctic: The Changing Seascape of Offshore Oil and Gas Exploration Issues*".]**

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The Arctic is an area of continuing interest, first explored by its indigenous peoples who have lived there for thousands of years<sup>1</sup>. Curiosity about the Arctic has always been driven by commercial interests. Centuries ago, countries began the search for a navigable Northwest Passage, beginning with the voyages of John Cabot in 1497. In 1906 the first east to west transit was completed by Amundsen in the vessel **Gjøa**. Shortly thereafter, the Canadian Government, in its first expression of concern about its sovereignty in the Arctic (a concern that very much continues today), dispatched Captain Joseph-Elzéar Bernier in the **DGS Arctic**. Not until 1942 was a complete west to east transit completed in the **St. Roch** under the command of Captain Larsen who successfully sailed through the Northwest Passage from Vancouver to Halifax.

Commercial activity is no stranger to the Arctic. Whaling has been the most sustained of all activities and has been carried on since the 17<sup>th</sup> century. From 1610 to 1915 at least 39,000 ships went whaling in the Arctic<sup>2</sup>. The Arctic is, for the most part, an ocean surrounded by a number of coastal states inhabited by diverse populations. The coastal states are Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, the Russian Federation, Sweden and the United States. It continues to be a very busy place<sup>3</sup>.

The oil and gas industry has frequently cast its eye towards the Arctic. Exploration commenced in the Beaufort Sea in the 1960s with oil found in the MacKenzie Delta and at Prudhoe Bay<sup>4</sup>. Hydrocarbon exploration has recently become of interest again. In 2008 the United States geological survey ("USGS") concluded that perhaps up to one-third of the world's remaining recoverable reserves were located north of the Arctic Circle and that 84% of that was located offshore<sup>5</sup>. This is an intriguing possibility in and of itself. When combined with climate change, significant advances in vessel technology and worldwide decreasing safe sources of hydrocarbons, it is too good to resist.

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<sup>1</sup> The Arctic Climate Impact Assessment (ACIA), a joint project of the Arctic Council and the International Arctic Science Committee (IASC) describes the Arctic and its fragility very well. See especially chapter 1, section 1.5 (The Arctic: Geography, Climate, Ecology and People). It is available at <http://www.acia.uaf.edu>.

<sup>2</sup> The history of Arctic shipping has been well-described in a paper by Professor William Barr, Arctic historian at the Arctic Institute of North America at the University of Calgary. His paper concerning the history of Arctic shipping is available at [www.pame.is](http://www.pame.is).

<sup>3</sup> *Supra* fn. 1.

<sup>4</sup> An overview of oil and gas activities in the Arctic can be found at [www.amap.no](http://www.amap.no) and the article by Skjoldal and Thurston "Oil and Gas Activities in the Arctic", at that site.

<sup>5</sup> The USGS reported that undiscovered conventional oil and gas resources of the Arctic are estimated to be approximately 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas and 44 billion barrels of natural gas liquids. <http://pubs.usgs.gov/fs/2008/3049>

The current search for hydrocarbons in the Arctic is the continuation of commercial enterprise in the area. At the beginning of the 21<sup>st</sup> century much is transforming in the Arctic<sup>6</sup>. Climate change is converting the face of the Arctic seascape and landscape<sup>7</sup>. Shorter shipping routes for commercial vessels, longer seasons of safe navigation, consequent greater accessibility to oil and gas, greater interest in the preservation of the environment and of the lifestyles of the indigenous peoples of the Arctic have all coalesced to bring to the fore many different agendas. International organizations, nations, governmental agencies, regulatory agencies, private industries, and many others are intently pushing forward with their own agendas which will necessarily affect the search for, production and transportation of, hydrocarbons in the Arctic. This key message is that change in the Arctic is rapid. To properly understand it, we must take a very wide view of what is relevant and we must try to look ahead.

