International Law on Arctic Search and Rescue

And the impact of the Arctic SAR Agreement on Icelandic SAR obligations under international law

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Lokaverkefni til 120 ECTS eininga M.L.- prófs í lögfræði við Hug- og félagsvísindasvið

Leiðbeinandi::

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Yfirlýsingar

Ég lýsi því hér með yfir að ég er einn höfundur þessu verkefnis og að það er ágóði eigin rannsókna.

______________________________________________

Leena-Kaisa Viitanen

Það staðfestist hér með að lokaverkefni þetta fullnægir að mínum dómi kröfum til M.L.- prófs í lögfræði við Hug- og félagsvísindasvið.

______________________________________________

Ragnheiður Elfa Þorsteinsdóttir
Abstract

During the past decade or so there has been an increasing interest towards the Arctic region. One of the developments seemingly escalating now is the emergence of a regional legal regime governing the Arctic. A major development regarding this regime was the adoption of the first ever multinational legally binding agreement under the auspices of the Arctic Council in May 2011, when eight Arctic countries, The US, Canada, Russia, Iceland, Denmark, Norway, Sweden and Finland adopted legally binding agreement on Arctic search and rescue at the Nuuk Ministerial Meeting.

This master’s thesis examines how the creation of the regional legal system for the Arctic impacts the already existing legal framework. It will specifically consider what direct impact the adoption of the 2011 Arctic SAR Agreement has had on the International search and rescue obligations and what changes it has brought about on the Icelandic law on search and rescue at sea.

Útdráttur

Áhugi á Norðurslóðum hefur aukist jafnt og þétt síðasta áratug eða svo. Á siðustu árum hefur áhugi fyrir lagasetningu fyrir þetta svæði aukist mjög og hægt er að segja að það sé að myndast svæðisbundinn lagarammi í kringum Norðurheimsskautin. Mikil tímir mót urðu í Maí 2011, þegar Norðurheimskautslöndin átta; Bandaríkin, Kanada, Rússland, Ísland, Danmörk, Noregur, Sviþjóð og Finnland samþykktu lagalega bindandi samkomulag um leit og björgun á Norðurslóðum á ráðherrafundi Norðurheimskautsraðsins í Nuuk, Grænlandi.

Í þessari ritgerð er leiðast við að skoða hvaða áhrif samkomulagið um leit og björgun á Norðurslóðum hefur haft á alþjóðalögin um leit og björgun, en eining verður fjallað um þær breytingar sem samkomulagið hafði á íslensk lög um leit og björgun á sjó.
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Introduction

During the past decade or so there has been an increasing interest towards the Arctic region. Main reasons for this interest are the impacts of climate change, which seem to accumulate in the Polar Regions, but also the changed geopolitical situation that allows new and emerging developments in the Arctic. One of the developments seemingly escalating now is the emergence of a regional legal regime governing the Arctic.

This regime is based on general public international legal norms (United Nations Convention on the Law of the Sea (UNCLOS), International Maritime Organization (IMO) regulations on several issues regarding international navigation, Indigenous peoples rights and general international norms on state sovereignty), national legislation of the eight Arctic countries as well as sub-national legislation and international “soft-law” instruments playing also a significant role. However, in recent years there has been a tendency to consider the Arctic region as a somewhat separate legal entity that requires law making of its own. This development does not imply necessarily an emergence of an Arctic Treaty or any other single instrument, but is based on the pluralistic and multi-level legal environment that applies to the Arctic and is intended to clarify and specify the legal regime of the region.

The major single development regarding this regime was the adoption of the first ever multinational legally binding agreement under the auspices of the Arctic Council in May 2011, when eight Arctic countries, The US, Canada, Russia, Iceland, Denmark, Norway, Sweden and Finland adopted legally binding agreement on Arctic search and rescue\(^1\) at the Nuuk Ministerial Meeting. This agreement was historical in the light that until that point the Arctic Council had served as an inter-governmental forum within which different Arctic issues in the field of environmental protection had been discussed, without almost any notion to law or law making capacities.

\(^1\)Arctic Council. 12 May 2011. The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic. [hereinafter: Arctic SAR Agreement]
This master’s thesis examines how the creation of the regional legal system for the Arctic impacts the already existing legal framework. It will specifically consider what direct impact the adoption of the 2011 Arctic SAR Agreement had on the international law on search and rescue and what changes it has brought about on the Icelandic law on search and rescue at sea.

The thesis will start by introducing the Arctic region and deliberating on the major environmental changes currently taking place at the Arctic Ocean. The nature and development of Arctic shipping routes will be discussed as well as the role of the Arctic Council in governing the Arctic marine activities.

The second chapter will introduce the international law governing the Arctic Ocean, including the role and regime of the United Nations Convention on the Law of the Sea based on which the International Maritime Organization regulations are both enacted and implemented. Also specified regulations governing the Polar waters will be examined, looking into to the IMO Guidelines for Ships Operating in Polar Waters as well as the emerging legally binding Polar Code.

The third chapter will examine the international law on search and rescue at sea and air. It will consider the IMO SAR Convention from 1979, the International Convention on Salvage from 1989 and the International Convention for the Safety of Life at Sea (SOLAS) as the foundation of the contemporary international search and rescue regime. Further, the regional agreements regarding search and rescue will be examined in chapter four, especially the Barents Euro-Arctic Council Agreement on emergency prevention, preparedness and response and the European Council Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system.

The fifth chapter will look into the Icelandic law governing the search and rescue activities in Icelandic waters. It will lay down the framework established in Iceland on the bases of the 1979 SAR and SOLAS Conventions and consider the specific SAR related Icelandic law examining what exact changes or developments the Arctic SAR Agreement brought about in the Icelandic law.
The final chapter analyses the role and impact of the Arctic SAR Agreement on the development of the Arctic search and rescue regime. It will analyze whether the adoption of the Arctic SAR Agreement has brought about any significant legal changes regarding the search and rescue requirements in Iceland and whether the Arctic SAR addresses any of the identified infrastructural challenges that are in the core of the future Arctic shipping.
The Arctic

Defining the Arctic

There exists no single definition on where the limits of the Arctic region lie. The Arctic is defined in many ways, depending whether the context is geographical, socio-economic or political. The Arctic being an ocean, mainly still frozen, surrounded by continents it is not as easy as in the case of the Antarctica to define exactly what constitutes the region.

The geographical region called the Arctic is often considered to be the area north from the Arctic Circle that lies approximately at 66° north. This is the southernmost latitude in the Northern Hemisphere at which the sun remains continuously above or below the horizon for 24 hours, creating the Polar night over the winter and the midnight sun during the summer. Another often used definition follows the pattern of the 10°C July isotherm. This definition is used in environmental and biological contexts, since the average temperature of 10°C also closely corresponds to the northern tree line and to the boundary between the tundra and the taiga.\(^2\) Arctic Council 6 Working Groups on flora and fauna, marine protection, environmental monitoring, contaminants, preparedness and emergency response and sustainable development, also follow loosely this definition when collecting scientific data on the Arctic.

Figure 1: Arctic boundaries as defined by 10 °C isotherm, the treeline and the Arctic Circle. Map by Philippe Rekacewicz, UNEP/GRID-Arendal http://grida.no/graphicslib/detail/definitions-of-the-arctic_12ba

Arctic States

Following the above introduced definitions, there are eight states that are considered as Arctic Countries, namely Russia, The US, Canada, Finland, Sweden, Norway, Denmark (Greenland) and Iceland. Canada and Russia occupy by far the largest Arctic land mass, accounting together for nearly 80 percent of the region. Iceland is the only state completely within the defined region being accompanied only by Greenland, the self-government area under the Kingdom of Denmark.

Five of these countries (Russia, Canada, The US, Denmark (Greenland) and Norway) have coastline towards the Arctic Ocean. Finland and Sweden are landlocked countries towards
the Arctic and Iceland is not currently been considered to have a coastline to the Arctic Ocean, but rather being located in the North Atlantic Ocean.\(^3\)

Each of the Arctic countries has a specific Arctic strategy, which lays down their objectives in Arctic related policy areas. Despite of being formulated from national interests of each state, the strategies are seemingly homogeneous. Though the strategies are clearly moving forwards from the cold war setting, the State sovereignty and national security are still seen as the foundations in all strategies. All Arctic countries, on the other hand, emphasize the importance of international cooperation, specifically under the auspices of the Arctic Council and sound management and governance of the region.\(^4\)

Economic development of the region has emerged as a new major issue and forms together with the environmental protection the main core of the policy areas within the strategies and state policies.

What is perhaps surprising though in the strategies, is the very strong regional emphasis that all eight Arctic countries have when discussing their aspirations towards the Arctic. The recognition of the Arctic as a part of a global economy, ecology and political system is almost non-existent in the strategies, peculiarly cutting the Arctic out from the global system that is rapidly incrementing all around the region.\(^5\)

**Arctic Ocean**

As already mentioned, the Arctic region is an ocean surrounded by continents. The main part of the Arctic region is thus regulated under the international legal regime for the oceans, all the land mass found within the region being under territorial jurisdiction of the eight Arctic countries.

\(^3\) This was politically confirmed at the Arctic Ocean Conference in Ilulissat, Greenland in May 2008, in which the representatives of the five above mentioned coastal states gathered together to discuss the future of the Arctic Ocean. In some literature this exclusive club of five has also been called „The Arctic five“. The Ilulissat Declaration can be accessed, among other sources, at [http://www.arcticgovernance.org/the-ilulissat-declaration.4872424.html](http://www.arcticgovernance.org/the-ilulissat-declaration.4872424.html)


Delimitation of the Arctic Ocean

The Arctic Ocean is the smallest of the world’s five oceans recognized by the International Hydrographic Organization and the International Maritime Organization. It is 14.056 million km² in size or 2.8 % of the earth’s surface and almost completely covered with sea ice approximately half of the year.  

The Arctic Ocean has several coastal seas. Between Greenland and Norway lie Greenland Sea and Norwegian Sea. Along the Russian north coast starting from the European side are located Barents Sea, White Sea, Kara Sea, Laptev Sea, East Siberian Sea and Chukchi Sea. Around Alaska are Bering Sea and the Beaufort Sea, and on the Canadian Archipelago can be found Hudson Bay and Hudson Strait, Lincoln Sea, Baffin Bay, Davis Strait and Labrador Sea.

The Arctic Ocean connects the Pacific and the Atlantic Ocean in the North and provides an ideal water way between the east and the west. The very harsh conditions and the existence of an extensive sea ice, however, have so far set a limit to the use of this water way.

Arctic Sea Ice

The role of the ocean and its seas is very dominant in all activities in the Arctic. Especially the predicted decrease in the sea ice extent covering the Arctic Ocean plays a decisive role in the future of the region, since most of the Arctic marine activity, such as fishing, offshore hydrocarbon development and shipping, take place in the sea or its coastal areas.

The global warming and especially the extensive warming predicted for the Arctic region is the main single cause that will impact the development of the region. According to the International Panel on Climate Change - IPCC’s Fourth Assessment Report on Climate Change, published in 2007, the twelve years period between 1995 and 2006 was one of

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the warmest in the temperature record since 1850. In addition, they predicted about 0.2°C warming for the next two decades and a further warming of about 0.1°C per decade, even if all GHG emissions were kept at year 2000 levels. The warming was found to be even greater at the Arctic. For example, during the first half of 2010, air temperatures in the Arctic were 4°C warmer than during the 1968-1996 reference period, according to the US National Oceanic and Atmospheric Administration.

This warming causes decrease in snow cover and sea ice extent. Satellite data show that over the past 30 years, Arctic sea ice cover has diminished approximately 30 percent in September, which is the culmination month of the summer melt season. With this melting rate, it is predicted that the Arctic late-summer sea ice disappears almost entirely by the latter part of the 21st century opening the sea area for variety of activities.

