

A Drop in the Ocean

Marine Oil Pollution Preparedness and Response in the Arctic

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Abstract: This article investigates the Arctic Council's new Agreement on the response to marine oil pollution in the Arctic Region. The Agreement is evaluated in the light of the challenges of responding to marine oil pollution in the Arctic, and in light of the international legal framework for oil spill response currently in place. Based upon this, the article concludes that the Agreement, rather than being considered an innovative new legal tool, properly is best understood as a symbolic token of the Arctic Council's willingness to discuss the problems associated with the present plans on resource exploitation in the Arctic. If, however, the Arctic Council sets out to establish an effective legal governance regime to the challenges of responding to a serious oil spill in the Arctic, the Agreement is, as the title suggests, merely a drop in the ocean.

Key words: Arctic, pollution, preparedness, response, emergency, oil spill, Disaster Law, "International Convention on Oil Pollution Preparedness, Response and Co-operation"

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1. Introduction

The potential consequences of a serious oil spill in the Arctic are devastating. In some places in the Arctic responders face response gaps (the time responders are unable to access the spill site) on up to 64 % of the time.¹ Melted ice makes it difficult to locate the oil, and can make it impossible to use booms and skimmers in response efforts.² Floating icebergs are a constant threat to the response vessels. Furthermore, ice and containment can pose difficulties for the use of in-situ burning as a remediation method, and dispersants are unlikely to be effective.³

Due to the low temperatures, it takes significantly longer for the vulnerable ecosystem to decompose the spilled oil⁴, and subsequently, to regenerate. The consequences of a spill are thereby not only harder to prevent, but the impact is also potentially greater than in warmer regions.⁵ Add to this scenario that an Arctic oil spill quickly involves several nations with very different response mechanisms, capacities, and strategies. Together, these factors deem serious oil-spills in the Arctic global worst-case scenarios.⁶

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1. National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 'The Challenges of Oil Spill Response in the Arctic', in P. A. Berkman and A. N. Vylegzhanin (eds.), *Environmental Security in the Arctic Ocean* (Springer, 2013) pp. 263–64.
 2. *Ibid.*, pp. 264–65.
 3. *Ibid.*, p. 267, Adam Moles, Larry Holland, and Jeffrey Short, 'The Effectiveness of Corexit 9527 and 9500 in Dispersing Fresh, Weathered, and Emulsion of Alaska North Slope Crude Oil under Subarctic Conditions', (Anchorage, Alaska: Prince William Sound Regional Citizens' Advisory Council, 2001). For a more optimistic assessment of the effect of dispersants in cold water, see Ole Kristian Bjerkemo, 'Behaviour of Oil and HNS [Hazardous and Noxious Substances] Spilled in Arctic Waters – an Arctic Council Project', *2011 International Oil Spill Conference* (2011) p. 4.
 4. For a detailed analysis of the decomposition of oil in ice, see Kelly M. Mcfarlin et al., 'Biodegradation of Dispersed Oil in Arctic Seawater at -1°C ', *Plos One*, 9/1 (2014).
 5. Other studies show the opposite, namely that ice can function as "booms", thereby containing the oil, and preventing it from spreading, see e.g. Robert J. Blaauw, 'Oil and Gas Development and Opportunities in the Arctic Ocean', in P. A. Berkman and A. N. Vylegzhanin (eds.), *Environmental Security in the Arctic Ocean* (Springer, 2013) p. 180.
 6. For a significantly different risk analysis, see T.H. Moller, F.C. Molloy, and H.M. Thomas, 'Oil Spill Risks and the State of Preparedness in the Regional Seas', (The International Tanker Owners Pollution Federation Limited, 2002).

Resource exploitation in the Arctic is not a new activity.⁷ So far, operations in the Arctic have produced 40 billion barrels of oil, and 1,100 trillion cubic feet of gas,⁸ which is almost four times more than what the North Sea operations of Denmark are estimated to produce in total.⁹ However, the global demand for oil constantly drives resource exploitation further north. Recent U.S. estimates suggest that 10 per cent of the world's undiscovered oil, and up to 30 per cent of the gas reserves, are to be found in the Arctic.¹⁰ Up to 84 per cent of these resources lie offshore.¹¹ In other words, there are plenty of political and industrial incentives to expanding the present operational reach further into the Arctic Ocean. It therefore came as no surprise when Gazprom recently announced a deal with Shell to team up on drilling efforts on the Russian Arctic shelf.¹² However, with this expansion of operations, follows greater risks; as a British oil-spill expert recently told *The Guardian*: “it is inevitable you will get a spill – a dead cert”¹³.

Calls for a governance regime for the Arctic in general, and for oil spills in particular, have been voiced for years.¹⁴ In order to accommodate the above-mentioned challenges, and in response to these calls, the Arctic Council recently introduced a legal framework aimed to address some of the challenges in responding to oil spills

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7. Klaus Dodds describes it as “historically suspect” to claim that the Arctic has been entirely isolated from globalization and exploitation, see Klaus Dodds, ‘Anticipating the Arctic and the Arctic Council: Pre-Emption, Precaution and Preparedness’, *Polar Records*, 49/2 (2013), pp. 193–203. The issue, according to Dodds, rather becomes one of “pace and trajectory”, than of sudden globalization. For the purpose of this analysis, Dodds’ specification does not change the presumption that a new set of challenges follows from these processes.
 8. Blaauw, ‘Oil and Gas Development and Opportunities in the Arctic Ocean’, p. 176.
 9. Jacob Ussing: “Mærsk søsætter sin største Nordsø-investering i årevis”, 5 April 2013, Jyske Vestkysten, <http://www.jv.dk/artikel/1562511:Business--Maersk-soesaetter-sin-stoerste-Nordsoe-investering-i-aarevis> (last accessed on 23 September 2013).
 10. United States Geological Survey (2008) Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle <http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf> (last accessed 23 September 2013).
 11. Blaauw, ‘Oil and Gas Development and Opportunities in the Arctic Ocean’, p. 176.
 12. See “Gazprom and Shell agree to jointly develop Arctic shelf and produce shale oil in Khanty-Mansiysk Autonomous Area”, 8 April 2013, Press Release, Gazprom homepage, available at: <http://www.gazprom.com/press/news/2013/april/article159865/> (last visited 2 October 2013).
 13. Fiona Harvey and Shaun Walker: “Arctic oil spill is certain if drilling goes ahead, says top scientist”, *The Guardian*, 19 November 2013 <http://www.theguardian.com/world/2013/nov/19/arctic-oil-drilling-russia> (last visited March 2014).
 14. See e.g. Donald R. Rothwell, ‘International Law and the Protection of the Arctic Environment’, *International and Comparative Law Quarterly*, 44/2 (1995), 280–312, p. 281, note 4. See also on the benefits of multilateral international conventions, Alexis Steen et al., ‘Global Challenges to Preparedness and Response Regimes’, *Global Challenges to Preparedness and Response* (London, England, 2002).

in the Arctic. The Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic¹⁵ is only the Arctic Council's second¹⁶ binding agreement, and the topic of this paper.