### **1982 United Nations Convention on the Law of the Sea (UNCLOS)**<sup>8</sup>

UNCLOS is an international treaty ratified by 158 countries, including all the countries which border on the Arctic Ocean with the exception of the United States. Canada's ratification was effective on November 7, 2003.

One important function of UNCLOS is to set out the regime of maritime rights for coastal states<sup>9</sup>. This scheme has been adopted in Canada through the *Oceans Act*<sup>10</sup> which, in summary, provides as follows:

s. 5 sets out the process for determining baselines. Baselines smooth out coastlines by traversing straight across minor indentations and enclosing historic bays and other waters to which a coastal state has historic claims. Marine areas which are landward of the baselines are defined as internal waters. Baselines are defined by regulation.

s. 7 describes the internal waters and territorial sea as "part of Canada". Canadian federal law therefore applies in the internal waters and territorial sea in the same way that it applies onshore Canada. International law recognizes the right of innocent passage in the territorial sea but not in internal waters.

s. 10 defines the contiguous zone as between 12 and 24 nautical miles from the baselines. Canada's legislative powers drop off considerably in this area. Persons in the contiguous zone for whom reasonable grounds exist for fearing they are likely to commit violations of Canada's customs, fiscal, immigration or sanitary laws, may be refused entry into Canada.

s. 13 defines the "exclusive economic zone" as being between 12 and 200 nautical miles from the baselines. Within this area Canada has certain sovereign rights with regard to economic exploitation including, by s. 14(b)(iii) and 14(c) the sovereign right to protect and preserve the marine environment in the exclusive economic zone.

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<sup>6</sup> Richter-Menge, J., and J.E. Overland, eds., 2009: Arctic Report Card 2009, <http://www.Arctic.noaa.gov/reportcard>.

<sup>7</sup> ACIA, Impacts of a Warming Arctic: Arctic Climate Impact Assessment. Cambridge University Press, 2004. <http://www.acia.uaf.edu>.

<sup>8</sup> 1982 United Nations Convention on the Law of the Sea, 10 December 1982, 1833 U.N.T.S. 3

<sup>9</sup> Section 2, Articles 3-15.

<sup>10</sup> S.C. 1996, c. 31

s. 17 defines the Continental Shelf of Canada in a way which has the potential to extend it beyond the exclusive economic zone depending on the "submerged prolongation of the land mass of Canada".

s. 18 confirms that Canada has sovereign rights over the Continental Shelf of Canada "for the purpose of exploring it and exploiting the mineral and other non-living natural resources of the seabed and subsoil of the Continental Shelf of Canada". These rights are derived from Article 77 of UNCLOS.

Whether or not any area forms part of the Continental Shelf of Canada beyond the exclusive economic zone involves analysis by the Commission on the Limits of the Continental Shelf (CLCS) set out in Annex II of UNCLOS. Article 4 of this Annex requires countries to submit their claims to the Commission within ten years from the date of their country's ratification. Canada must submit its evidence by December 7, 2013. The United States is not a party to the Convention<sup>11</sup>. The Commission will review the submission of Canada, then make recommendations regarding the outer limit of the Continental Shelf in accordance with its own guidelines. The final determination of the Continental Shelf is the right of Canada, it being the only coastal state that can establish the limits of its own Continental Shelf.

### **Canadian Sovereignty Over the Arctic**

In the section of this paper dealing with UNCLOS, we have already described the nature of the various interests accorded to a coastal state depending on the proximity of the area to the coastal state. The discussion in this section focuses on boundary issues involving the Arctic between Canada and other nations. These issues are increasingly important as climate change changes the face of the Arctic.

On August 12, 2006, Prime Minister Harper speaking in Iqaluit stated Canada's position:

And I am here today to make it absolutely clear there is no question about Canada's Arctic border. It extends from the northern tip of Labrador all the way up the east coast of Ellesmere Island to Alert. Then it traces the western perimeter of the Queen Elizabeth Islands down to the Beaufort Sea. From there it hugs the coasts of the Northwest Territories and Yukon to the Canada-US border at Alaska. All along the border, our jurisdiction extends outward 200 miles into the surrounding sea, just as it does along our Atlantic and Pacific coastlines<sup>12</sup>.