On September 16, 2012 the Arctic sea ice reached its minimum extent of 3.41 million square kilometers, which is the lowest observed seasonal minimum extent since the satellite records started in 1979. Whether these

Figure 2 Arctic sea ice during the 2007 melt season, which was the lowest level at that time since satellite measurements began in 1979. At the end of the melt season, September 2007 sea ice was 39 percent below the long-term average from 1979 to 2000.
Source: National Snow and Ice Data Centre. Map: Arctic Portal

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low level sea ice extents experienced during the past six years mark a trend or are separate peaks in natural development is yet to be seen.

**Arctic Shipping Routes**

The Arctic has gained tremendous attention in the past five to ten years due to the melt of the sea ice and the opportunities that the open sea area will provide. It is estimated that up to 20% of the world’s undiscovered oil and gas reserves are to be found in the Arctic.\(^{11}\) Likewise, it is anticipated that the opening of the Arctic Ocean could attract new marine living resources to the area opening up new opportunities as well as challenges in the high seas fisheries management.\(^{12}\)

Marine shipping will become essential for exploiting the major economic activities in the Arctic region in the future. In 2004, approximately 6 000 vessels operated in the Arctic region, about 50% of them being fishing vessels and 20% bulk carriers.\(^{13}\)

Currently, there exists two official shipping routes through the Arctic Ocean; the Northwest Passage through the Canadian archipelago and the Northern Sea Route through the Russian coast.

Summer 2012 the Chinese marine research vessel Snow Dragon sailed from Iceland to Shanghai through international waters stopping near the pole for research samples, indicating that in the low sea ice season in late August-beginning of September the Central Arctic shipping route may also open for trans-Arctic shipping. There are, however,

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different opinions on if and when this route will open. These opinions range from very negative estimations of no trans-Arctic shipping at all to quite positive ones stating that the route might be open for seasonal shipping already in near future.\textsuperscript{14}

**Northern Sea Route / Northeast Passage**

The main shipping route across the Arctic Ocean at the moment is the Northern Sea Route / Northeast Passage on the north coast of Russia. It is defined under Russian law as the set of Arctic marine routes between Kara Gate and the Bering Strait, thus not stretching quite from the Atlantic to the Pacific Ocean. The distance from Murmansk to the Bering Strait is 3,074 nautical miles, while the length of the Northern Sea Route from Kara Gate to the Bering Strait is 2,551 nautical miles.\textsuperscript{15}

The Northern Sea Route has been partially and seasonally open for transit since the beginning of the 20\textsuperscript{th} century. Until the late 1970’s it was though mainly used for community re-supply and national resource exploitation. In late 1970’s part of the Route was opened for year-round navigation and in summer 1991, only few months after the fall of the Soviet Union, it was opened for international vessels.\textsuperscript{16}

There exist different views on the legal status of the Northern Sea Route, even though no international dispute over the Route is going on at the moment. These views are based on the general rules on navigation in different maritime zones codified in the UNCLOS III, on the article 234 of the same convention, which grants coastal states additional authority in ice-covered waters and on the combination of customary rules and alleged historic title that allow extensive Russian jurisdiction within the Russian Arctic north.\textsuperscript{17}

\textsuperscript{14} Humpert, Malte and Raspotnik, Andreas. (2012). The Future of Arctic Shipping Along the Transpolar Sea Route in Arctic Yearbook 2012. University of the Arctic / Northern Research Forum. [hereinafter: Humpert and Raspotnik] P. 283
\textsuperscript{15} AMSA p. 23
\textsuperscript{16} AMSA p.44
The current Russian legislation describes the Northern Sea Route as “the national unified transport line of communication of the Russian Federation in the Arctic” following thus the definition of combined customary and historic title. This view has not been contested in practice by the international community and it is quite unlikely that it will become an international issue, at least in near future. In September 2012 Russia and Norway entered into an agreement on the maritime delimitation line between the countries in the Barents Sea and the Arctic Ocean, ending that way decades long discussion on the delimitation of the remaining unsettled sea area along the Northern Sea Route. 

Statistics based on information from Rosatomflot, Russian Federal State Enterprise providing technological services and maintenance for nuclear-powered icebreakers and special fleet, show that 46 transits were made through the Northern Sea Route during 2012, 25 from west to east and 21 from east to west. 18 ships sailed under Russian flag, ten under Panama, six sailed under Finnish flag, five under Norwegian, three under the flag of Marshall Islands, two under Chinese and one under Liberian and Cyprus each.

Northwest Passage

The Northwest Passage is not, like the name indicates, one direct route between the Pacific and Atlantic Oceans, but has seven potential routes and passages along the Alaskan north coast and Canadian Archipelago that all contribute to the general notion of the Northwest Passage. The route 3 via Davis Strait, Lancaster Sound, Barrow Strait, Peel Sound, Franklin Strait, Victoria Strait, Coronation Gulf, Amundsen Gulf, Beaufort Sea, Chukchi Sea and Bering Strait out to Bering Sea is the longest and the most frequently used transit. It is challenging to navigate and limited to ships having a draft of less than 10 meters.

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meters, but currently the most viable being open approximately from middle of August to middle of September.\textsuperscript{21}

While the global warming and the following decrease of sea ice are considered to benefit the Arctic shipping overall, the challenges at the Northwest Passage might not disappear, but rather just change form. As the Alaskan coastline appears quite straightforward in navigation, the Canadian Archipelago on the other hand is much more complex and there are more uncertainties when it comes to predicting current and future ice conditions. As the Arctic sea ice melts the ice becomes more unstable drifting with the winds and ocean currents being able to create blockages in narrow straits and sounds and thus hindering the transit very much like the static sea ice does now.\textsuperscript{22}

The legal status of the Northwest Passage is still somewhat unsettled. Canada is holding a position that the Passage is under Canadian sovereign jurisdiction as part of their internal waters, while the United States and the European Union both consider the waterways as international straits.

Canada has steadily developed its policy regarding the Arctic waters starting in 1906, when it declared that Hudson Bay constitutes historic internal waters of Canada.\textsuperscript{23} The current disagreement on the legal status of the waters within the Canadian northern archipelago dates back to 1969, when Canada implemented nationally Arctic Waters Pollution Prevention Act, which authorized Canada to apply special measures to protect the environment up 100 nm from the coast.\textsuperscript{24} In 1986, Canada established straight baselines around the Arctic Archipelago, arguing historic occupation, which was reinforced in the Oceans Act from 1987.\textsuperscript{25}


\textsuperscript{22} CASA p. 23


\textsuperscript{24} de La Fayette, Louise Angélique (2008) Oceans governance in the Arctic. The International Journal of Marine and Coastal Law, 23 (3). pp. 531-566. ISSN 0927-3522 (Print) 1571-8085 (Online). [hereinafter La Fayette] p.544

\textsuperscript{25} Kraska p.265
The United States have form the beginning objected all Canadian legal activity regarding the Northwest Passage and in 1988, Canada and the United States signed an agreement that affirmed their wish to cooperate in Arctic matters stating, however, that they would continue to disagree on the legal status of the Passage. This agreement exemplifies the current situation of the Northwest Passage. It remains to be seen how the trans-Arctic shipping via Northwest Passage will develop and whether that development will confirm the Canadian claim or contest it.

Central Arctic Sea Route

The Central Arctic Sea Route, or Transpolar Route as it is also called, is one of the most interesting developments in Arctic shipping that is yet to be implemented. The thick multi-year sea ice has until recently prevented regular use of this sea route, but if the temperatures continue to rise and the sea ice decreases at the same rate as the past decade, it is possible that summers will become ice-free within very few decades enabling navigation through the transpolar sea route several months of the year.

The Central Arctic Sea Route has one significant legal benefit, which makes it especially attractive. Large part of the route goes through an area that today is defined High Seas.

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27 Humpert and Raspotnik. P. 287
means that it is only regulated by general international rules explicated here in following chapters being independent from almost any coastal state interference. This is especially important regarding the financial side of the shipping activities the current routes being extensively tariffed by the coastal states. On the other hand all infrastructure as well as search and rescue capability in this area is somewhat non-existent, which will become a major issue especially if the route will gain commercial popularity.

Cruise traffic

The activities anticipated to take place in the three above mentioned shipping routes are mainly commercial in nature. However, extensive tourism activities are already taking place in many areas within the Arctic region, not least in the Arctic Ocean.

According to the AMSA report more than 1.2 million passengers traveled to Arctic destinations in cruise ships in 2004 and by 2007 the number of passengers had more than doubled. Most of these cruises take place in open waters, only few operators offering icebreaker trips to the ice covered waters.

It is estimated that one of the greatest challenges in the Arctic shipping operations will be the development of adequate search and rescue infrastructure required especially for marine tourism activities. The steady increase in Arctic marine tourism will put great pressure on infrastructure development as well as on the regulatory framework around the tourism industry in the region, which in recent years has gained increasing attention.

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28 AMSA. p.79
29 AMSA p.172
Arctic Council

The increasing activities and cooperation in the Arctic region call for an increased and more competent discourse both internationally as well as between the eight Arctic countries.

The inter-governmental cooperation of the Arctic region takes today place in the Arctic Council. It is a high level inter-governmental forum to provide a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic Indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic. It was formally established in 1996, with a declaration of eight Arctic countries in Ottawa Canada, but the history of the Council dates tough longer back to October 1, 1987.

On that day, Mikhail Gorbachev, president of the Soviet Union at the time, held a speech in Murmansk in which he called for an intergovernmental cooperation in the entire Arctic region. Building on this impetus, three different initiatives were introduced; Canadian proposition of the Arctic Region Council, Norwegian initiative on cooperation in the Barents Region and the Finnish idea of a circumpolar environmental cooperation. While the Canadian and Norwegian initiatives were thought too political at this point of history, the Finnish initiative under the name Arctic Environmental Protection Strategy - AEPS was adopted in 1991 in Rovaniemi Finland. The main objective of the AEPS was to cooperate in scientific research to specify sources, pathways, sinks and effects of pollution, share data on this issue and assess potential environmental impacts of development activities. The AEPS was soon thought of having run its course and in 1996 it was reformed to the current Arctic Council.

Being a forum for cooperation on environmental protection, the Arctic Council continued the work of AEPS in the working groups on Conservation of Arctic Flora and Fauna (CAFF), Protection of the Arctic Marine Environment (PAME), Emergency Prevention, Preparedness and Response (EPPR), and the Arctic Monitoring and Assessment Programme (AMAP), which also today form the core of the Arctic Council work. In addition, a Sustainable Development Working Group, following the work of a task force on sustainable development and utilization in the Arctic, and the Arctic Contaminants Action Program (ACAP) were established.  

The Arctic Council has a very unique composition being an inter-governmental organization, since in addition to the eight Arctic states, it allows Arctic indigenous peoples to participate in the work of the Council as permanent participants. Six different indigenous peoples associations have the status of permanent participant in the Council and are represented in the working groups as well as meetings of the Council enabling somewhat unique interaction between the policy makers and the people of the North in this level. The Council has allowed also from the beginning observer participation in the meetings, this way being able to broaden the scope of scientific cooperation within the Council. Currently six states, nine inter-governmental and inter-parliamentary organizations and eleven non-governmental organizations have an observer status in the Arctic Council.