Thus, the paper sets out to assess the adequacy of the Agreement to respond to oil disasters in the Arctic, in light of the particular challenges of such a spill, and the added value of the Agreement *vis-à-vis* present international law on oil spill response. It is structured in four parts. The first part aims to sketch the challenges of responding to oil pollution disasters in cold environments in general, and the Arctic Ocean in particular. The second part provides an overview of the Arctic Council and the new Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (henceforth "the Agreement"). The aim is, in general terms, to provide the reader with an overview of the obligations and possibilities introduced in this document. The third part outlines the present international legal framework relevant to the Agreement, and in this light analyzes the potential added value of the Agreement *vis-à-vis* current international law. This is done in order to evaluate the ability of the Agreement to add substantially to unaddressed challenges in the pre-existing legal framework. The fourth and final section concludes the paper with future challenges and possibilities for oil spill response in the Arctic.

2. Cold Disasters: Challenges for Disaster Response in the Arctic Ocean

As mentioned in the introduction to this paper, a number of conditions distinguish an oil spill response in the Arctic from other spill scenarios. In this section the paper will identify from existing literature a set of challenges linked in particular to response to Arctic disasters.

In order to do so, the paper identifies three variables in regards to which response conditions could differ, namely the response environment, the response capacities, and the actors involved. In the following the paper will present an overview of these challenges.

15. See Agreement on Cooperation on Marine Pollution Preparedness and Response in the Arctic (2013). International agreements between the states with interests in the Arctic have been signed before, see for instance Convention between Great Britain, Japan, Russia and United States respecting Measures for the Preservation and Protection of Fur Seals in the North Pacific Ocean, 214 Consolidated T.S. 80, or the so-called Polar Bear Agreement (1974) 13 I.L.M. 13.

16. The Arctic Council in 2011 made the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic. The agreement most importantly divides the Arctic into zones in which the signatory parties have lead responsibility in SAR (Search and Rescue) operations.

2.1 Response Environment

The Arctic environment is harsh for disaster responders, who face serious response gaps due to the extreme weather conditions: in wintertime, difficulties with ice, darkness, and low temperatures; and in the summer, wind and tricky ocean currents.¹⁷ While a few of these conditions might actually assist oil responders¹⁸, most constitute complex challenges to traditional oil response. Response efforts must also consider issues of protracted regeneration; vulnerable animal populations¹⁹; particularly important marine areas (to the global climate); and severe weather and ice dynamics.²⁰

Some of these conditions pose challenges directly relevant for cooperative efforts between nations and responders²¹: difficulty in accessing spill sites; difficulty in tracking oil²²; the need for special ice vessels (in cases of more severe ice conditions); difficulty in water intake for response vessels (caused by slush ice); ice scouts might be needed; icebergs; lack of experience with ice by vessel operators; sudden changes in weather; and ice conditions. Other environmental factors simply challenge established response techniques and expertise, as we see in the following section.

Damage following an oil spill in the Arctic is unlikely to injure any parties on their mainland shores, but will almost certainly result in devastating environmental damage. While the risk of affecting human life is fairly small and therefore advantageous, a substantial disadvantage is that such high risk affects incentive for oil producers. Potential environmental damage could be irrevocable to the vulnerable ecosystem²³ and to endangered animals.

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17. For an overview of the challenges to ships see IMO guidelines for ships operating in Polar waters. Accessible here: <http://www.imo.org/Publications/Documents/Attachments/Pages%20from%20E190E.pdf> (last accessed on 17 October 2013).
 18. See Bjerkemo, 'Behaviour of Oil and Hns Spilled in Arctic Waters – an Arctic Council Project', at 5.
 19. In this regard the parties should also observe a number of specific agreements addressing protected species, hereunder for caribou, fur seals, polar bears, and whales, should be taken into account when responding to oil spills in the Arctic, cf. Rothwell, 'International Law and the Protection of the Arctic Environment', (at 289 ff. see also Morten Hjorth and Torkel Gissel Nielsen, 'Oil Exposure in a Warmer Arctic: Potential Impacts on Key Zooplankton Species', *Marine Biology*, 158 (2011), 1339–47.
 20. G. Osherenko and O.R. Young, *The Age of the Arctic* (1989) at 111–17, Rothwell, 'International Law and the Protection of the Arctic Environment', at 283.
 21. see also Bjerkemo, 'Behaviour of Oil and HNS Spilled in Arctic Waters – an Arctic Council Project', at 5.
 22. See also Drilling, 'The Challenges of Oil Spill Response in the Arctic', at 264. See also on the use of Polar Cod as an indicator of oil pollution, Henrik Jonsson et al., 'The Arctic Is No Longer Put on Ice: Evaluation of Polar Cod (*Boreogadus Saida*) as a Monitoring Species of Oil Pollution in Cold Waters', *Marine Pollution Bulletin*, 60 (2009), 390–95.
 23. Rothwell, 'International Law and the Protection of the Arctic Environment', p. 282.

2.2 Response Capacities²⁴

While the environment itself is daunting, it also stresses the capacities of the responding parties. There is some scientific disagreement too on the applicability of traditional response technologies for Arctic oil spills: booms, skimmers, in-situ burning, and dispersants. However, scientists and responders all agree a serious offshore oil spill in the Arctic Ocean would seriously test cleanup technologies. Generally-speaking, oil response technologies can be divided into three categories: mechanical (booms and skimmers), non-mechanical (in-situ burning, dispersants), and manual response (by hand).

As to mechanical response capacities, *booms* could not function when ice cover exceeds 20–30 %.²⁵ Olephilic brush *skimmers* might prove useful, as they can process ice while still recovering oil,²⁶ but function best when another technology, or the ice itself, is able to contain the spill. Overall, the cleanup potential of skimming is vastly limited by the presence of ice.²⁷

In-situ burning is effective in ice conditions, but requires an oil slick of 2–3 mm to sustain a burn.²⁸ The required oil thickness can be problematic, particularly in areas with low ice coverage, but could be supplemented by either chemical herders or fire-resistant booms in such areas.²⁹ A successful burn is also dependent on limited wind speeds and wave action.³⁰ *Dispersants* might be employed to “move” the oil,³¹ but have proved to have limited effect during the Exxon Valdes spill. The effect in cold water is generally in dispute.³² Furthermore, the use of dispersants risks further pollution of the marine environment.