There are two issues. One is disagreement as to sovereign rights per se and secondly, disagreement as to the extent of Canada's sovereign rights involving rights of passage through the waters of the Canadian Arctic.

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<sup>11</sup> Betsy Baker in *Filling an Arctic Gap: Legal and Regulatory Possibilities for Canadian-US Cooperation in the Beaufort Sea*, (2009) 34 Vermont Law Review 57 at 116 points out various provisions of UNCLOS that are particularly apposite to Canada-US cooperation. "Article 194(5), on protecting fragile ecosystems/endangered species habitats; Article 197, on cooperation for protection and preservation of the marine environment on a global or regional basis; Article 234, on ice-covered areas; Article 199, on contingency plans against pollution; Article 200, on studies, research programs and exchange of information and data; Article 204 on monitoring of the risks or effects of pollution; and Article 206 on assessment of potential effects of activities on the marine environment."

<sup>12</sup> <http://pm.gc.ca/eng/media.asp?id=1275>

On the issue of sovereignty per se, there is an area of the Beaufort Sea over which both Canada and the United States claim sovereignty<sup>13</sup>. The area in question is approximately 6,250 square nautical miles<sup>14</sup>. There are two Canadian issued exploration licenses in this disputed area which are currently under work prohibition orders in accordance with s. 12(1)(a) of the *Canadian Petroleum Resources Act*<sup>15</sup>. These are EL 317 and EL 329 issued respectively to Talisman Energy and BP Canada Energy<sup>16</sup>.

On the second issue of the extent of sovereign rights, there is a difference of opinion between Canada and the United States as to the nature of the sovereignty rights claimed by Canada in the Northwest Passage. The position taken by Prime Minister Harper is consistent with the position that virtually all the waters of the Northwest Passage are landward of the baselines and would therefore constitute internal waters of Canada. The United States is of the view that since this is a strait used for international navigation, it is not part of Canada's internal waters<sup>17</sup>. A potential bar fight perhaps but unlikely. Article 234 of UNCLOS gives a coastal state a number of rights with respect to ice covered areas regardless of any territorially based claim of sovereignty:

234. Coastal states have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions in the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence.

Insofar as the Northwest Passage is concerned, it has been suggested that the effect of Article 234 is to trump the free right of navigation in an international strait articulated in Article 233<sup>18</sup>.

It may be worthy of note however that in November of 2008, the Commission of the European Communities (the executive body of the EU) issued a communication to the European Parliament concerning the European Union and the Arctic region. While recognizing that there were "different interpretations of the conditions for passage of ships in some Arctic waters, especially in the Northwest Passage", the Commission urged its members to "defend the principle of freedom of navigation and the right of innocent passage in the newly opened routes and areas"<sup>19</sup>. This statement leans toward the position taken by the United States that the

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<sup>13</sup> See map at Appendix A, Indian and Northern Affairs, Northern Oil and Gas Branch, Oil & Gas Dispositions Beaufort Sea & MacKenzie Delta February 2010.

<sup>14</sup> David H. Gray, Canada's Unresolved Maritime Boundaries, IBRU Boundary and Security Bulletin 1997 accessible at [http://www.dur.ac.uk/resources/ibru/publications/full/bsb5-3\\_gray.pdf](http://www.dur.ac.uk/resources/ibru/publications/full/bsb5-3_gray.pdf).

<sup>15</sup> R.S., 1985, c.36.

<sup>16</sup> Indian and Northern Affairs Canada, Northern Oil and Gas Annual Report 2008 at p. 16, accessible at [www.ainc-inac.gc.ca](http://www.ainc-inac.gc.ca). See also in the book McDorman, *Saltwater Neighbours, International Ocean Law Relations Between United States and Canada* (2009), Oxford University at p. 187.