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35 Observer states are France, Germany, The Netherlands, Poland, Spain and United Kingdom. Observer intergovernmental and inter-parliamentary organizations are International Federation of Red Cross & Red Crescent Societies (IFRC), International Union for the Conservation of Nature (IUCN), Nordic Council of Ministers (NCM), Nordic Environment Finance Corporation (NEFCO), North Atlantic Marine Mammal Commission (NAMMCO), Standing Committee of the Parliamentarians of the Arctic Region (SCPAR), United Nations Economic Commission for Europe (UN-ECE), United Nations Development Program (UNDP) and United Nations Environment Program (UNEP). Observer non-government organizations are Advisory Committee on Protection of the Seas (ACOPS), Arctic Circumpolar Gateway, Association of World Reindeer Herders (AWRH), Circumpolar Conservation Union (CCU), International Arctic Science Committee (IASC), International Arctic Social Sciences Association (IASSA), International Union for Circumpolar Health (IUCH), International Work Group for Indigenous Affairs (IWGIA), Northern Forum (NF), University of the Arctic
In 2011, the Arctic Council started a new era broadening its scope of work from environmental research to law-making. The Arctic Council adopted its first ever legally binding international agreement, the Arctic search and Rescue Agreement, at its biennial ministerial meeting in Nuuk in Greenland. This agreement builds on the already existing regulations of the UNCLOS III, the 1979 International Convention on Maritime Search and Rescue, the 1944 Convention on International Civil Aviation and the International Aeronautical and Maritime Search and Rescue Manual, with the objective of strengthening aeronautical and maritime search and rescue cooperation and coordination in the Arctic.\textsuperscript{36}

Due to the fast and vast developments currently occurring in the Arctic and the new role the Council is creating to itself, there has been a demand of renewal of the role, efficiency and mandate of the Council to better respond to the challenges at hand in the region. The present institutional structure is thought to be too weak and the Council is thought to lack proper permanent funding mechanism to be able to carry out the functions required from the Council. Also the lack of proper legal status is considered to hinder the work of the Council lacking the political power needed to carry out its role as a governing body.\textsuperscript{37}

First step has already been taken in strengthening the Council to better correspond with the contemporary demands and the new role as a law-making body; a permanent secretariat was established in Tromsø Norway in January 2013, with an administrative director in lead.\textsuperscript{38} It will remain to be seen whether the legal status and a proper funding mechanism will be also implemented in the next years.

Next major milestone for the Arctic Council will be the May 2013 Kiruna ministerial meeting in which many long unsolved issues are expected to be dealt with. First and foremost it is anticipated that the observer status of the current fourteen applicants\textsuperscript{39} will

\textsuperscript{36} Arctic SAR Agreement. art.1
\textsuperscript{37} Koivurova et al.p. 264
\textsuperscript{39} Arctic Council applicant states and organizations are People's Republic of China, Italian Republic, State of Japan, Republic of Korea, Republic of Singapore, Republic of India, European Union, Oceana, Association of
be discussed and new observer states admitted to the Council. However, it will be very interesting to see whether the Council will manage to form a consensus on the matter on the grounds of the new observer rules announced in Nuuk ministerial meeting, since each of the eight Arctic states will evaluate the merits of applicants individually and either support or object the admission of new observers to the Council.\(^{40}\) It is well recognized that the applying states will be evaluated on political basis against the fact whether they are seen as a challenge to Arctic states’ and PPs’ regional interests or not.\(^{41}\) In fact, only Spain and France have been admitted to the Arctic Council as observer countries after the initial admission of Germany, Great Britain, the Netherlands and Poland in the Iqaluit ministerial meeting in 1998.\(^{42}\) China and Italy have enjoyed an ad hoc observer status to the Senior Arctic Official and working group meetings since 2007, with a promise that their status would have been formalized in the Tromso ministerial meeting in 2009.\(^{43}\) Japan applied for an observer status in July 2009 and Singapore in December 2011.\(^{44}\) EU and South-Korea also applied an observer status before the Tromso ministerial meeting in 2009, the Council ending up taking no formal stance on the applications in the meeting the Senior Arctic Officials stating in their report to the ministers that “\emph{consideration of these new applications would continue under the Danish Chairmanship}”.\(^{45}\) It has been maintained that the rejection, or rather non-admission, of the EU was due to the EU ban


\(^{42}\) Graczyk, Observers. p.604-605


\(^{44}\) Graczyk & Koivurova P.2

on seal products, but it has been harder to establish any specific reason for the non-admission of the other applicants.\textsuperscript{46}

It is further anticipated that the Council will adopt its second legally binding agreement on Arctic marine oil pollution preparedness and response at the Kiruna ministerial meeting in May 2013. Adoption of the second legal document would confirm the Council’s aspirations to permanently change its mandate and role to law and policy-making entity.

**International Law Governing the Arctic Ocean**

The Arctic Ocean has a status of a regular ocean under the international law, despite its special environmental features in the global perspective. It is thus first and foremost governed by the UN Convention on the Law of the Sea – UNCLOS, which in turn is implemented in various regulations adopted by the International Maritime Organization – IMO.

**UNCLOS**

The United Nations Convention on the Law of the Sea is one of the major legal accomplishments of the international community. It codifies the fundamental principles regarding the world’s oceans and stipulates the rights and responsibilities of both the littoral as well as land locked states. The current law codified in the UNCLOS is a result of decade long negotiations on the principles and scope of the law regarding the earth’s sea area and have antecedents of several decades if not hundreds of years.

Before any codified rules existed on the seas, there were set of principles that were generally considered binding on all states. As early as in 1609 Hugo Grotius wrote an extensive work called Mare Liberum in which he laid down arguments for what today is called the freedom of the seas. This doctrine as a foundation of also the current legal

\textsuperscript{46} Graczyk, Observers. p.608
framework regarding the world’s oceans defines the seas as res communis and as such accessible for all nations. The doctrine has though steadily, throughout the years, been developed to acknowledge littoral states’ territorial rights around their land area.\footnote{Shaw, Malcolm. 2003. International Law. 5\textsuperscript{th} ed. Cambridge University Press. [hereinafter Shaw] p. 490-491}

From the beginning of the 20\textsuperscript{th} century series of international conferences were held under the auspices of the League of Nations and the United Nations to discuss and codify the rules existing regarding the oceans. By 1956 the International Law Commission, a UN body on international law, had drafted a thorough report on the law of the sea, which was introduced to the international community in the negotiations held in 1958. These negotiations managed to codify the existing customary international law of the sea on territorial sea, high seas and continental shelf and adopt a Convention on Fishing and Conservation of the Living Resources of the High Seas, creating what is called UNCLOS I. In 1960, a second conference on the Law of the Sea was held to discuss the very flammable issue of the territorial sea and fisheries zone. This conference aimed at creating so called 6+6 agreement granting the states 6 nautical mile territorial sea and another 6 nautical miles as exclusive fisheries zone. This agreement was not successful and until the 1980’s the UNCLOS I with the four conventions remained the main law governing the sea areas.\footnote{Churchill, R.R. & Lowe, A.V. 1999. Law of the Sea. Manchester University Press. [hereinafter Churchill and Lowe] p.14-15}

Gradually, as the resources available in the ocean became increasingly available due to the advances in technology, the pressure to codify issues not dealt with in UNCLOS I became insuperable. Especially the developing countries were keen to work on a convention that would guarantee stronger coastal state rights protecting the resources found outside of their territories, while the developed countries wanted to maintain some of the customary rights regarding shipping and resources exploitation in the high seas.\footnote{Shaw. p.493} Following, the UNCLOS I was taken in to a comprehensive revision in 1974.

The UNCLOS III, that is in force still today forming the constitution of the seas, was established after almost decade of negotiations in 1983. It is composed of 320 articles
and 9 Annexes being a compilation of already existing regulations from the UNCLOS I, codified customary international rules and new regulations introduced in this convention.

In main chapters, the UNCLOS III lays down framework regulations regarding the delimitation of the maritime zones, navigation in the oceans, conservation and management of the resources in the sea and the rules regarding the management of the international sea bed area.

**Baselines, internal waters and the territorial sea**

According to the UNCLOS the territorial sea is counted from baselines. These baselines lie either on the low-water line along the coast or are drawn as straight lines outside the land area. Straight baselines are allowed in cases where the coastline is deeply indented and cut into, or there exists an archipelago in the immediate vicinity of the land area.\(^{50}\)

12 nautical miles from the baseline towards the sea is the territorial sea within which the coastal state exercises sovereign rights over the land, sea, air space, as well as its bed and subsoil.\(^{51}\) Despite that the sovereign right over territory in international law is in most cases inviolable, the UNCLOS allows innocent passages through the territorial sea of ships of all States, whether coastal or land-locked as long as they do not in any way provoke the security and jurisdiction of the coastal state, do not violate any pollution or fishing regulations, carry out any research activities or interfere with any systems of communication.\(^{52}\) The passage covers all types of vessels, as long as submarines and other underwater vehicles navigate on the surface and show their flag.\(^{53}\)

Waters on the landward side of the baseline form part of the internal waters of the State.\(^{54}\) The decision of using straight baselines can give the states significant benefits, as has been the case regarding the Arctic shipping routes, since important shipping routes can end up lying within internal waters of coastal states. This is for example the case

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\(^{51}\) UNCLOS Art.2  
\(^{52}\) UNCLOS Art.17 and art. 19  
\(^{53}\) UNCLOS Art.20  
\(^{54}\) UNCLOS Art.8
regarding the Northwest Passage, where legal disputes between the US and Canada over the status of the straits within the internal waters of Canada have been going on for decades.

Exclusive Economic Zone

The Exclusive Economic Zone extends at the maximum to 200 nautical miles from the baselines out towards the sea in cases where there are no neighboring or adjacent states. Within this zone the coastal states have exclusive rights to explore and exploit all living, non-living and other resources, including tides, water energy, currents, wind, etc., in water and in the seabed and its subsoil. In addition, the coastal states are entitled to establish and use artificial islands, installations and structures and conduct marine research activities and impose regulations for the protection and preservation of the marine environment.

On the other hand, all states have a freedom of navigation and overflight in other states EEZ in addition of having the right to lay submarine cables and pipelines in the EEZs of any state.

The EEZ has very important implications in the Arctic Ocean, especially because of the rules regarding the exploitation of living and non-living marine resources. It is estimated globally that up to 90 per cent of all exploitable fish stocks are to be found within the EEZs. Likewise, almost 90 per cent of the known and estimated sub marine oil deposits

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55 UNCLOS Art. 57
56 Art. 56 and 60
57 UNCLOS Art. 56
globally are within this zone. In the Arctic context these numbers are somewhat similar. The US geological survey estimated in 2008 that up to 25 per cent of the earth’s undiscovered oil and gas resources were to be found in the Arctic, mostly within the EEZ of Russia, Norway, Greenland and Alaska. It is also predicted that the warming climate can improve the conditions for important commercial fish stocks and introduce new species in the Arctic EEZs.

The Continental Shelf

Another issue that has been very much in the spotlight in recent years is the Arctic sea bed and the continental shelf of the eight Arctic states. The continental shelf is not considered as part of the territory of the states, but they have significant rights to explore and exploit natural resources found on the shelf.

The continental shelf consists of the seabed and subsoil of the submarine areas that extend beyond the states territorial sea throughout the natural prolongation of its land territory. Regardless of the geological sea bed formation, all coastal countries have 200 nautical miles of legal continental shelf from the baseline following thus the definition of the Exclusive Economic Zone. When, however, the geological continental shelf extends beyond this 200 nautical mile limit it is defined with geological parameters, the UNCLOS stipulating the limit of the continental shelf at maximum up to 350 nautical miles from the baselines or alternatively up to 100 nautical miles from the 2,500 meter isobath, which is a line connecting the sea depth of 2,500 meters.

With retrieving sea ice new areas along the coast of the Arctic Ocean have been opening up enabling resource exploitation in areas that until now have been covered by ice. Following this development, additional continental shelf areas are now been requested along the Arctic Ocean in many areas giving the Arctic states an opportunity to gain exclusive rights to natural resources within extended Arctic coastal areas. The legal status of the continental shelf is dealt with in the UN Commission on the Limits of the

58 Churchill and Lowe. p.162
59 Supra note 3
60 ACIA p.700
61 UNCLOS art.76
Continental Shelf (CLCS), which based on scientific evidence provided by the applicant states will give recommendations on the delimitation of the shelf. Even though the recommendations of the CLSC are not legally binding, all countries tend to follow them closely in practice.

Russia was the first Arctic country to make a new submission to the CLCS in 2001. It requested extension in two areas in the Arctic, at the Mendeleev Ridge and the Lomonosov Ridge, but was asked to resubmit a revised application based on the findings contained in the recommendations regarding the Sea of Okhotsk, Barents Sea and Bering sea. Norway also submitted an extended continental shelf application for three areas along its continental shelf, the Loop Hole in the Barents Sea, the Western Nansen Basin in the Arctic Ocean and the Banana Hole in the Norwegian Sea. In 2009, Norway was granted the applied continental shelf around the Western Nansen Basin stretching thus its northernmost continental shelf towards the central Arctic Ocean.