These challenges could be met through collective investment and knowledge exchange to further develop response techniques and technologies. Beyond technical innovation, shared demands to technical infrastructure and available capacities and technologies could prove important. This would ensure that parties cooperate

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24. See also Edward H. Owens et al., ‘Field Guide for Oil Spill Response in Arctic Waters’, (Emergency Prevention, Preparedness and Response Working Group, 1998).
 25. Bjerkemo, ‘Behaviour of Oil and HNS Spilled in Arctic Waters – an Arctic Council Project’, at 4f, Drilling, ‘The Challenges of Oil Spill Response in the Arctic’, p. 265.
 26. Bjerkemo, ‘Behaviour of Oil and HNS Spilled in Arctic Waters – an Arctic Council Project’, p. 4.
 27. Drilling, ‘The Challenges of Oil Spill Response in the Arctic’, p. 265.
 28. Bjerkemo, ‘Behaviour of Oil and HNS Spilled in Arctic Waters – an Arctic Council Project’, p. 4.
 29. *Ibid.*
 30. Drilling, ‘The Challenges of Oil Spill Response in the Arctic’, p. 266.
 31. WWE, ‘Drilling for Oil in the Arctic’, (WWE, 2010) p. 10; Drilling, ‘The Challenges of Oil Spill Response in the Arctic’, p. 267.
 32. Drilling, ‘The Challenges of Oil Spill Response in the Arctic’, p. 267; Moles, Holland, and Short, ‘The Effectiveness of Corexit 9527 and 9500 in Dispersing Fresh, Weathered, and Emulsion of Alaska North Slope Crude Oil under Subarctic Conditions.’

and that the necessary capacities were in place. Such obligation could take the form of a demand to the affected parties to acquire the necessary response technologies, or more radically but necessary nonetheless, establish a response infrastructure, e.g. shared response hubs or availability of convergent equipment in the Arctic area.

All in all, knowledge, infrastructure, and testing are needed to surmount the challenge of maintaining a technological preparedness for an Arctic oil spill.³³

2.3 Response Actors

The actors involved in a trans-boundary oil spill in the Arctic are, to say the least, a particularly complicated and socially maladjusted group. While the European members of the Arctic Council are already allies and cooperate closely in the Nordic Council³⁴ and at the European level³⁵, specific cooperation with, and between, the U.S., Canada and Russia gives rise to concern in terms of organization, culture, and historical controversies. While the U.S., Canada, and the Nordic countries all have been engaged in joint search and rescue exercises for the last two consecutive years under the auspice of the Arctic Council, Russia has not participated.³⁶

The success of a cross-border spill response is crucially dependent upon the parties' ability to coordinate and communicate (and technical compatibility between the U.S. and Russia is for historical reasons very limited). A comprehensive governance regime, enabling coordination and integration of capacities, is therefore crucial to the success of a trans-boundary oil spill response in the Arctic.

33. For a more positive assessment of the industry's ability to respond and general progress, see Peter Velez et al., 'Advancing Oil Spill Preparedness and Response Techniques for Arctic Conditions,' *International Oil Spill Conference* (2011).

34. The Nordic Council even has the Arctic as a "theme", see more at: <http://www.norden.org/en/theme/arktis> (last visited 7 November 2013).

35. This is not least true with regards to the European Union. Within the Union disaster response is part of the so-called Union Civil Protection Mechanism. See Council Decision of 17 December 2013, on a Union Civil Protection Mechanism, available on: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:347:0924:0947:EN:PDF>. Beyond the members of the Union, both Norway and Iceland participate in the mechanism, and have done so since the Mechanism was introduced in 2001, see for instance "Council adopts new Union Civil Protection Mechanism", press release from the Council of Europe, Brussels, 16 December 2013 (17669/13), available at http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/jha/140108.pdf.

36. For an evaluation of the Search and Rescue based exercises, including an overview of the participants and the (substantial) problems encountered, see Joint Arctic Command, 'Search and Rescue Exercise Greenland Sea 2013 – Final Exercise Report', (Nuuk, Greenland: Joint Arctic Command, 2013).

Before turning to the Agreement, a short description of the institutional context follows.

3. The Agreement

In order to understand the institutional context, a short description of the Arctic Council follows, before moving on to the content of the Agreement.

3.1 The Arctic Council

The Arctic Council was established in 1996 by the Ottawa Declaration.³⁷ The aim of the organization is to serve as an intergovernmental forum to promote cooperation, coordination, and interaction among the Arctic states. Arctic indigenous communities and other Arctic inhabitants take part of the forum, and are involved in common Arctic issues, in particular sustainable development and environmental protection. The Arctic Council member states include Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, the Russian Federation, Sweden, and the U.S.³⁸ The Council is concerned with general Arctic matters – covering issues from the rights of the indigenous population to emergency response. The activities of the Council are conducted in six working groups, each one with its own field of subjects. The six working groups of the Arctic Council are: Arctic Contaminants Action Program (ACAP), Arctic Monitoring and Assessment Programme (AMAP), Conservation of Arctic Flora and Fauna (CAFF), Emergency Prevention, Preparedness and Response (EPPR), Protection of the Arctic Marine Environment (PAME), and Sustainable Development Working Group (SDWG). In order to provide a general context to the Agreement, the following section will briefly look into the work of the EPPR working group.

The EPPR was established with the Arctic Environmental Protection Strategy (AEPS), adopted by the Arctic States through the Ministerial Declaration in Rovaniemi in 1991³⁹, and aims “to provide a framework for future cooperation in responding to the threat of environmental emergencies in the Arctic”⁴⁰. Further-

37. See Declaration on the Establishment of the Arctic Council, Joint Communiqué of the Governments of the Arctic Countries on the Establishment of the Arctic Council, Ottawa, Canada, September, 1996, available at <http://library.arcticportal.org/1270/> (last visited March 2014).

38. See Arctic Council’s webpage: <http://www.arctic-council.org/index.php/en/about-us/member-states> (last visited March 2014).

39. See the Rovaniemi Declaration on the Protection of the Arctic Environment, 14 June, 1991, available at <http://arcticcircle.uconn.edu/NatResources/Policy/rovaniemi.html> (last visited March 2014).

40. See Owens et al., ‘Field Guide for Oil Spill Response in Arctic Waters’, p. ii.

more, EPPR “provides a forum in which member governments and indigenous peoples work to better prevent, prepare for and respond to environmental threats from accidental discharges of pollution from activities which take place in the Arctic”⁴¹.