<sup>17</sup> *Ibid.* at p. 232-233.

<sup>18</sup> *Ibid.* at p. 233.

<sup>19</sup> At [www.ospar.org](http://www.ospar.org).

Northwest Passage is an international strait. A reduction of ice in the Northwest Passage due to climate change has obviously drawn the attention of the EU to this issue<sup>20</sup>.

The Arctic marine traffic system known as NORDREG is operated by the Marine Communications and Traffic Services personnel. It keeps track of all traffic north of 60° N. In August 2008, the reporting zone was extended to 200 miles thus making it consistent with the AWPPA 200 mile jurisdiction and with Canada's claims to Arctic sovereignty.

**Arctic Waters Pollution Prevention Act (AWPPA)**<sup>21</sup>

The original iteration of this Statute applied to 100 miles offshore. As part of Canada's continuing assertion of sovereignty in the Arctic, in 2009 it was amended to extend its application to 200 miles<sup>22</sup>.

This Act generally prohibits the "deposit of waste of any type in the Arctic waters"<sup>23</sup>. The statute imposes civil liability resulting from prohibited deposits on a number of entities including:

Any person who is engaged in exploring for, developing or exploiting any natural resource on any land adjacent to the Arctic waters or in any submarine area subjacent to the Arctic waters<sup>24</sup>.

"Waste" is defined very generously and certainly would include the products of oil exploration and development<sup>25</sup>.

The Arctic Waters Pollution Prevention Regulations<sup>26</sup> set the limits of liability for the offences created by the AWPPA. The limit for an operation engaged in exploring for, developing or exploiting oil and gas, is \$40 million<sup>27</sup>. The nature of the liability is described in the statute as "absolute and does not depend on proof of fault or negligence"<sup>28</sup>.

The Arctic Shipping Pollution Regulations<sup>29</sup> are the most important set of regulations governing shipping in the Arctic. The regulations prescribe "shipping safety control zones"<sup>30</sup> in the Arctic and define the types of vessels that are permitted to navigate in these zones, the times of year when such navigation can take place and many other requirements such as having on board Arctic pollution prevention certificates<sup>31</sup> and ice navigators<sup>32</sup>. These regulations extend to vessels which are not Canadian flagged and in the context of the transportation of oil, s. 6 of the

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<sup>20</sup> An excellent review of the Canadian Situation Concerning Arctic Sovereignty is R. McNab, "Use it or Lose it" in Arctic Canada: Action Agenda or Election Hype [2009] 34 Vermont Law Review 3. See also McNab in the fall/winter 2009 Meridian Magazine, the publication of the Canadian Polar Commission "A Tale of Two Cities: Washington, Ottawa and Arctic Governance, accessible at <http://www.polarcom.gc.ca>.

<sup>21</sup> R.S., c. 2(1<sup>st</sup> supp.)

<sup>22</sup> R.S., c. 11, s.1.

<sup>23</sup> *Supra* fn 21, s. 4(1).

<sup>24</sup> *Ibid.* s. 6(1)(a).

<sup>25</sup> *Ibid.* s. 2.

<sup>26</sup> C.R.C., c. 354

<sup>27</sup> *Ibid.* s. 8(f).

<sup>28</sup> *Supra* fn 21, s.7(1).

<sup>29</sup> C.R.C., c.353.

<sup>30</sup> Per Schedule VIII pursuant to the authority of s.11 of the AWPPA.

<sup>31</sup> *Ibid.* s. 12.

<sup>32</sup> *Ibid.* s. 26.

regulations is directed to the movement of oil tankers, and sets out seasonal travel restrictions in Arctic waters based on the type and construction of the tanker and the quantity and characteristic of the ice on the intended route.