Denmark / Greenland submitted a partial submission, the first of two or three, related to Greenland in June 2012. This partial submission covers the Southern Continental Shelf of Greenland, while Denmark is still collection scientific and technical data for areas east and north of Greenland. Canada is also in a process of collecting data for their submission deadline in 2014, the latest news being those that Canada will make a claim to roughly 1.75 million square kilometres of seabed, equivalent to 20 per cent of Canada’s land

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The United States, though not yet a party to the UNCLOS, has been collecting and analyzing data since 2003. In 2007, it established an Extended Continental Shelf Task Force that has conducted measurements and mapping in collaboration with other CLCS applicants.68

**High Seas and the International Sea Bed Area**

What is left of the seas, after delimitation of the internal waters, territorial sea, the EEZ and the continental shelf, are considered high seas. The main principle governing these ocean areas is the so called freedom of the high seas, which entails a freedom of any kind of activity of all states within the common ocean areas limited in principle only by due regard. This customary principle of freedom of the high seas is codified in the article 87 in the UNCLOS III and is in practice limited with extensive set of regulations; First and foremost, the high seas are reserved only to peaceful activities.69 Secondly the high seas fisheries are strictly regulated by regional fisheries management organizations.70 Thirdly, management and dumping of hazardous wastes is regulated in various international legal agreements.71

With the retrieving sea ice both the high seas and the international sea bed area in the Arctic are becoming increasingly accessible. It is estimated that in the sea bed can be found extensive amounts of mineable manganese nodules that can provide for manifold amount of manganese, nickel, copper and cobalt compared to the currently known land-based reserves.72

According to the UNCLOS III, the international sea bed area and its resources are a common heritage of mankind,73 meaning that all activities taking place in the Area are to

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68 Macnab. p. 181
69 UNCLOS Art.88
70 UNCLOS Art.63 and 64, 116-119
71 Churchill and Lowe. p.208
72 Shaw. p.561
73 UNCLOS Art.136
benefit the mankind as a whole.\textsuperscript{74} This rule is implemented in the UNCLOS III quite thoroughly, the convention stipulating that all activities are to be conducted by or on behalf of the International Sea Bes Authority and any benefits shared equitably between all nations.\textsuperscript{75}

**UNCLOS and Arctic shipping**

There are no specific codified rules applicable specifically to the Arctic waters in the UNCLOS III, except of the article 234, which regulates ice-covered areas in the oceans. This article does not consider navigation or delimitation per se, the seemingly hot topics today, but establishes additional right of coastal states to adopt and enforce regulations on pollution from vessels in ice-covered areas within the limits of their EEZ. The article 234 was initiated by Canada during the negotiations of UNCLOS III and was to enforce the 1970 unilateral implementation of 100 nautical miles EEZ by Canada in its Arctic Waters Pollution Prevention Act.\textsuperscript{76} The article is very broad in scope and has raised perhaps more questions and differencing interpretations than provided answers for. For example, the article does not define the very scope of ice-covered waters and it does not deliberate on the methods and scope within which the measures for prevention, reduction and control are to be taken. However unambiguous the article is, it though forms today the cornerstone of Canadian and Russian Arctic maritime jurisdiction, authorizing these countries, at least still, the sole governance of the international navigation within their Arctic waters.\textsuperscript{77}

**International Maritime Organization**

While the UNCLOS has not taken a clear cut stand on the issue of the Arctic shipping, the International Maritime Organization has. In the course of its work on implementing the

\textsuperscript{74} UNCLOS Art.140  
\textsuperscript{75} Shaw p.562  
\textsuperscript{76} La Fayette. p.544  
general regulations of the UNCLOS as well as adopting specific rules for various fields within the shipping industry, which are all applicable to the Arctic region, it has also adopted specific guidelines and recommendations for shipping activities in the Polar waters. The guidelines are generally legally non-binding, which significantly weakens their impact and importance within field that is operated mainly by large multinational corporations and driven by economic benefits. The recommendations, on the other hand, are formulated in to the legally binding conventions, which makes them binding on all state parties.

Legally binding general code for Polar shipping has also been underway now for over twenty years under the auspices of the IMO the latest information on the status of the code indicating that it will be finalized and adopted in 2014. The following sub chapters introduce a selection of IMO regulations, both legally binding as well as non-binding guidelines, applicable to the Arctic shipping, leaving the conventions on safety at sea and search and rescue to the next chapter.

**International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL)**

International Convention for the Prevention of Pollution from Ships (MARPOL) was adopted initially in 1973 including regulations on oil spills, chemicals, harmful substances carried in packaged form, sewage and garbage. In spite of the international adoption of the convention and the initial objectives of the convention to respond to incidents like the 1967 Torrey Canyon accident, in which a tanker ran aground in the English Channel spilling 120,000 tons of crude oil into the sea, only three states were actually ready to ratify it.

It was not before the late 1970’s, after a series of serious tanker accidents, that the international shipping community was able to come together and draft both regulations

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78 International Maritime Organization. Meeting Summary of the Sub-Committee on Ship Design and Equipment (DE), 57th session, para 18 to 22 March 2013. Available at [http://www.imo.org/MediaCentre/MeetingSummaries/DE/Pages/DE-57th-session.aspx](http://www.imo.org/MediaCentre/MeetingSummaries/DE/Pages/DE-57th-session.aspx)

as well as implementation process that enabled a creation of a legally binding framework for pollution from ships. The International Convention for the Prevention of Marine Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) entered into force on 2 October 1983, including both the 1973 convention that never was ratified and the newly adopted protocol.

The convention has been amended several times and is comprised now of the original text and six annexes that each regulates a specific field of activities. The convention itself regulates the design and equipment of ships regarding their ability to manage pollution and waste and requires states to provide reception facilities for the disposal of oily waste and chemicals. Further, it covers technical aspects of pollution from ships, (except the disposal of waste into the sea by dumping, which is covered in a separate legally binding agreement), and establishes systems of certificates and inspections.

States aspiring to become Parties to the convention must, in addition to the original text, accept annexes I and II, which lay down regulations for the prevention of pollution by oil as well as by noxious liquid substances in bulk. The annexes III to VII are voluntary, the annex III preventing pollution by harmful substances carried by sea in packaged form, the annex IV preventing pollution by sewage from ships, the annex V preventing pollution by garbage from ships and the annex VI preventing air pollution from ships.

The annexes one, two, four, five and six stipulate certain sea areas as "special areas" in which, for technical reasons relating to their oceanographical and ecological condition and to the amount of marine traffic they are provided with a higher level of protection. It will be interesting to see, whether the Arctic Ocean or any of its seas will in future receive a status as a “special area” under any of the above mentioned annexes, the Antarctica having such status under the annexes one, two and five.80

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80International Maritime Organization. Special Areas under MARPOL. http://www.imo.org/ourwork/environment/pollutionprevention/specialareasundermarpol/Pages/Default.aspx (visited 6.5.3013)
Torremolinos International Convention for the Safety of Fishing Vessels

Since approximately half of the vessels sailing in Arctic waters are shipping vessels\textsuperscript{81}, the safety of them especially is of great importance in the Arctic context. Because of the great variety in vessels themselves, and also in equipment onboard in the global fishing vessel fleet, it was impossible to include these regulations to the general Safety at Sea (SOLAS) convention of which the first version was adopted as early as in 1914.\textsuperscript{82}

The Torremolinos Protocol of 1993 was initially adopted in 1977 as a Torremolinos International Convention for the Safety of Fishing Vessels\textsuperscript{83} covering new, decked, seagoing fishing vessels of minimum 24 meters in length. It regulated construction, stability, machinery, fire protection, protection of crew, lifesaving equipment, emergency procedures, radio communication, navigation equipment, vessel certification and port state control in fishing vessels.

Because of the reluctance of the world’s fishing states to ratify the convention the IMO decided to adopt an updated regulations in the form of protocol in 1993 to promote the ratification as well as narrow the gap between the convention and technological advances that had emerged during the decade that had pasted.\textsuperscript{84} While the 1993 protocol did not either appeal to the fishing nations the IMO finally adopted Cape Town Agreement in 2012 on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977. This latest Agreement will enter into force 12 months after the date on which not less than 22 States the aggregate number of whose fishing vessels of 24 m in length and over operating on

\textsuperscript{81} AMSA p. 91
\textsuperscript{84} Deggim, Heike. Ensuring safe, secure and reliable shipping in the Arctic Ocean. NATO Advanced Research Workshop on “Environmental security in the Arctic Ocean” Cambridge, Scott Polar Research Institute, 13 to 15 Oct 2010. Available at \url{http://www.imo.org/MediaCentre/HotTopics/polar/Documents/ENSURING%20SAFE%20SECURE%20AND%20RELIABLE%20SHIPPING%20IN%20THE%20ARCTIC%20OCEAN%20-%20Article.pdf} [hereinafter: Deggim at NATO]
the high seas is not less than 3,600 have expressed their consent to be bound by it. At this date, there are 17 signatories to the 1993 protocol, Iceland being one of the first nations signing the protocol. On the other hand, there are no signatories to the Cape Town Agreement.

**International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978**

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers – STCW was first adopted in July 1978. It establishes qualification standards for masters, officers and watch personnel on seagoing merchant ships. Throughout the years it has been amended extensively, but it was not before in 2010 in Manila that requirements regarding polar areas were added in to the convention. New Section B-V/g of the STCW Code called “Guidance regarding training of masters and officers for ships operating in polar waters” entered into force 1 January 2012.

These new regulations define specific subjects that masters and officers in charge of a navigational watch and officers in charge of an engineering watch on board ships operating in polar waters should have relevant experience and training in. They include ship’s performance in ice and cold climate, voyage and passage planning for a ship in ice, operating and handling a ship in ice, local requirements for entering different regions, equipment limitations in polar waters, safety precautions and emergency procedures and environmental considerations. In addition, it notes that masters and chief engineer

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86 International Maritime Organization. Status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions. As at 30 April 2013. Available at http://www.imo.org/About/Conventions/StatusOfConventions/Documents/Status%20-%202013.pdf [hereinafter IMO convention status] p.475

officers should have sufficient and appropriate experience in operating ships in polar waters.  

Guidelines for Ships Operating in Polar Waters

The Guidelines for Ships Operating in Polar Waters (GSOPW)\(^8^8\) were adopted by the IMO Assembly in December 2009. They were preceded by the Guidelines for ships operating in Arctic ice-covered waters\(^9^0\), which at that time provided specific minimum voluntary requirements for navigation in Arctic waters.\(^9^1\) At the request of the XXVII Antarctic Treaty Consultative Meeting these Arctic guidelines were updated to cover also issues and regulations applicable to the Antarctica, thus creating comprehensive guidelines for all polar shipping.\(^9^2\)

These guidelines are non-mandatory in nature, meaning that states are legally unbound by the rules established in the guidelines. The very active participation of the Arctic littoral states in addition to the Antarctica claimant states and the ship classification

\(^8^8\) International Maritime Organization. STCW/CONF.2/34. 3 August 2010. Available at http://www.imo.org/ourwork/humanelement/trainingcertification/documents/34.pdf


\(^9^1\) Id.

societies in the preparation and drafting these regulations however shows high level of involvement in the issue.  

The region within which the GSOPW are applicable follows loosely the Arctic Circle at 66,33°N specifically leaving out the Norwegian Sea as well as the Barents Sea areas, which have traditionally been year around ice-free sea areas.

The main objective of the GSOPW is to regulate areas that are not already codified in existing requirements of the UNCLOS, SOLAS and MARPOL Conventions. It is divided in to four parts; the part A providing guidance for constructional matters, part B dealing with equipment, part C laying down operational rules and part D dealing with environmental protection and damage control. One of the most interesting issues stipulated in the GSOPW are the rules, which provide that all ships operating in polar ice-covered waters should carry at least one Ice Navigator. This is the first time that the human factor of ice navigation is taken in to account in regulatory work regarding the polar waters.