EPPR’s work is mainly directed at “assessing threats to the Arctic environment which could result in the need for emergency response measures, and at facilitating the improved ability to prevent or mitigate these threats”⁴². Thus the topic of this paper, the Agreement, is only the tip of the iceberg in terms of ongoing efforts as to how to prevent and respond to oil spills in the Arctic under the auspices of the Arctic Council. Even so, as the main legal instrument of the Arctic Council, the Agreement should be able to stand on its own merits. The Agreement should create a framework for existing governance efforts, at the very least establishing to what extent a party can rely on a *legally enforceable* mutual undertaking.

3.2 Shoulder to Shoulder: The Agreement

This section outlines the content of the Agreement in order to provide a basis for analysis in the following section.

The Arctic Council decided in a Ministerial meeting in 2011 to establish a Task Force with a mandate to develop an international instrument on Arctic marine oil pollution preparedness and response.⁴³ The Council specifically called upon the Emergency Prevention, Preparedness and Response (EPPR) working group to develop recommendations and/or best practices in the prevention of marine oil pollution.⁴⁴ The Task Force concluded its work by elaborating the Agreement, which, as already mentioned, marks the second legally binding instrument negotiated under the auspices of the Arctic Council. The Agreement was signed by all members of the Arctic Council the 15th of May 2013 in Kiruna (Sweden), and there are presently no reservations to the Agreement.⁴⁵

The Agreement is composed of 23 articles, addressing coordination, monitoring, response, reimbursement, and implementation arrangements.

The stated aim of the Agreement is to “strengthen cooperation, coordination and mutual assistance among the Parties on oil pollution preparedness and response

41. Ibid.

42. Ibid.

43. The seventh Arctic Council Ministerial Meeting took place in Nuuk, Greenland on 12 May 2011.

44. See the Nuuk Declaration, adopted at the Seventh Arctic Council Ministerial Meeting, 12 May 2011, p. 4.

45. See the Kiruna Declaration, On the occasion of the Eighth Ministerial Meeting of the Arctic Council, adopted in Kiruna, Sweden, 15 May 2013, p. 4.

in the Arctic in order to protect the marine environment from pollution by oil⁴⁶, and it is applicable to the entire Arctic region⁴⁷, inside⁴⁸ and, partially, outside⁴⁹ the national jurisdiction of the contracting parties. Warships, naval auxiliary, and ships owned or operated by a participating state are exempted from the scope of the Agreement.⁵⁰ Even though it is not clear from the preamble or the stated aim of the Agreement, the Agreement overlaps to a very great extent with IMO's 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), and is, in this light, perhaps best described as an implementation arrangement under OPRC. We return to this point below. Even so, the Agreement explicitly aims to strengthen pre-existing governance structures for oil spill response in the Arctic, and recognizes the "harsh and remote Arctic conditions"⁵¹ – so we analyze the Agreement accordingly.

The parties are responsible for maintaining "a national system for responding promptly and effectively to oil pollution incidents"⁵², and provide a "minimum of

46. Cf. the Agreement, art. 1.

47. For a more elaborate analysis of the extent of "the Arctic Ocean", see Rolf Einar Fife, 'Cooperation across Boundaries in the Arctic Ocean: The Legal Framework and the Development of Policies', in P.A. Berkman and A.N. Vylegzhanin (eds.), *Environmental Security in the Arctic Ocean* (Springer, 2013) p. 348 f.

48. The Agreement, art. 3.

49. Articles 6, 7, 8, 10 and 15 "and other provisions as appropriate" apply outside the jurisdiction of the parties, *ibid.*, art. 3.2. It could be noted that "most energy reserves are located in the 200 nautical mile nationally controlled Exclusive Economic Zones, and thus not subject to international dispute" K.S. Yalowitz, 'Arctic Climate Change: Security Challenges and Stewardship Opportunities', in P.A. Berkman and A.N. Vylegzhanin (eds.), *Environmental Security in the Arctic Ocean* (Springer, 2013) p. 34. All accidents occurring outside the parties' Exclusive Economic Zone (EEZ), or, if the continental shelf extends further, the given parties' continental shelf, and thereby outside the main scope of the Agreement, are to be considered to have occurred in high seas and thereby under the scope of the so-called 1969-Convention, see the 1969-Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (the 1969-Convention). This convention aims to give coastal states the right "to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat of pollution of the sea by oil", see the 1969-Convention art. 1. For a limitation of the continental shelf, see UNCLOS art. 76. See also Lars Kullerud et al., 'The Arctic Ocean and Unclos Article 76: Are There Any Commons?', *ibid.* (Springer).

50. *Ibid.*, art. 3.3.

51. See the preamble of the Agreement.

52. *Ibid.*, art. 4. For an overview of the actual response capacity of at least the European members of the Arctic Council see Michael O'Brian, Richard Johnson, and Helen Thomas, 'International Co-Operation in Oil Spill Response in European Waters', *Clean Seas – Global Concern, Local Solutions* (Trondheim, Norway, 2004).

pre-positioned oil spill combatting equipment⁵³; exercises and training⁵⁴; “plans and communication capabilities”⁵⁵; and “a mechanism or arrangement to coordinate the response”⁵⁶. Furthermore, a competent national authority should be designated responsible for the response, together with an established 24-hour contact point.⁵⁷

Any party receiving information on a possible oil spill has an obligation to assess the event (both in terms of the facts⁵⁸ and associated risks⁵⁹), and thereafter immediately notify other parties that could be affected.⁶⁰ Measures should be taken to ensure “appropriate monitoring activities”⁶¹, not least in case of an oil spill.⁶² In such cases with trans-boundary effects, states should “endeavor” to conclude bi- or multilateral monitoring arrangements.⁶³

The responding to an oil spill affecting or likely to affect a party may require specific⁶⁴ assistance from another party⁶⁵. Upon request, this other party shall “cooperate and provide assistance”⁶⁶. National arrangements (“necessary legal and administrative measures”⁶⁷) to make such assistance possible should be taken beforehand, and the cost of assistance reimbursed by the requesting party.⁶⁸

In cases of bi- or multinational oil pollution incident response operations, the parties should issue a joint review of the response.⁶⁹ Lessons learnt should be included in exercises and training⁷⁰, and in general, parties shall promote cooperation through

53. The Agreement, art. 4.2a.

54. *Ibid.*, art. 4.2b.

55. *Ibid.*, art. 4.2c.

56. *Ibid.*, art. 4.2d.