### **The National Energy Board**

Effective 2010, a new version of the Canada Oil and Gas Drilling and Production Regulations<sup>33</sup> came into effect. Coincident with their coming into effect, the National Energy Board issued "draft safety plan guidelines"<sup>34</sup> which are intended to be read with the safety plan requirements of the regulations and to "provide assistance to interested parties in understanding the requirements of the DP Regs and how those requirements could be met"<sup>35</sup>. Various aspects of offshore exploration are addressed including:

- When using a MODU, the operator should submit a safety case developed in accordance with the International Association of Drilling Contractors (IADC), HSE case guideline for mobile offshore drilling units<sup>36</sup>.
- Where marine vessels are used, the operator should take advantage of the ship's international safety management certification and ensure that the vessel has a valid ISM certificate<sup>37</sup>.
- An operator may rely on a Certificate of Fitness as third party verification of regulatory requirements. The guidelines, however, note that these certificates do not relieve the operator of overall accountability for the equipment<sup>38</sup>.

The NEB has been sensitive to the effect of sound, particularly seismic noises. In 2008, the NEB issued a statement with respect to the mitigation of seismic sound in the marine environment<sup>39</sup>.

One can anticipate that the issue of noise and the environment may well raise its head in connection with the Arctic. It certainly has been an issue with environmental groups in the United States. Very recently, the Supreme Court of the United States in *Winter v. Natural Resources Defence Council*<sup>40</sup> heard argument concerning the sonar use by the US Navy was causing irreparable harm to a number of species of marine mammals, including dolphins, whales and sea lions. The court found in favour of the Navy. As with many issues, it is often useful to turn one's attention to what is going on in the American courts.

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<sup>33</sup> SOR/2009-315.

<sup>34</sup> The NEB website at [www.neb-one.gc.ca](http://www.neb-one.gc.ca) found under "North/Offshore".

<sup>35</sup> *Ibid.* at p. 1.

<sup>36</sup> *Ibid.* at p. 10. The IADC document referred to can be accessed at [www.iadc.org](http://www.iadc.org).