The development of the legally binding Polar Code has been underway already for some time. In February 2009, the IMO Maritime Safety Committee received a proposal from Denmark, Norway and the United States on mandatory application of the polar guidelines, in which the three countries proposed revision and mandatory application of rules addressing navigation, search and rescue and standards of training and watchkeeping in the polar areas. The proposal was taken on and currently the work on the Polar Code is conducted in the Sub-Committee on Ship Design and Equipment (DE). The Polar Code is supposed to cover all major aspects regarding design, construction, equipment, operation, training, search and rescue and environmental protection relevant

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94 Deggim at NATO

to ships operating in Arctic and Antarctic waters. Though bipolar Code is in question the sub-committee noted right in the beginning that the requirements for the two poles would not necessarily have to be identical, but rather take into consideration the individual features of each pole.\textsuperscript{96}

For the past years the Code has been under development at the Polar Code Working Group, established by the DE. This year some of the main draft chapters, in particular a draft chapter on environmental protection and on the different categories of ships, were finalized for review and it is anticipated that the draft Code will be finalized for adoption by the IMO Maritime Safety Committee and Marine Environment Protection Committee (MEPC) in 2014.\textsuperscript{97}

**Emergence of customary international law?**

Since the international law governing the Arctic Ocean is somewhat open in nature and the changing climatic and geographical conditions have a major impact on the practice at sea, it is possible to maintain that customary international rules may be emerging implementing the framework laid down in UNCLOS III and in the guidelines adopted by the IMO. Currently, the international shipping practice in the Arctic has concentrated around the Arctic littoral states, and especially the Russian Federation, Canada and the US, which has enabled them, unintentionally or intentionally, to develop the practical framework around the Arctic shipping.\textsuperscript{98} This practice has not been objected by the international community, perhaps largely because of the strong coastal and port state jurisdiction and authority provided by the UNCLOS III and the lack of practical navigational knowledge from Arctic waters, but possibly also because of emergent opinio juris. Whichever is the case at the moment, it will be interesting to follow whether this

\textsuperscript{96} International Maritime Organization. Meeting Summary of the Sub-Committee on Ship Design and Equipment (DE), 53rd session: 22 - 26 February 2010. Available at http://www.imo.org/MediaCentre/MeetingSummaries/DE/Pages/DE-53rd-Session.aspx

\textsuperscript{97} International Maritime Organization. Meeting Summary of the Sub-Committee on Ship Design and Equipment (DE), 57th session, 18 to 22 March 2013. Available at http://www.imo.org/MediaCentre/MeetingSummaries/DE/Pages/DE-57th-session.aspx

\textsuperscript{98} Brubaker in YBPL 2. p.25
development will get a foothold in the Arctic shipping regime or whether it will be suppressed with detailed international codification.

**International Search and Rescue and Safety at Sea Agreements**

Roughly 100 years ago, the famous British passenger ship Titanic sank on its maiden voyage after colliding with an iceberg in the North Atlantic Ocean. Over 1500 people lost their lives in this unprecedented shipping accident. Despite the high popularization of the event throughout the years, very few know that the Titanic events actually initiated a development for enhanced regulations for the safety of life at sea that today play a major role in the international shipping.

Cornerstones of these regulations are the International Convention for the safety of life at the sea, SOLAS, the International Search and Rescue convention and the International Convention on Salvage.

**International Convention for the Safety of Life at Sea (SOLAS), 1974**

The first steps in codifying basic safety regulations for the sea fearers were taken very soon after the Titanic incident or already in 1913, when the Conference on Safety of Life at Sea took place in London. The conference was a British initiative and aimed to compensate and make sure that the tragedy of the Titanic would not happen again. It managed to draft an international convention that first time ever laid down common international safety regulations for ships.

The 1913 convention stipulated on general safety at sea, safety of navigation, ship construction, radiotelegraphy, life-saving appliances and fire protection in the ships, but

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entered never in to force due to the World War I. The extensive work done in and for this conference did however not result in having zero impact, the very few signatory countries (UK and US in forefront) ending up enacting national legislation based on the convention that greatly improved the safety of their own ships.\textsuperscript{100}

This initial convention was amended both after the World War I and again after the World War II, but it was not before the 1960’s that the shipping nations were able to agree upon an updated set of regulations on the safety at sea under the newly established International Maritime Organization.

The SOLAS 1960 convention\textsuperscript{101} was adopted on 17 June 1960 and entered into force on 26 May 1965, creating the first ever legally binding document on safety at sea. It followed somewhat the earlier editions of the convention, being though more up to date in subject matter. It was anticipated that the convention would be updated on a regular bases to facilitate and follow the very fast technological development, but the 1960 version of the convention did not prove to become what it was intended to be, lacking behind especially in amendments, making it inflexible and rapidly out of date. Having also quite low amount of states parties to the convention, the IMO decided that best way to overcome the drawbacks of the 1960 convention would be through enactment of a totally new convention that would update not only the regulations found in the convention, but also the amendment process.

The International Convention for the Safety of Life at Sea (SOLAS) 1974 entered in to force 25 May 1980, twelve months after the twenty-fifth state, which fulfilled the requirement of state parties controlling at least 50\% of global combined merchant fleets gross tonnage, became a state party. Alongside the rapidly developing international commerce and exchange of goods, the shipping industry has grown and developed immensely during the past thirty years. This has reflected also to the law concerning


international shipping the 1974 SOLAS convention, unlike its predecessors, having today wide base of contracting party, or 162 in total, whose combined merchant fleets constitute 99% of the gross tonnage of the world’s total merchant fleet.\textsuperscript{102}

The main objective of the SOLAS Convention is to specify minimum standards for seaworthiness of ships. Flag States are primarily responsible for ensuring that ships under their own flag comply with the requirements of the convention, but they have also rights under the so called “Port State control”, which allows flag states that are parties to the convention to inspect ships of other states also parties to the convention if there are clear grounds for believing that the foreign ship and its equipment are not according to the regulations of the Convention.\textsuperscript{103}

The SOLAS 1974 convention is applicable to all ships except war- and troopships, cargo ships of less than 500 tons gross tonnage, ships not propelled by mechanical means, wooden ships of primitive build, pleasure yachts not engaged in trade, and fishing vessels.\textsuperscript{104} As a general rule it also only applies to ships that were built or registered after the adoption of the convention.\textsuperscript{105}

One of the main novelties of the latest SOLAS convention is its amendment procedure, which was designed to allow rapid and effective updating of the convention. The convention has, in fact, two different amendment procedures both equally valid. The convention can be amended either by the International Maritime Organization in its Maritime Safety Committee (MSC) with two-thirds of Contracting Governments present and voting on the subject in the MSC\textsuperscript{106} or by a conference of Contracting Governments. Such a conference must at least have one-third of the Contracting Governments present and vote with at least two-thirds majority in favor of the amendment for it to enter into

\textsuperscript{102} IMO Convention status. P.20
\textsuperscript{103} International Maritime Organization. SOLAS 1974: Brief History - List of amendments to date and where to find them. \url{http://www.imo.org/KnowledgeCentre/ReferencesAndArchives/HistoryofSOLAS/Documents/SOLAS%201974%20Brief%20History%20List%20of%20amendments%20and%20how%20to%20find%20them.html#1} (visited 10.5.2013)
\textsuperscript{104} SOLAS, reg. 3
\textsuperscript{105} SOLAS, reg.1
\textsuperscript{106} SOLAS Art.8
force.\textsuperscript{107} This process has allowed a robust progress of the convention the number of amendments at the moment being 123.\textsuperscript{108}

The current convention is comprised of eight original chapters and various amendments that are incorporated into the convention as additional or updated chapters. First chapter covers generalities and lays down the amendment procedure, one of the cornerstones of the convention.

The chapter two lays down in detail regulations of the construction, subdivision and stability of vessels, rules on machinery and electrical installations, fire protection, fire detection and fire extinction. According to the convention the ships are to be constructed and divided so that fire or leakage in one part of the ship will not spread to the rest of the ship without restrictions keeping the ship afloat and operable even in situations of fire and damage.\textsuperscript{109}. The specific fire protection, detection and extinction rules applicable under the SOLAS convention can now be found in the Fire Safety Systems (FSS) Code, which lays down detailed regulations and procedures for specific engineering specifications for fire safety systems.\textsuperscript{110},

These regulations are general to all ships, cargo and passenger, the convention allowing deviations from the rules only in specific settings. For example are individual ships or classes of ships, which do not proceed more than 20 miles from the nearest land during their voyage or carry large numbers of special trade passengers exempt from the regulations.

The chapters three, four and five identify life-saving appliances and arrangements, communications systems and safety services which are to be provided by states parties to the convention and are available for all types of ships regardless of their size and other specifications stipulated in the convention.

\textsuperscript{107} Id.
\textsuperscript{108} IMO Conventions status. P. 16
\textsuperscript{109} SOLAS reg.1
The requirements for life-saving appliances are stipulated in detail in the Life-Saving Appliance (LSA) Code, which is a mandatory part of the SOLAS convention.\footnote{International Maritime Organization. International Convention for the Safety of Life at Sea (SOLAS), 1974 \url{http://www.imo.org/about/conventions/listofconventions/pages/international-convention-for-the-safety-of-life-at-sea-(solas)-1974.aspx} (visited 4.5.2013)} The LSA defines the requirements for lifebuoys and life-jackets, immersion suits, anti-exposure suits and thermal protective aids, requirements for lifeboats, life rafts and rescue boats as well as different types of flares and signals. The LSA further defines requirements for launching and embarkation appliances, line-throwing appliances and marine evacuation systems. Lastly, it lays down regulations for emergency alarm systems and public address systems to be used in situations of distress.\footnote{Id.}

The communications services include maintenance of meteorological services for ships, the ice patrol service, routing of ships and maintenance of search and rescue services.\footnote{Id.}

For the communication purposes the SOLAS convention incorporates the Global Maritime Distress and Safety System (GMDSS) which is paramount to the modern search and rescue operations. The GMDSS is an international integrated communications system that uses satellite and terrestrial radiocommunications for the location of distressed seafarers. Starting from the 1970's the system has been gradually developed and was finally amended to the 1974 SOLAS convention in phases ranging from 1992 to 1999.\footnote{Id.} It is among other things based on an emergency position indicating radio beacons (EPIRBs) and search and rescue transponders, which are used to transmitting messages via satellite and earth stations to the nearest rescue coordination centre.

For the search and rescue and meteorological services the IMO and International Hydrographic Organization (IHO) maintain a Worldwide Navigational Warning Service (WWNWS), which distributes navigational warnings and meteorological information together with the World Meteorological Organization. Under the WWNWS the world's oceans are divided into 16 areas, called NAVAREAs and METAREAs in which one of the regional states acts as a coordinator responsible for disseminating navigational information. Until the 2011, the WWNWS did not cover the Arctic regions, leaving thus
out important emerging navigation region. The recent creation of five new NAVAREAs / METAREAs enables ships now to receive navigational and meteorological information in
the Arctic from either the Norwegian, Russian or Canadian services.  

Figure 8 The now 21 world’s navigational and meteorological areas. Image source: IHO at http://www.iho-ohi.net/mtg_docs/com_wg/CPRNW/CPRNW_Misc/RNW_on_the_web.htm

While the first five chapters regulate more or less the equipment onboard the ships as well as onshore safety services to be provided by the states parties, the chapters six and seven regulate shipment of different types of cargo and goods. The chapter six stipulates stowage of different categories of cargo including grain of various types and securement of cargo and cargo units. The chapter seven regulates carriage of dangerous goods in packaged form, construction and equipment of ships carrying dangerous liquid chemicals

or liquefied gases in bulk, and shipment of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes.