57. *Ibid.*, art. 5.1.

58. *Ibid.*, art. 6.1a.

59. *Ibid.*, art. 6.1b.

60. *Ibid.*, art. 6.1c, in case of serious incidents (“when the severity of such oil pollution incident so justifies”) the Party “shall notify all the other parties without unnecessary delay”; *ibid.*, art. 6.2.

61. *Ibid.*, art. 7.1.

62. *Ibid.*, art. 7.2.

63. *Ibid.*, art. 7.3.

64. *Ibid.*, art. 8.2.

65. *Ibid.*, art. 8.1.

66. *Ibid.*, art. 8.3.

67. *Ibid.*, art. 9.

68. *Ibid.*, art. 10, unless the action was taken on the initiative of the assisting party, cf. *ibid.*, art. 10.b. Article 10 also contains more specific rules on the calculation of costs and cases of third party compensation.

69. *Ibid.*, art. 11.

70. *Ibid.*, art. 13.2.

exchange of information⁷¹, joint exercises and training⁷², and regular meetings⁷³. Any disputes arising from the Agreement are to be settled through direct consultations.⁷⁴

Finally, in accordance with article 21 the parties “shall develop and maintain a set of Operational Guidelines to assist in the implementation of this Agreement”. Such provisional operational guidelines are attached the Agreement as Appendix IV, and, *inter alia*, address a number of more practical issues to the function of the Agreement, hereunder formats, procedures, reimbursement arrangements, jurisdictional issues, and more.⁷⁵

On the face of it, the Agreement could be considered a valuable contribution to trans-boundary oil spill response. Its wording appears to address the most pressing issues, and even does so with reasonable vigor (for instance by instigating an obligation to aid). In the following section the paper investigates which parts of the Agreement actually add significant or new value to the pre-existing international legal regime.

4. In Context: International Legal Framework

According to article 16 of the Agreement “nothing in this Agreement shall be construed as altering the rights or obligations of any Party under other relevant international agreements or customary international law (...)”⁷⁶. Thus, in order to assess the actual value and effects of the adoption of the Agreement, it is necessary to place it in the context of present international law.

As briefly mentioned above, the Agreement substantially overlaps in scope and wording with IMO’s 1990 *International Convention on Oil Pollution Preparedness, Response and Co-operation* (OPRC)⁷⁷. All members of the Arctic Council are parties to OPRC.⁷⁸ OPRC was approved by the IMO in 1990 and entered into force in 1995.

71. *Ibid.*, art. 12.1.

72. *Ibid.*, art. 13.1.

73. *Ibid.*, art. 14.

74. *Ibid.*, art. 18.

75. *Ibid.*, art. 2.2 a.-f.

76. *Ibid.*, art. 16.

77. Multilateral International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (with annex and procès-verbal of rectification). Concluded at London on 30 November 1990 UN Treaties series Vol. 1891, 1–32194.

78. See IMO’s “Status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions”, p. 464ff, available at <http://www.imo.org/About/Conventions/StatusOfConventions/Documents/Status%20-%202014.pdf> (last visited March 2014).

The Convention is designed to help governments combat major trans-boundary oil pollution incidents. It mainly emphasizes effective and expeditious measures in case of oil pollution, with the aim of preventing irreparable damage to ships, marine facilities, ports, oil loading and unloading facilities, as well as paving the way for international cooperation regarding the prevention of incidents caused by oil pollution.⁷⁹

According to OPRC article 10, parties should endeavor to enter into regional multilateral agreements. Somewhat surprisingly given the overwhelming overlap between the documents, the Agreement makes no reference to OPRC art. 10⁸⁰, and thereby neglects to address the relationship between the treaties. In spite of the lack of the explicit reference, the Agreement seems to be best understood as a regional implementation agreement of OPRC, given the comprehensive overlap in scope and phrasing. The following section analyzes the differences from the OPRC framework in order to assess the individual added value of the Agreement.

4.1 Analysis: Added Value

In the following paragraphs, the paper will investigate the individual articles and how these differ from OPRC, thereby providing an assessment of whether the Agreement adds some or substantial value to the present international legal framework. Only the provisions differing from OPRC will be analyzed, assuming that the identical articles will follow the interpretation and implementation of OPRC. Thus, only to the extent

79. United Nations Convention on the Law of the Sea (UNCLOS) also touches upon some of the specific issues of the Agreement. This regards basic measures to prevent, reduce, and control pollution of the marine environment (Art. 194), the imposition of a duty to notify other potentially affected states (Art. 198) and a duty to develop contingency plans against pollution (Art. 199). Beyond the scope of UNCLOS, general environmental law principles are applicable in the context of the Agreement. According to Prof. Philippe Sands, in an environmental law context, the main general rules and principles which have broad support, and are frequently endorsed in practice, are: “The obligation reflected in Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration, namely that states have sovereignty over their natural resources and the responsibility not to cause environmental damage; The principle of preventive action; The principle of good neighborliness and international co-operation; The principle of sustainable development; The precautionary principle; The polluter-pays principle; and The principle of common but differentiated responsibility.” Philippe Sands, *Principles of International Environmental Law, Vol. 1* (Manchester: Manchester University Press, 1995). These principles could all be important when interpreting the Agreement, and to consider in the assessment of any added value of the Agreement. The Agreement explicitly acknowledges the parties’ commitment to the polluter-pays principle in the preamble of the Agreement.

80. The preamble does mention that the parties are “Parties” to OPRC, but does not mention the relationship between the legal documents.

the Agreement differs from OPRC does it add value to the present response system, and thereby to the successful fulfillment of its own aim (to *strengthen* cooperation, coordination and mutual assistance). Next we consider whether the added value addresses one or more of the particular challenges relevant to the Arctic.

4.1.1 *Systems for Oil Pollution Preparedness*

Article 4 of the Agreement and OPRC's article 6 are almost identically phrased, though structured somewhat differently. Besides perhaps adding stringency to the formulation of OPRC article 6, it is difficult to see how the re-structuring materially alters the interpretation of the OPRC article.