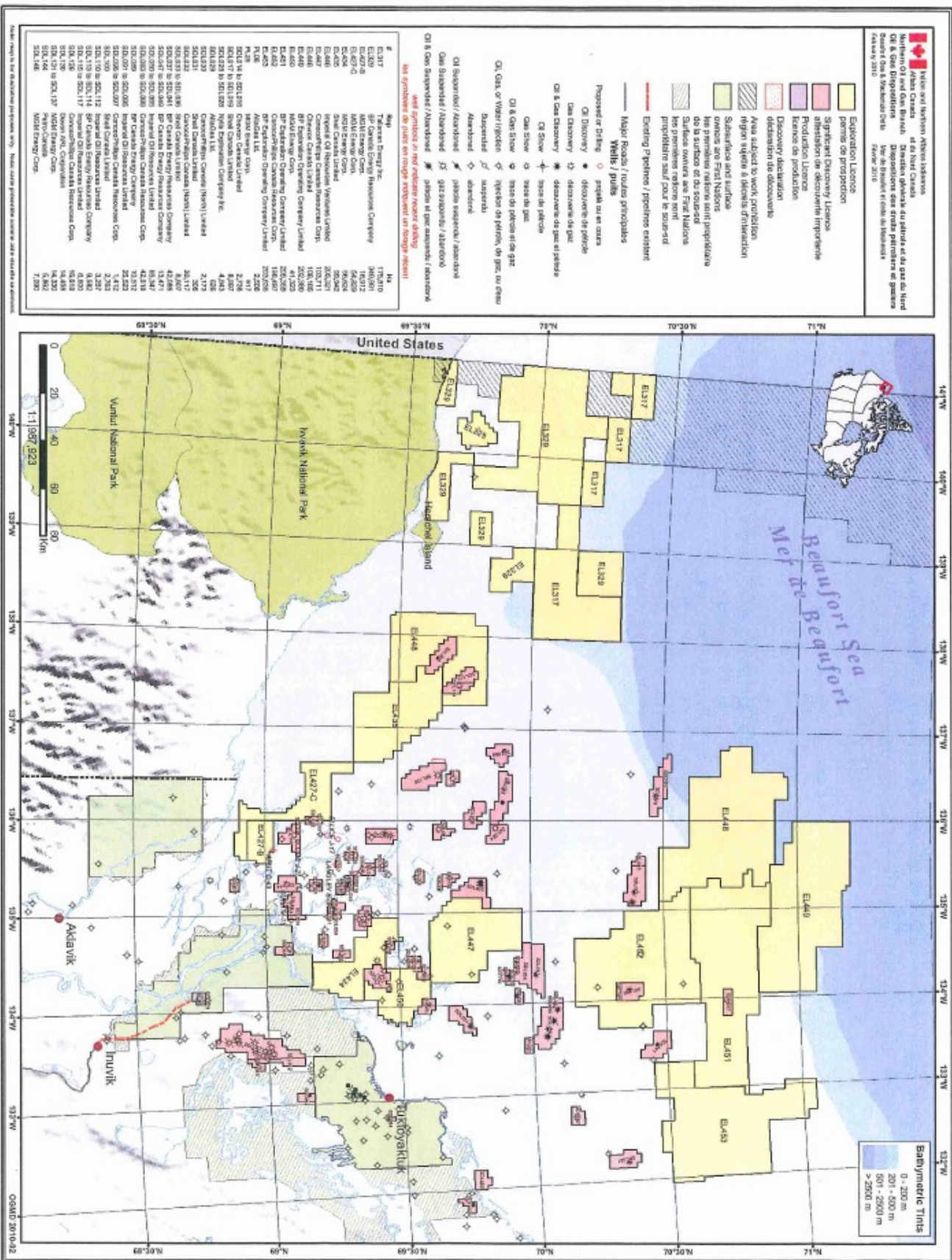
<sup>37</sup> *Ibid.* at p. 10. The ISM Code 2002 is a document produced by IMO to provide an international standard for the safe management operation of ships and for pollution prevention and can be accessed at [www.imo.org](http://www.imo.org).

<sup>38</sup> *Ibid.* p. 18. See also Canada Oil and Gas Certificate of Fitness Regulations, SOR/96-114. The comment in the guidelines concerning the continuing obligations of the operator are comparable in the shipping world to the well-known rule that a shipowner cannot delegate to a third party the obligation to have a seaworthy vessel.

<sup>39</sup> July 2008, accessible at [www.neb-one.gc.ca](http://www.neb-one.gc.ca).

<sup>40</sup> (2008) 129 S. Ct. 365.

## APPENDIX A



## Maritime jurisdiction and boundaries in the Arctic region



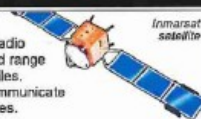
# Surviving disaster – The Titanic and SOLAS

In 1914, two years after the Titanic disaster of 1912, in which 1,503 people lost their lives, maritime nations gathered in London adopted the International Convention for the Safety of Life at Sea (SOLAS Convention), taking into account lessons learned from the Titanic. The 1914 version was superseded by SOLAS 1929, SOLAS 1948, SOLAS 1960 (the first adopted under the auspices of the International Maritime Organization) and SOLAS 1974. SOLAS 1974 is still in force today, but it has been amended and updated many times. The regulations relating to life saving appliances and arrangements, contained in chapter III of SOLAS, a new version of which entered into force on 1 July 1998, are intended to ensure that in the event of a catastrophe at sea, passengers and crew have the greatest chances of survival. Improved design and equipment, better fire protection, satellite communications, rescue planes and helicopters and trained personnel also contribute to improved safety at sea.