The eighth, and last of the original chapters, deals with nuclear powered merchant ships. The specific regulations applicable under this chapter are established in the 1981 Code of Safety for Nuclear Merchant Ships.\textsuperscript{116} The Code stipulates various equipment obligatory for nuclear powered ships, ranging from design criteria and conditions, construction and equipment, steam supply system and machinery and electrical installations to radiation safety and operation, but stays silent on the search and rescue procedure of these types of ships.

From the time of the Titanic accident the SOLAS convention had been very much concerned of the equipment and construction of ships in order to enhance the safety at sea. However, despite the highly developed equipment onboard and the comprehensive search and rescue capability of the world’s leading shipping nations many serious accidents have taken place even after the adoption of the 1974 SOLAS convention. Many of these accidents were traceable to a human error, which generated discussion on the management of the ships. To respond to the situation the IMO established Guidelines on Management for the Safe Operation of Ships and for Pollution Prevention in 1989.\textsuperscript{117} The Guidelines laid down a voluntary framework for the best practice in ship management based on general principles of human security, environmental protection and safety of property and were intended for all shipping companies in addition to the national and international regulations.\textsuperscript{118}

In 1993 the guidelines were developed into the International Management Code for the Safe Operation of Ships and for Pollution Prevention, which became mandatory in 1998 and are now considered chapter IX of the SOLAS convention.\textsuperscript{119} The main objective of the ISM Code is to provide for safe practices in ship operation and to improve safety

\textsuperscript{117} International Maritime Organization Resolution A.647(16) adopted on 19 October 1989. Accessible at http://www.sjofartsverket.se/upload/5121/647.pdf
\textsuperscript{118} Supra note 118, para 2.1
\textsuperscript{119} International Maritime Organization. International Safety Management Code. Resolution A.741(18) as amended by MSC.104(73), MSC.179(79), MSC.195(80) and MSC.273(85).
management skills of personnel ashore and onboard ships.\textsuperscript{120} It mainly stipulates the responsibilities of the owner entity with regards to the management and preparedness of the personnel, work procedures and internal evaluation.

The chapters ten, eleven and twelve have been amended in to the SOLAS convention using similar procedure as was used for the ISM Code. They deal both with new vessel types as well as administrative issues incorporating among other things external mandatory code of Safety for High-Speed Craft, which regulates air-cushion vehicles and hydrofoil boats engaged on international voyages,\textsuperscript{121} and of the International Ship and Port Facilities Security Code, which stipulates risk management measures for ships and port facilities in case of terrorist attacks in to the convention.\textsuperscript{122}

**International Convention on Maritime Search and Rescue, 1979**

While the SOLAS convention with its various amendments regulates search and rescue communications and safety equipment in ships, the IMO Search and Rescue Convention regulates the operations of how exactly the search and rescue activities shall take place and how and by whom they are managed. The convention is a natural companion of the SOLAS convention, the Global Maritime Distress and the Safety System and the Life-Saving Appliance (LSA) Code that together create a comprehensive safety framework around international navigation.

The International Convention on Maritime Search and Rescue\textsuperscript{123} was adopted in 1979 in Hamburg and entered in to force in 22 June 1985, 12 months after the date on which 15 States had become Parties to the convention.\textsuperscript{124} It has today 104 states parties to it, with

\textsuperscript{120} Supra 118, para. 1.2.2.1


\textsuperscript{124} IMO SAR Convention, Art.V
the combined merchant fleet constituting approximately 62.5% of the gross tonnage of the world’s merchant fleet.\textsuperscript{125}

The convention consists of only eight articles and a technical annex that stipulates the creation of the organization, cooperation and operational procedures. Like the SOLAS convention, the SAR convention has two amendment procedures, both of which are equally valid. The convention can either be amended by a conference of the states parties with at least one third of the Parties to the convention present and with a two-thirds majority present voting in favor of the proposition or on the consideration of the Maritime Safety Committee of the International Maritime Organization in which all member states of the IMO have a seat. For the amendment process of specific convention the MSC will include all Member States as well as those countries which are Party to conventions even if they are not IMO Member States. The MSC amendment procedure has been used twice after the entry into force of the SAR convention, in 1998 and 2004.

Based on the regulations in the Chapter II of the Annex to the international SAR convention, the IMO Maritime Safety Committee divided the world’s oceans into 13 search and rescue areas. Within each area states parties have a designated search and rescue region that they manage according to the articles of the convention as well as national regulations.\textsuperscript{126} These regions are based on mutual agreements between the parties and do not have to correspond with the territorial boundaries of the state. Within these regions the states parties are obliged to establish marine rescue coordination centre (MRCC), which is responsible for implementation of national SAR coordination machinery as well as appropriate facilities and equipment.\textsuperscript{127} Since the designated SAR areas do not only cover territories of states, but can stretch out of each states EEZ, effective cooperation and coordination is of vital importance in SAR activities. The chapter III of the Annex to the SAR convention stipulates in which way this cooperation and coordination is to take place.

\textsuperscript{125} IMO Convention Status, p.411
\textsuperscript{126} International Maritime Organization. Global Maritime Distress and Safety System (GMDSS).
\textsuperscript{127} IMO SAR Convention. Ch2, paras. 2.2.1, 2.2.2, 2.3 and 2.5
The main principle is that neighboring states should coordinate their activities whenever possible and closely cooperate in search and rescue activities. This includes cooperation in creating necessary SAR agreements with neighboring States in order to establish and strengthen SAR regions as well as swift request and granting of help or equipment to foreign SAR organizations. The convention directly recommends the states to “authorize, subject to applicable national laws, rules and regulations, immediate entry into or over its territorial sea or territory of rescue units of other Parties solely for the purpose of searching for the position of maritime casualties and rescuing the survivors of such casualties.” In addition, coordination between aeronautical and maritime services is encouraged. This coordination should preferably take place through the establishment of joint rescue coordination centre (JRCC) as well as rescue sub-centres that simultaneously coordinate both maritime and aeronautical search and rescue activities.

To make the search and rescue operations effective the convention lays down a requirement for the states parties to the convention to create a SAR framework that either individually or in cooperation with others is capable of servicing distress alerts on a 24-hour basis. This includes both capabilities to receive such messages according to the requirements of the SOLAS convention as well as to initiate operation responding to the messages.

The operations under the SAR convention are regulated not only in the convention itself, but also in the International Aeronautical and Maritime Search and Rescue (IAMSAR) manual, which serves as a practical guideline for aviation and maritime search and rescue services. The IAMSAR Manual stipulates in great detail the acknowledgement, coordination and conduct of the SAR activities, including information on the national and regional SAR systems and cooperation between them. In addition, it lays down instructions for operations and exercises planning. The IAMSAR manual is considered to be one of the foundational directions of current search and rescue operations and an up-

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128 IMO SAR Convention ch.3 para. 3.1.2  
129 IMO SAR Convention ch.3 para 3.2  
130 IMO SAR Convention ch.4 para 4.2.1
to-date copy of the IAMSAR Manual is today mandatory accessory for all ships under the chapter V of the SOLAS convention.\footnote{International Maritime Organization. IAMSAR Manual. \url{http://www.imo.org/ourwork/safety/radiocommunicationsandsearchandrescue/searchandrescue/pages/iamsarmanual.aspx} (visited 7.5.2013)}

**Guidance for passenger ships operating in areas remote from SAR facilities**

The above mentioned regulations are international and applicable in all sea areas within the jurisdictions or SAR areas of the states parties. They are however implementable only in so far as there are search and rescue facilities in nearby shores and equipment that can be used to help the distressed vessels. Arctic is one of the regions that still today have somewhat primitive maritime infrastructure. It is mainly because of the remoteness of the area and the fact that so far the area has been more or less covered with thick multi-year sea ice that has prevented regular shipping activities in the region. For these situations the IMO has adopted guidelines that are to mitigate the lack of proper search and rescue facilities.

Guidelines on voyage planning for passenger ships operating in remote areas\footnote{International Maritime Organization Resolution MSC.1/Circ.1184. Adopted on 29 November 2007 Available at \url{http://www.imo.org/blast/blastDataHelper.asp?data_id=29939&filename=A999(25).pdf}} directly respond to the increasing marine tourism activities in various remote areas. The polar areas are no exception with this regard the marine tourism in the Arctic being in a steady increase. The guidelines were adopted in 2007 and date thus to a time before the already mentioned Guidelines for Ships Operating in Polar Waters.

The guidelines on voyage planning lay down minimum requirements for planning for such trips stipulating that detailed voyage and passage plans should include the source, date and quality of the hydrographic data on which the charts to be used are based, information on limitations on available maritime safety information data and Search and Rescue resources, availability or lack of aids to navigation and places of refuge.

In addition, the guidelines expect the operators to plan and file knowledge of ice and ice formations, environmental conditions and the extent and type of icebergs that are in the

vicinity of the intended route. Finally the plan should include information on ice from former years, operational limitations in ice-covered waters and availability and use of ice navigators.

**International Convention on Salvage, 1989**

In addition to the government organized search and rescue systems a ship in distress can expect help from commercial ships from nearby regions. Every master of a ship is obliged, in so far it does not cause danger to his vessel or personnel, to assist any person in danger of being lost at sea. Even though this duty is very much in line with a common sense and the inherent value of life, it is also codified in the International Convention on Salvage. But unlike SAR systems and government owned vessels the commercial ships are entitled to a compensation for their help and services.

The convention on Salvage dates back to 1910, when the first agreement on salvage was established based on the principle under which a salvor was only reimbursed for services if the operation was successful, meaning that only if lives or property were managed to recover, the vessels helping in the salvage operation were entitled to get compensations. During that time the environmental hazard often resulting from marine accidents was not considered as serious issue as today the salvage being considered unsuccessful even though major environmental protection had been managed to be carried out if on the other hand property or lives were lost.

This condition has been corrected in the 1989 convention on Salvage, which in article 14 stipulates that operations which have prevented environmental damage, but lost either the ship or valuable cargo can still be reimbursed under the special compensation clause in extreme cases even up to 100 per cent of the costs incurred by the salvor. Somewhat peculiarly no specific remuneration is offered for lives saved. To mitigate this obvious drawback of the convention, it notes that “a salvor of human life is entitled to a fair share

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134 IMO Convention Status, p.456
of the payment awarded to the salvor for salving the vessel or other property or preventing or minimizing damage to the environment.”

Regional Search and Rescue Agreements

Barents Euro-Arctic Council Agreement on EPPR

The Barents Euro-Arctic Council Agreement on cooperation within the field of emergency prevention, preparedness and response is a multinational cooperation agreement between Russia, Finland, Norway and Sweden on cooperation in the event of natural or man-made disasters or other emergency situations in the Barents Euro-Arctic Region. It was initiated in Moscow in 2008 and aims at facilitating cross-border cooperation between the four signatory countries in the field of rescue operations. The agreement is strictly speaking not a search and rescue agreement, but involves rather all types of emergency situations ranging from regular emergency situations, such as traffic accidents, fires and floods and ice plugs, to industrial and chemical accidents and search and rescue activities.

The main driver for the establishment of this agreement were the joint geographical restraints that all four countries experience in their vast sparsely populated northern regions and the need to join forces in the face of major disasters. The main preparatory features of the agreement are the regular exercises and joint training that take place every other year, update of the Joint Manual and the exchange of experts.

The Agreement stipulates contact points for each state within the region that must be notified in a case of an emergency, even though other international rescue regimes were also applicable to the incidents. The contact points do not have a duty to assist, but rather

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135 SALVAGE. Art.16
their involvement is dependent on an evaluation on what type of assistance they consider being able to offer. In the case where a Party to the Agreement considers itself able to assist it will gain a simplified border crossing procedure, according to which they can apply for a special certificate for border crossing purposes. Any equipment that will be used for emergency response activities will however require special permission from both states authorities and any items that are not consumed, distributed, destroyed or lost must be transported back to the original country at the completion of the activities. It is expected that all emergency response teams will have enough resources for independent operation in the emergency area for at least 24 hours. The assisting state authority can request the assisted country to reimburse the costs of the activities. These costs must only cover the operational costs the Agreement stipulating a waiver on all possible demands for compensation for any injury, loss of life or property.