Both articles place an obligation on parties to maintain effective national systems for oil pollution response. However, article 4 of the Agreement contains one substantial addition to the preexisting obligations, namely that these systems should "take in account particular activities and locales most likely to give rise to or suffer an oil pollution incident and anticipated risks to areas of special ecological significance (...)"⁸¹. A minimum requirement of the addition must be that such considerations are included in the concrete efforts undertaken by the signatory states, under reference to article 4.2. In particular, in light of the vulnerable Arctic environment, this addition seems timely and relevant.⁸² The legal obligation to include considerations of vulnerable sites ("of special ecological significance"), and particularly risky activities into the dimensioning of national response systems, is definitely a relevant, perhaps even pivotal, aspect of dimensioning an effective response system in the Arctic. On the other hand, it could be pointed out that it would hardly be an effective response system had the parties not considered such important aspects in the dimensioning of their respective national response systems. Thus it seems difficult if not impossible to maintain an effective response system without a proper risk assessment, taking into account both particularly risky activities and vulnerable locales. Overall, however, the amendment is timely, and while it might have limited practical implications, it obviously carries great symbolic weight by adding emphasis on the vulnerability of the Arctic Ocean. Thus one could have wished for a more ambitious approach in light of the particular challenges of the Arctic, for instance joint risk assessments, transnational reviews of the parties' national systems, or even by developing more specified demands to what a minimum response system should be able to do.⁸³

81. Cf. the Agreement

82. See furthermore, the Preamble § 11, the Agreement.

83. A demand could be to the form or clarity of the national contingency plan. For a critique of the present legal framework in Russia consisting of more than 50 legal documents, see Maria Ivanova,

Furthermore, OPRC article 6.2 (c) calls for “detailed plans” (rather than simply “plans” in the Agreement) and goes on to specify, “such capabilities should be continuously available” (a phrase omitted in the Agreement). Both changes in the Agreement seem un-argued, but could have been made to add stringency to the article after the restructuring. Overall, however, it seems to be a somewhat peculiar choice, as the remainder of the Agreement is so attentively phrased after OPRC.

4.1.2 *Authorities and Contact Points*

The wording of the two articles on contact points and designation of relevant authorities is almost identical in OPRC and the Agreement. However, the Agreement specifies that the national contact point must be operational for 24 hours. While this, in a broader context, is to be considered a substantial strengthening of oil preparedness, the Arctic Council members had already adopted this operational modus before entering into the Agreement, as have most maritime nations.⁸⁴ Notwithstanding the limited practical implications, this is obviously, from a legal perspective, a strengthening of the present legal obligations for the Arctic states.

For the members of the European Union (and the two EFTA countries), a supplementary 24-hour operational contact point for emergencies is also set up under the Commission in Brussels. Since 1987 the Commission has provided operational support to member states faced with major pollution incidents, via an “Urgent Pollution Alert Section” set up in Brussels when needed.⁸⁵ The Urgent Pollution Alert Section today forms part of the Union Civil Protection Mechanism, accessible 24/7 through the Emergency Response Coordination Centre (ERCC – former MIC).⁸⁶ The contact point thereby serves as a resource, as well as a hub for coordination between European stakeholders suffering a serious oil spill.

4.1.3 *Notifications*

Both OPRC and the Agreement contain an obligation to notify potentially endangered countries. However, from article 6 in the Agreement follows a specific duty

‘Oil Spill Emergency Preparedness in the Russian Arctic: A Study of the Mumansk Region’, *Polar Research*, 30 (2011).

84. See IMO, Circular on Contact Points, Annex 2 – List of national operational contact points responsible for the receipt, transmission and processing of urgent reports on incidents involving harmful substances, including oil from ships to coastal states, <http://www.imo.org/OurWork/Circulars/Pages/CP.aspx> (last visited 7 November 2013).

85. For further information on the Urgent Pollution Alert Section see http://ec.europa.eu/echo/civil_protection/civil/marin/mp06_en_contingency.htm. See furthermore on the Civil protection mechanism, *supra* note 35.

86. For a brief analysis of the new Union Civil Protection Mechanism, see Kristian Cedervall Lautau, *Disaster Law* (Routledge), 2014 (forthcoming) at p. 85 f.

to inform all members of the Arctic Council “when the severity of such oil pollution incident so justifies.” This obligation is almost parallel to OPRC from a duty to inform the International Maritime Organization (IMO) in similar circumstances. In other words, the added value of the Agreement could influence the pace with which an (unaffected) party would be informed of an Arctic spill, though it is highly doubtful whether this formal change will have any major, if any, practical implication in light of the speed of current information flow.

4.1.4 *Monitoring*

There is no mention of ‘monitoring’ as such in OPRC. OPRC article 5 specifies the actions states are required to take upon the reception of oil pollution reports – i.e. to “assess the incident”. Furthermore, OPRC article 8 involves an obligation to develop and share state-of-the-art technological techniques to survey an oil spill.⁸⁷ In more general terms, the Agreement addresses the identification and monitoring of oil pollution incidents upon occurrence of a spill.⁸⁸ A number of the regional arrangements analyzed below address monitoring mechanisms, however on this point the Agreement seems to bring substantial value, at least to OPRC, by instigating an obligation to “endeavor to undertake appropriate monitoring arrangements” including “in adjacent areas beyond its jurisdiction”.

4.1.5 *Request for Assistance*

There is almost no difference in the phrasing of the provisions on this matter. OPRC does not require that a requesting state specify the type and extent of assistance required. In practical terms, it is difficult to imagine that a state would abstain from specifying the assistance needed (if known), or that such information would not be specified in a dialogue between the responding state and the requested state. In other words, it is hard to imagine that a state would, *ex officio*, spend money and time contributing to a response effort far from home without consulting the needs of the affected state. While the additional demand to specify the assistance on a formal level might contribute to present international law, it is hard to imagine that this is not already the case today. Thus it seems to be of limited value to specify that requests must address the concrete needs.

87. *Ibid.*, art. 8 (1).

88. For an analysis of the importance of proper post-incident monitoring see Mark F. Kirby and Robin J. Law, ‘Accidental Spills at Sea – Risk, Impact, Mitigation and the Need for Co-Ordinated Post-Incident Monitoring’, *Marine Pollution Bulletin*, 60 (2010), pp. 797–803.

4.1.6 *Joint Review*

Upon a joint response operation, in accordance with the Agreement, parties shall carry out a joint review. Such reviews institutionalize learning, and strengthen future cooperation between the parties. In other words, observed narrowly in the context of OPRC, this paragraph definitely provides added value to the overall legal framework. However, in the case of the members of the Arctic Council who are also members of the European Union (or EFTA)⁸⁹, a much more comprehensive investigation scheme is already in place⁹⁰, and even though this scheme is not directly aimed at evaluating the trans-boundary aspects of the response, it does address multi-actor responses.^{91,92} The joint review will share knowledge and learning among the Arctic partners, and thereby improve future response mechanisms and coordination.

4.1.7 *Training and Exercises*

There is almost no difference between the provisions that bestow upon the states an obligation to conduct training and exercises; however the Agreement focuses on “joint exercises and training”, whereas OPRC in more generic terms refers to training of personnel. The Agreement is thereby more specific in regards to the need for joint exercises and as to why these should be carried out.