## Distress alert

The Titanic used radio which had a limited range of 200 nautical miles. Ships can now communicate globally via satellites.



Marconi radio wires

## Helicopters and rescue planes

Unavailable in 1912, helicopters and rescue planes are now used to locate, search for and rescue survivors.



## Speed of navigation around ice

The Commission into the Titanic ruled the loss was due to collision with an iceberg brought about by excessive speed at which she was being navigated. Under SOLAS, when ice is reported on or near his course the master of every ship at night is bound to proceed at a moderate speed or alter course.

## Ice patrol

In the first SOLAS 1914, after the Titanic disaster, ice patrols in the north Atlantic were set up and continue to be a SOLAS requirement.



## Public address system

There was no public address system on the Titanic and news filtered to the passengers slowly, adding to the disorder and confusion. Under SOLAS, all passenger ships must be fitted with a public address system.

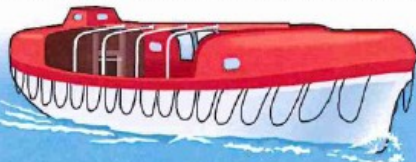


## Training of crew in lifeboat drill

The crew of the Titanic lacked training in loading and lowering the lifeboats and few knew which boat they were assigned to. Lifeboats were not filled to capacity because senior officers did not know the boats had been tested and were strong enough. Under SOLAS, every crew member must participate in regular practise drills and have easy access to training manuals.

## Lifeboat design

Some people died from hypothermia in the Titanic lifeboats because they were open and gave no protection against the cold. Under SOLAS, lifeboats must be fully or partially enclosed. On passenger ships, partially enclosed lifeboats can be used as they are easier to get into, but they must have a collapsible roof to fold across.



## Immersion suits

The sea temperature when the Titanic sank was below freezing point and many people died in the water from hypothermia. Under SOLAS, a specific number of immersion suits must be carried on both passenger and cargo ships, mainly for the crews of rescue boats.

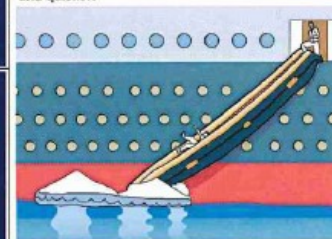


## Lifeboat drill

No lifeboat drill was held on the Titanic. Under SOLAS chapter III an 'abandon ship' and fire drill must take place weekly on all passenger ships.

## Evacuation chutes

Passengers on the Titanic jumped from windows and doorways into the lifeboats as they were lowered, often injuring themselves or other passengers. New emergency evacuation chutes are both safer and quicker.



## Number of lifeboats

The Titanic did not have enough lifeboats for all passengers. Under SOLAS, passenger ships must carry enough lifeboats (some of which can be substituted by liferafts) for all passengers, plus liferafts for 25%.

## Location

The land station at Cape Race, Newfoundland and ships other than the Carpathia and the Californian heard the Titanic distress call but the airwaves were crackling and the Titanic's position was misinterpreted. With EPIRBs and global positioning systems, the position of a ship in distress can be automatically sent.

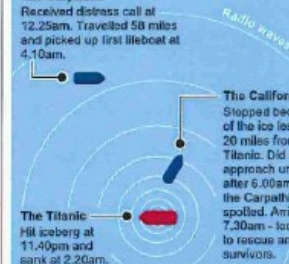


## The Carpathia

Received distress call at 12.25am. Travelled 58 miles and picked up first lifeboat at 4.10am.

The Californian Stopped because of the ice less than 20 miles from the Titanic. Did not approach until after 6.00am when the Carpathia was spotted. Arrived at 7.30am - too late to rescue any survivors.

The Titanic Hit iceberg at 11.40pm and sank at 2.20am.



## Distress watch

The Californian was less than 20 miles away but the radio officer had gone off duty when the distress messages were sent. Under SOLAS, every ship while at sea must maintain a continuous watch on the distress and safety frequencies.