**European Council Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system**

After a bad experience on flag state control the European Union decided to act in a form of legislative action to improve surveillance of safety equipment in ships bound for or leaving the EU ports. The objective of the directive 02/59 was to improve “safety and efficiency of maritime traffic and the response of authorities to incidents, accidents or potentially dangerous situations at sea”. It was enacted upon and to replace directive 93/75, which had laid down minimum requirements for ships in dock or leaving the EC ports and carrying dangerous or polluting goods.

The directive 02/59 aims at creating a European system not to replace already existing international monitoring systems, but to enhance and better monitor the implementation

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138 BEAC EPPR Art.7
139 Id. Art.8 and 10
140 Id. Art 12
141 Id. Art. 13 and 14
of safety regulations and mandatory ship reporting systems of the IMO SOLAS Convention.\textsuperscript{143}

It lays down a duty upon a member state party to the SOLAS mandatory ship reporting system to make sure that any entering vessel will report all necessary information stipulated in the SOLAS convention.\textsuperscript{144} In addition the directive stipulates a mandatory use of automatic identification system and monitors the mandatory ships' routing system required by the SOLAS convention of ships calling to a port of an EC member states port.\textsuperscript{145}

The directive is very strict on the compliance with the vessel traffic services. It stipulates that not only are the member states obliged to make sure that ships entering the VTS areas controlled by the specific member state follow the applicable rules, but they are also obliged to ensure that any ships entering into a VTS area even outside of the member states' jurisdiction comply with the regulations.\textsuperscript{146} Likewise, the directive stipulates that ships calling for a port in EC member state must be equipped with a voyage data recorder system, which stores information on the position, movement, physical status, command and control of a vessel.\textsuperscript{147} The EC member states are obliged to maximize their efforts in monitoring and taking measures in ensuring that the ships sailing within their search and rescue region report any incidents or accidents affecting the safety of the ship so that the member state can take any appropriate measures to mitigate the damage especially to environment or lives.\textsuperscript{148}

The directive is very concerned of the compliance with the reporting system established regarding dangerous or polluting goods. It stipulates that no dangerous or polluting goods, however little, may be offered for carriage or taken on board any ship unless proper information of the goods has been provided to the master or operator of the ship.\textsuperscript{149} Moreover the master or operator must inform the port of destination, whether

\textsuperscript{143} SOLAS convention. Chapter V Reg.11
\textsuperscript{144} 2002/59/EC, art.5
\textsuperscript{145} Id. Art.6 and 7
\textsuperscript{146} Id. Art.8
\textsuperscript{147} Id. Art.10
\textsuperscript{148} Id. Art.17
\textsuperscript{149} Id. Art.12
within the EC or non-EC port, of the dangerous or polluting good, which in turn has to make sure that the information is made electronically available 24/7 in the case of accident or emergency.\textsuperscript{150}

In addition to the safety regulations regarding ships themselves and dangerous or polluting cargo the directive established regulations on the surveillance of ships and delivery of information to ports along the planned route of the ship. If ships have been involved in emergency incidents or accidents at sea, they have failed to comply with the international reporting or service system regulations or the EC member states have proof or evidence of deliberate breeches of the international MARPOL Convention they are obliged to report the information to the relevant port authorities.

Since the directive is applicable to all commercial ships over 300 gross tonnage, except fishing vessels, it can have significant impact on the safety of the Arctic shipping activities, even though the destination port, flag state or ship owner entity did not have any connection with the region what so ever.\textsuperscript{151} Majority of the anticipated shipping activities in the Arctic will involve shipping of cargo between the North Atlantic Ocean and the North Pacific Ocean or shipping of natural resources to distribution channels. In cases where transshipment ports will not be used the destination or departure port control will play a significant role in monitoring safety measures. And even if the cargo was transported via hub port to major European or Asian cities the location of the possible hub ports within the EU/EEA will give the directive an impetus within the Arctic shipping activities.

\textbf{Icelandic Search and Rescue Regulations}

Icelandic search and rescue legislation is based on the above described international and regional regulations. The main international law conventions influencing the Icelandic search and rescue legislation are the IMO Search and Rescue convention from 1979 and the 1974 SOLAS convention. Iceland became state party to the IMO SAR convention in

\textsuperscript{150} Id. Art.13
\textsuperscript{151} Id. Art.2
April 1995 and has enacted a range of legislation implementing the international SAR regulations into the Icelandic national legislation. Iceland ratified the SOLAS convention in October 1983 and as with the SAR convention, the SOLAS convention has been implemented into Icelandic legislation with a series of Acts and regulations.

The Icelandic SAR area is defined by the International Civil Aviation Organization (ICAO) as well as the International Maritime Organization (IMO) and now also by the Arctic SAR Agreement. It covers approximately 1.8 million square kilometres of the North Atlantic Ocean around the island, almost twice the size of the Icelandic economic zone. The Icelandic SAR area (SRR) stretches from Jan Mayen in the North southeast to the Faroese Islands and to Hvarf (Uummannarsuaq) on the south tip of Greenland following the east coast of Greenland back to an area north of Jan Mayen.152

**Act No. 41/2003 on the Maritime Traffic Service (Lög um vaktstöð siglinga)**

The Act no. 41/2003 on the Maritime Traffic Service implements the Directive 2002/59/EB, which in turn is based on the international convention on search and rescue from 1979 and the SOLAS convention from 1974. The Act establishes the framework for maritime traffic services with the objective of ensuring the safety of navigation within the Icelandic exclusive economic zone and search and rescue services within the Icelandic search and rescue region. The Act establishes a Maritime Traffic Service, an administrative entity run by the Icelandic Maritime Organization, that among other things

provides automatic ship reporting system for Icelandic ships following the international regulations on the automatic identification systems (AIS) stipulated by the 1979 SAR convention, implements the Global Maritime Distress and Safety System (GMDSS) established in the SOLAS convention and acts as the search and rescue organization that receives and disseminates emergency calls from ships as stipulated in the international SAR convention also exercising the port State control established under the SOLAS convention. The Act establishes an obligation for ships carrying dangerous or polluting goods in cargo spaces or on deck to provide for specific harbor pilotage or even offshore pilotage if the ships are routing through specific areas or in particular circumstances.

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Regulation No. 80/2013 on the Maritime Traffic Service and Vessel Monitoring (Reglugerð um vaktstöð siglinga og eftirlít með umferð skipa)

The above mentioned Act no. 41/2003 is stipulated in detail in the regulation no. 80/2013. The regulation implements the rules and recommendation from the Directive 2002/59/EB in to Icelandic legislation making them binding upon all Icelandic ships as well as the government under the Icelandic law.

In short, the regulation stipulates the creation of the mandatory ship reporting and monitoring system in Iceland implementing into Icelandic law the framework of the automatic identification system (AIS), the system for the long-range identification and tracking of ships (LRIT) and the mandatory use ships’ routeing system to be used under the port state control. The regulation makes also mandatory the use and cooperation within the SafeSeaNet, which is a distributed marine navigation database serving all EEA Member States' maritime authorities. It stipulates the Icelandic Maritime Administration to establish a national maritime information management system, compatible with the SafeSeaNet, to process and distribute all Icelandic information. The European regulations on information system around transportation of dangerous or hazardous

154 Id. Art.12 and 13
155 Icelandic Ministry of Interior. Regulation No. 80/2013 on the Maritime Traffic Service and Vessel Monitoring. Art. 6, 7 and 8
156 Id. Art.14 and 22a
goods are also stipulated in the regulation, making the MARPOL and IMO based cargo declaring system mandatory also in Iceland.\textsuperscript{157}

The Regulation 80/2013 further stipulates an accident reporting procedure according to the Directive 2002/59/EB and establishes procedure according to which the Icelandic Coast Guard has an obligation and mandate to notify and even stop temporarily the master of a ship in case of exceptionally bad weather or sea state.

The Icelandic regulation establishes, unlike the international and EU law, also the conditions in which the Icelandic Coast Guard is authorized to interfere with the ships´ travel plan in case of severe ice conditions. The regulation obliges the Marine Traffic service to provide information on the ice conditions, the recommended routes and the icebreaking services in its area of competence in cases in which severe sea ice conditions are detected within the Icelandic EEZ. The Marine Traffic Service can further require that the ships either within the area concerned or intending to enter or leave the area satisfy strength and power requirements commensurate with the ice situation in the area concerned.\textsuperscript{158}

\textbf{Regulation No.71/2011 On the Control of the Search and Rescue In the Search and Rescue Region of Iceland For a Maritime and Aeronautical Rescue (Reglugerð um stjórnun leitar- og björgunaraðgerða á leitar- og björgunarsvæði Íslands vegna sjófarenda og loftfara)}

The Regulation no.71/ 2011 on the control of the search and rescue in the search and rescue region of Iceland for a maritime and aeronautical rescue is one of the two main legislative enactment regulating the search and rescue operations within the Icelandic SAR region.

The regulation no.71/2011 is based on and implements the framework of the 1979 International Convention on Maritime Search and Rescue, the 1974 International Convention for the Safety of Life at Sea (SOLAS) and the Annex 12 of the 1944 Convention on International Civil Aviation, (the Chicago Convention) laying down the administrative

\textsuperscript{157} Id. Art.12 and 13. See also the Annex I to the MARPOL Convention and the IMO Resolution MSC.286(86).

\textsuperscript{158} Id. Art. 18a
framework for the Icelandic SAR operations. It establishes the Icelandic Joint Rescue Coordination Centre as the international SAR Point of Contact for messages going through the Cospas-/Sarsat satellite system in Reykjavík and stipulates the delimitation of the Icelandic search and Rescue region (SRR).\textsuperscript{159} Before November 2011 the region was defined according to the regulations both by ICAO and the IMO, but this part of the regulation was amended after the ratification of the Arctic SAR Agreement to correspond to the latest modifications regarding the Arctic region.\textsuperscript{160}

The regulation establishes a procedure for surveillance and review of the search and rescue operations and obliges the entity responsible for the coordination of the operations to submit an overview and explicate the course of the activities.\textsuperscript{161} Also the roles of the Icelandic police force and the national rescue teams in the case of emergency are clarified; the police being the main responsible entity for rescue operations on land the rescue teams operating under their supervision on land and under the supervision of the Coast Guard at sea.\textsuperscript{162} The regulation imposes further a duty to assist in emergency on masters of all ships. All those participating in emergency rescue activities and who do not hold an official status of rescue personnel are bound by confidentiality on everything they might witness on the scene.\textsuperscript{163}

**Regulations No. 189/1994 on live-saving and safety appliances of Icelandic vessels (Reglur um björgunar- um og öryggisbúnað íslenskra skipa)**

Regulations No. 189/1994 on live-saving and safety appliances of Icelandic vessels with amendments are the latter of the two major regulations implementing the international safety at sea regulations. These regulations are based on the Life-Saving Appliance (LSA) Code, which is a mandatory part of the SOLAS convention and lay down detailed

\textsuperscript{159} Icelandic Ministry of Interior. Regulation No.71/2011 On the Control of the Search and Rescue In the Search and Rescue Region of Iceland For a Maritime and Aeronautical Rescue. [hereinafter Reg.21/2011] Art.5

\textsuperscript{160} Regulation No. 1084/2011 on amendment of the Regulation No.71/2011 on the control of the search and rescue In the search and rescue region of Iceland for a maritime and aeronautical rescue. Art. 1

\textsuperscript{161} Reg.21/2011 Art.8 and 9

\textsuperscript{162} Id. Art.10 and 12

\textsuperscript{163} Id. Art.14
requirements for lifebuoys, jackets and vests of all kinds, rescue boats and rafts as well as flares and signals and launching and embarkation appliances used in emergency situations. All equipment used in vessels is subject to the authorization of the Icelandic Maritime Administration and on the responsibility of the master of the ship in each time.\textsuperscript{164} All safety equipment on board is monitored annually by the IMA and regular practices are to be conducted either according to the regulations in SOLAS or Torremolinos convention or every three months for ships longer than 24 meters, but not qualifying under the conventions.\textsuperscript{165}

**Regulations No. 639/1983 on various measures for safety of Navigation (Reglur um ráðstafanir til öryggis við siglinga)**

Regulations No. 639/1983\textsuperscript{166} are one of the many regulations set by the Icelandic Ministry of Interior that implement articles of the SOLAS and SAR conventions. The regulations no. 639/1983 stipulates reactions in case of heavy ice conditions, flotsam and other items or conditions, which can be dangerous for ships. It lays down obligation on masters of ships to conduct weather observations in cases where so have been agreed on with the Icelandic meteorological office, provide assistance to ships, rescue boats or airplanes in distress and disseminate signals on emergency according to rules stipulated in the regulations. The regulations further stipulate the use of emergency ladders at sea and the use of autopilot in sea areas where traffic is heavy.