While many of the above-mentioned differences could be considered of limited practical value, the obligation to organize joint exercises and training might turn out to be *the* most significant real added value of the Agreement. Some of the parties have already carried out multi-stakeholder large-scale exercises to gain valuable experience in cooperation and communications in the Arctic climate. In 2012 as well as 2013, so-called SAREX operations (Search and Rescue Exercises) were carried out in Greenland under the auspices of the Arctic Council. Four of the eight Arctic Council mem-

89. Denmark, Sweden, Finland. The EFTA/EEA states Norway and Iceland are implementing the relevant regulation in this field.

90. See Directive 2009/18/EC of the European Parliament and of the Council of 23 April 2009 establishing the fundamental principles governing the investigation of accidents in the maritime transport sector and amending Council Directive 1999/35/EC and Directive 2002/59/EC of the European Parliament and of the Council. Both Norway and Iceland should implement the directive. See for Norway: amendment to the Maritime Code, *Act of 1 December 2011 No. 64* implementing *Directive 2009/18/EC*.

91. See *ibid.*, art. 7 and art. 13.

92. In general, the Union exhibits strong commitment towards the Arctic. To underline the European Union's commitment to the Arctic, in a document from 2009, the Commission emphasized that “the European Union is inextricably linked to the Arctic region (hereafter referred to as the Arctic) by a unique combination of history, geography, economy and scientific achievements”, “The European Union and the Arctic Region”, 20.11.2008 COM (2008) 763. See also Dodds, ‘Anticipating the Arctic and the Arctic Council: Pre-Emption, Precaution and Preparedness’.

ber states (Canada, Denmark, Iceland, and the United States) participated in the 2013 exercise that definitely satisfied the criteria set up in the Agreement (though aimed at search and rescue rather than oil spill response⁹³). Both exercises seem to have been extremely valuable for participants. They serve as excellent examples of the need for the development of not only legal, but also lower levels of governance structures in order to successfully respond to cross-border disasters in the Arctic – and obviously joint training and exercises play a key role in the success of such governance structures. However, in terms of introducing an ample legal obligation to regularly carry out such exercises, the Agreement remains vague. As already stated the Agreement only mentions that parties must undertake joint exercises and training, but enforces nothing regarding the scope, ambition, frequency, or extent of such joint activities. While the Agreement thereby emphasizes perhaps the most important aspect of cross-border oil disaster response, it does so in a manner which leaves a substantial margin of discretion to the parties. The success of the exercises is entirely reliant on the implementation of the parties, rather than the fulfillment of the legal obligation.

4.1.8 *Added value vis-à-vis OPRC*

Given the large overlap with the provisions under OPRC, the Agreement is better described as a multilateral regional agreement under reference to article 10 in the OPRC, even though the Agreement makes no such reference. In light of OPRC, the Agreement seems to bring about some added value in terms of new legal content. It adds emphasis on the vulnerable Arctic environment in the preparedness phase, instates 24-hour contact points, ensures that non-affected member states are notified of pending oil disasters, and initiates an obligation to monitor ongoing spills. Furthermore, it demands the requesting states specify their needs, and institutionalizes a joint review evaluating the efforts.

The real added value may rest in the obligation to organize joint exercises and training. However, the success of this obligation is entirely dependent upon the implementation arrangements of the parties – and thereby leaves a significant margin of appreciation to the parties. Also the instigation of joint reviews of response operations, dependent on the implementation arrangements, could be valuable for institutional learning and thereby improved future responses.

93. In the 2013 exercise a simultaneous table-top oil spill exercise was carried out, see Command, 'Search and Rescue Exercise Greenland Sea 2013 – Final Exercise Report', p. 6.

4.2 Harmonization of Regional Agreements⁹⁴

A number of pre-existing regional agreements on oil pollution should be added to the context of the Agreement.

Denmark, Norway, Sweden, Finland, and Iceland are signatories to the so-called Copenhagen Agreement⁹⁵ focusing on pollution control. Parties are obliged to aid when possible under the Copenhagen Agreement⁹⁶, which in scope and aim resembles the Agreement. For these parties, the gain of the Agreement is limited to the expansion of the circle of the obligated partners, as the Agreement adds very little in terms of new legal content.

Furthermore, Denmark, Finland, and Sweden are engaged with Russia in the so-called Helsinki Convention⁹⁷. Russia and Norway⁹⁸ and Russia and Finland,⁹⁹ respectively, are cooperating through separate agreements on response measures in the Barents Sea.

Canada and the U.S. have a joint Marine Pollution Contingency Plan,¹⁰⁰ and Denmark and Canada cooperate in the ocean between Greenland and Canada under the so-called CANDEN agreement.¹⁰¹ Finally, the unlikely pair of the U.S. and Russia cooperate in emergency situations in the Bering and Chukchi Seas.¹⁰²

These regional arrangements all interplay with the Agreement. Due to the general level of both the multilateral and the bilateral agreements, it is difficult to imagine inconsistency between the treaties; however the Agreement might contribute in

94. See also the Agreement, Appendix IV: Operational Guidelines, table 1.

95. Agreement between Denmark, Finland, Iceland, Norway and Sweden about Cooperation concerning Pollution Control of the Sea after Contamination by Oil or other Harmful Substances, for further information visit: <http://www.copenhagenagreement.org> (last visited on 7 November 2013).

96. See *ibid.*, art. 8.

97. Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), see www.helcom.fi/groups/response/en_GB/main/.

98. Agreement between the Government of the Russian Federation and Government of the Kingdom of Norway concerning Cooperation on the Combatment of Oil Pollution in the Barents Sea, 1994.

99. Agreement between the Government of the Union of Soviet Socialist Republics and the Government of the Republic of Finland on Co-operation in Combating Pollution of the Baltic Sea in accidents involving oil and other harmful substances, 1989, see www.finlex.fi/fi/sopimukset/sopsteksti/1990/19900054.

100. See Canada-U.S. Joint Marine Pollution Contingency Plan, www.dfo-mpo.gc.ca/Library/343409.pdf.

101. Agreement Between the Government of Canada and the Government of the Kingdom of Denmark for Cooperation Relating to the Marine Environment (1983), see www.treaty-accord.gc.ca/text-texte.aspx?id=101887.