**Regulation No. 122/2004 on the safety of fishing vessels of 15 metres in length overall and over, as amended**

Even though the Torremolinos Convention for the Safety of Fishing Vessels has not yet entered into force internationally, Iceland has adopted regulations implementing the convention in to the Icelandic law. Safety of the Icelandic fishing fleet is of utmost importance for the country, large part of national export being fish products of various


\textsuperscript{165} Id. Art.13

\textsuperscript{166} Icelandic Ministry of Transport. Regulations No. 639/1983 on various measures for safety of Navigation
kinds. The regulation no. 122/2004\textsuperscript{167} was last updated in 2009 and is based on the European Council Directive no. 97/70/EC, which establishes uniform European rules for fishing vessels 24 meters in length or more. The EC Directive is in turn based on the Torremolinos Convention, which lays down international rules for fishing ships.

The regulations are very detailed and extensive and follow in subject matter the SOLAS convention and regulations implementing the SOLAS. They cover issues from construction, watertight, integrity, stability of the ships and other associated seaworthiness to machinery and electrical installations, fire issues and protection of the crew. Moreover, they stipulate very similar regulations on life saving appliances as can be found in SOLAS LSA Code and following Icelandic law.

The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic

Looking back to the previous chapters on general international search and rescue law and the national Icelandic legislation enacted to implement the international obligations one cannot but wonder how much of a demand there was really for a new legally binding regional search and rescue agreement for the Arctic region. On one hand the Agreement will strengthen the cooperation between the eight Arctic countries around the emerging shipping and natural resource exploitation activities and prepares them to take action in developing the very sparse infrastructure along the Arctic coastline. The agreement will clarify the search and rescue responsibilities of each Arctic state within the Arctic search and rescue region and thus implements the requirements stipulated in the international SAR convention regarding the establishment of operable search and rescue regions.\textsuperscript{168} The agreement will hopefully in future also facilitate the development and establishment of other important agreements in the field of navigation, natural resource exploitation

\textsuperscript{167} Icelandic Ministry of Transport. Regulation no. 122/2004 on the safety of fishing vessels of 15 metres in length overall and over, as amended.

\textsuperscript{168} Arctic SAR Agreement, Ch.2 para 2.1.4
and environmental protection in the Arctic region, strengthening thus the law based practical framework for the region.

On the other hand, however, it seems that very little novelty can be found in the agreement from the purely legal point of view. This is in fact also the opinion of Ambassador Anton Vasiliev, the co-chair of the Arctic Council Task Force drafting the SAR Agreement, he stating that; “the Agreement will have above all practical and political importance...in preparing the region for the further exploration and development.”169 The Agreement has indeed very strong political and practical application to the rapidly changing Arctic region and it has significantly strengthened the cooperation between the eight Arctic countries seemingly burying the initiative of the five littoral states special club initiated in the Ilulissat Arctic Ocean Conference in 2008.

The Agreement is historical as it is the first legally binding document ever adopted under the auspices of the Arctic Council. It is based on the already existing international law, building on the framework of the UNCLOS III, the 1979 International Convention on Maritime Search and Rescue, and the 1944 Convention on International Civil Aviation, as well as on the IAMSAR Manual the actual operations been conducted according to the regulations stipulated in these conventions. 170

The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic was initiated in the Arctic Council Task Force on the search and rescue in 2009. It was recommended and mandated in the Arctic Council Senior Arctic Officials' Report to Ministers in the Tromsø Ministerial Meeting171 and in the Tromsø Declaration of the same Ministerial Meeting in 2009.172 The main objective of the Task Force was to create national and international regulations that would facilitate the reduction of the risk of

170 Arctic SAR Agreement, Preamble.
accidents and facilitate effective emergency response framework for the increasingly open Arctic Ocean. In the beginning of the drafting process a consensus was lacking on the issue whether the regulations should only be directional or whether they should constitute a legally binding framework, the latter option ending up being the final solution.

The Arctic SAR Agreement thus establishes a legal framework for cooperation and coordination of the search and rescue activities between the eight Arctic States and provides some clarification for the practical implementation of the already existing international law on search and rescue at sea.

One of the main benefits of the Arctic SAR Agreement is the simplification of the search and rescue regime for the Arctic region. Before the adoption of the Arctic SAR Agreement, several bilateral and multilateral agreements existed on the search and rescue activities in the region, no single authority being a depository for the agreements or coordinating operational activities stipulated in these agreements.

The new regime imposes one clear framework between all eight

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173 Vasiliev, p.56
174 The bilateral and multilateral SAR agreements in the Arctic prior to the Arctic SAR Agreement include: Agreement between Russian Federation and Sweden on cooperation in maritime and aeronautical search and rescue in the Baltic Sea, Agreement between Norway and Russian Federation on cooperation on searches for missing persons and the rescue of persons in distress in the Barents Sea, MoU for cooperation between Canada, the US and the UK concerning search and rescue, Agreement by and between Finland, and Russian federation about cooperation to avert disasters and to prevent their consequences, Agreement between Finland and Russian Federation regarding cooperation in respect on maritime and aeronautical search and rescue, Agreement between Finland and Sweden regarding cooperation in respect of maritime and aeronautical search and rescue, Search and Rescue Agreement between Commander, Canadian Maritime Forces Pacific, and Commander, Seventeenth Coast Guard District United States Coast Guard Juneau, Alaska, Agreement between Denmark, Finland, Norway and Sweden on cross-border collaboration with the aim of preventing or limiting personal injury and damage to property or environment, Operational Agreement between the Swedish and the Danish aeronautical and maritime search and rescue services, Operational Agreement between the Swedish and Norwegian authorities, responsible for aeronautical and maritime search and rescue, Agreement between the Government of the US and the Government of the USSR on maritime search and rescue, Agreement between Denmark and Sweden concerning cooperation in
states and contributes to the transparency of the general legal framework of the region.

The Arctic SAR agreement also clarifies the specific responsibilities of each of the Arctic states by delimiting detailed operational search and rescue regions for the parties to the agreement, who each will bear their own costs deriving from the implementation of the Agreement. In addition the Agreement lists each states competent authorities, search and rescue agencies and rescue coordination centers (RCCs) to facilitate the prompt implementation and communication of the Agreement.

The delimitation of the search and rescue areas is based mainly on the Convention on International Civil Aviation (Chicago convention) with some minor adjustments made for some of the regions. Russian Federation will be responsible for the largest SAR area according to the Agreement. The area corresponds somewhat to the NAVAREAs XX and XXI that are also under Russian responsibility, the area covering the entire Northern Sea Route. Canada will likewise be responsible of the Northwest Passage area, Alaska and Iceland managing the largest SAR areas compared to the population of the states. The opening up of the Central Arctic Sea Route can become very interesting from the search and rescue point of view the regular shipping through the Central Route and possibly through five different SAR areas directly challenging the cooperation clauses of the Arctic SAR Agreement.

In addition to the simplification and clarification of the responsibilities, the cornerstone of the Arctic SAR Agreement is exactly the rich emphasize on cooperation. The Arctic states are encouraged to enhance cooperation among themselves in all matters relevant under the Agreement. They are also obliged to share all basic information that can facilitate efficient rescue operations including information on search and rescue facilities, marine and aeronautical port infrastructure and medical facilities. Though foreign territory respect aeronautical and maritime search and rescue and Agreement between Sweden and Norway concerning cooperation in respect aeronautical and maritime search and rescue.

Source: Vasiliev. P.58-59

175 Arctic SAR Agreement, art.12
177 Vasiliev. P.59
178 Arctic SAR Agreement, art.9
179 Arctic SAR Agreement, art.9
entry during or for search and rescue operations was already part of the 1979 international SAR convention, the Arctic SAR Agreement has gone even further, stipulating that state receiving a request to enter into the territory for search and rescue purposes or through whose territory permission to transit is needed, must apply the simplest border crossing procedure possible.\textsuperscript{180}

Even though the eight Arctic states have been somewhat exclusive in their work around the Arctic Council, the Arctic SAR Agreement opens up a possibility to implement and involve external partners to search and rescue activities, the Agreement stipulating that states are allowed to engage states not parties to the Agreement, but who are able to contribute to the Arctic search and rescue capacity, in cooperation.\textsuperscript{181} At least in theory, this article could open up a possibility of the European Union member state to engage the Union in the work of the Arctic Council through operational or financial contribution towards the search and rescue activities. Also, individual EU member states that have strong marine transportation capacity and great interest in the progress of Arctic shipping could be involved in developing the framework and infrastructure needed to serve safe regular navigation in the Arctic waters.

However, since the environmental conditions in the Arctic are very demanding, it is not enough to regulate the search and rescue activities, but the operational preparedness must be enhanced in conjunction with the new rules. The Arctic SAR Agreement stipulates that the cooperating states must hold regular meetings of the parties, in which issues regarding practical cooperation will be solved.\textsuperscript{182} Reciprocal visits by search and rescue experts must take place and joint search and rescue exercises and trainings must be conducted on regular bases. Already in early October 2011 32 search and rescue experts and almost 60 observers from the eight Arctic states met in Whitehorse, Yukon in Canada to conduct so called table top exercise in which the experts scrutinized strategic and operational aspects of the Arctic SAR Agreement. The main outcome of the exercise was the joint understanding that in the light of each country’s limited search and rescue resources and demanding and vast areas of responsibility, an international cooperation

\textsuperscript{180} Arctic SAR Agreement, art.8
\textsuperscript{181} Arctic SAR Agreement, art.19
\textsuperscript{182} Arctic SAR Agreement, art.10
was a necessity for successful search and rescue operations. The first live search and rescue exercise under the auspices of the Arctic SAR Agreement took place in September 2012 in the Greenlandic Sea. The “SAREX 2012” joined forces of the five Arctic littoral states in five days long exercise that framed a full scale search operation with all possible resources to locate and rescue passengers from a missing cruise ship. The exercise was especially used to screen the operational procedures in live situations and to reveal areas that need to be improved both at the national as well as international level before the Arctic eight can be considered ready for a large scale real life operation.

Conclusions

Variety of activities, both economic as well as scientific, will take place in the Arctic in coming years. The main prerequisites for successful and safe operations in the area are up to date search and rescue framework and advanced maritime and aeronautical port and medical infrastructure. With the enactment of the Arctic SAR Agreement the Arctic Council has stepped forward to lead the preparations enabling and encouraging the economic development of the Arctic countries.

While the Arctic SAR Agreement does not introduce any legal novelties, following up to a letter the already existing international search and rescue framework, its role as a policy document cannot be underestimated. The fact that all the eight Arctic countries now work closely together in a highly cooperative spirit to develop the region is very likely to deliver strong legal and operational framework for the region, perhaps something that President Gorbachev saw also for himself in the long run.

The example for regional cooperation that is initiated in the Arctic SAR Agreement and will most likely be followed in the upcoming Arctic Council Kiruna Ministerial Meeting is more than anything a political achievement for the region that still very short time ago was characterized by frozen political relationships and lack of political cooperation.

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183 Arctic Council Search and Rescue Table Top Exercise. 27.9.2012 http://www.international.gc.ca/polar-polaire/northstrat_searchandrescue-stratnord_searchandrescue.aspx (visited 10.5.2013)
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