102. Agreement between the Government of the Union of Soviet Socialist Republics and the Government of the United States of America concerning Cooperation in Combating Pollution in the Bering and Chukchi Seas in emergency situations, 1989. www.dec.state.ak.us/spar/perp/plans/uc/mou/Kp-US_USSR_89.pdf.

creating coherence and internal interdependency in this body of regional treaties. The Agreement's operational guidelines "could be used in addition to such plans, or to aid in their development or revision"¹⁰³ and thereby aim to supplement and harmonize these pre-existing regional arrangements. The Agreement is thereby making response efforts in the Arctic Ocean more operably accessible to the involved actors, and will most likely over time, contribute to a harmonization of the treaty body. While this aspect or rather function of the Agreement is definitely valuable, and a necessary step to creating a coherent and effective effort to combat oil spills in the Arctic, it adds little or nothing in terms of new legal content.

4.3 In fewer words

The Agreement aims to contribute to a pre-existing regulatory regime, and does bring about a few new legal obligations for actors in the Arctic Ocean. The Agreement adds symbolic emphasis on vulnerable Arctic sites in the preparation phase, a legal obligation to maintain 24-hour contact points, and an obligation to monitor on-going spills. Most significantly, the Agreement demands joint exercises and review among the parties. Furthermore, the Agreement takes a first step in establishing a coherent governance regime for the Arctic area by harmonizing pre-existing regional agreements.

However, from the viewpoint of a Nordic member of the Arctic Council, the substantive contribution of the Agreement is very limited. Thus joint reviews, training, and exercises will without doubt contribute significantly to the parties' response capacity, but the provision in the Agreement retains a substantial discretionary margin for the parties. The obligation to organize joint exercises and training as presently formulated in the Agreement could be satisfied, for example, through small joint exercises conducted every five years, thus only contributing insignificantly to the parties' actual response preparedness.

What is most significant, however, is what the Agreement does not address. The Agreement does not initiate demands of enhanced on-site response mechanisms and capacities, for instance through permanent response hubs, technological harmonization, or even coordinated efforts towards the relevant industry. It does little or nothing to create new approaches or even facilitate the exchange of knowledge on responses to an oil spill in the Arctic, and it leaves no effective way for parties to address other parties' neglect of the treaty provisions.

At its very best interpretation, the Agreement in its current form could enhance the present response set-up in the Arctic, but at its worst interpretation the Agree-

103. See preamble to operational guidelines in the Agreement.

ment makes very little or no difference. In fewer words, while the Agreement definitely holds promise for future enhanced response capacities, it remains a weak instrument in terms of fulfilling its stated aim.

5. Conclusion: “Just don’t go there”

Even in the near-perfect response environment like the Gulf of Mexico (temperate climate, clear water, plenty of harbors, available equipment, telecommunications, and almost unlimited resources from both industry stakeholders and the affected state¹⁰⁴) things can go wrong when responding to a major oil spill. On the 20th of April 2010, a blowout in the Macondo well and subsequent fire on the British Petroleum (BP) operated oil platform Deepwater Horizon, caused the worst maritime oil spill ever, spilling almost 5 million barrels of oil into the Gulf of Mexico. Only 1 million of these were recovered. The scope of the disaster recovery work, as well as the final economic impact, is still undetermined, but the disaster seems to break all records in terms of damages paid with the addition of the recently-publicized \$ 4 billion settlement between BP and the U.S. Justice Department (the largest criminal penalty in U.S. history). BP’s total loss is thereby estimated to surpass \$ 40 billion¹⁰⁵, and the recovery work involved 47,000 people at its peak.¹⁰⁶

Imagining a similar disaster scenario under hostile Arctic conditions is not pleasing. It would be orders of magnitude more complicated to respond to such an event.

When uncertainty is high, responsiveness and flexibility becomes essential.¹⁰⁷ The present deal might provide an initial though limited step towards creating a

104. In the case of Deep Water Horizon, some response technologies employed were anything but well tested. This applies not least for the use of dispersants in deep water conditions, see for instance Elizabeth B. Kujawinski et al., ‘Fate of Dispersants Associated with the Deepwater Horizon Oil Spill’, *Environmental Science & Technology*, 45/4 (2011), pp. 1298–1306.

105. The recent settlement does not include federal civil claims, e.g. claims under the Clean Water Act, and another large economic punch to BP is therefore to be expected. See Steven Mufson: “BP agrees to criminal plea, \$ 4 billion settlement in Gulf oil spill case”, *Washington Post*, November 15, 2012. The Swiss-based drilling company Transocean has paid an additional fine, the settlement reached with the Department of Justice amounted to \$ 1.4 billion, see news release from Transocean “Agreement Reached with U.S. Department of Justice on Deepwater Horizon Claims”.

106. Jonathan L. Ramseur and Curry L. Hagerty, ‘Deepwater Horizon Oil Spill: Recent Activities and Ongoing Developments’, (7–5700; Washington: Congressional Research Service, 2013) p. 2. For a comparison between the Deep Water Horizon incident and Shell’s present endeavors in the Chukchi Sea, see Charles W. Schmidt, ‘Offshore Exploration in the Arctic. Can Shell’s Oil-Spill Response Plans Keep Up?’, *Environmental Health Perspectives*, 120/5 (2012), pp. 194–199.

107. Diana Pietri et al., ‘The Arctic Shipping and Environmental Management Agreement: A Regime for Marine Pollution’, *Coastal Management* 36 (2008), pp. 508–523, p. 511.

governance scheme that allows for such responsiveness and flexibility, but the added value of the Agreement can hardly surmount the challenges outlined above. Furthermore, the existence and superiority of different pre-existing regional arrangements sustains a real risk that coordination efforts between the Arctic countries will be secondary in cases of a serious oil spill.

The author recently had the pleasure of participating in a presentation by a geologist from Maersk Oil. Faced with the question of how to respond to a major oil spill in Western Greenland, he spontaneously exclaimed: “We have got to make sure we never go there”. The consequences of such a spill would be so devastating, and the present response capabilities so futile, that it should be avoided at (almost) any cost. His advice was to put (even more) resources into prevention. Luckily, it seems the industry takes prevention seriously, and with the ramifications of the Deepwater Horizon accident still unfolding, even the most profit-hungry actors in the field should be willing to invest massively in oil spill prevention. After all, paying up for the mess in the Gulf of Mexico almost bankrupted one of the largest companies in the world. However, given that even within national boundaries stakeholder coordination is a massive challenge¹⁰⁸, the need for a proper governance regime is pressing. While such governance regime is perhaps being developed under the auspices of the Arctic Council, this is not substantially reflected in the newly established Agreement. The Arctic Council might work on the establishment of an effective regime in the sub-regulatory governance layer; the Field Guide for Arctic Oil Response¹⁰⁹ developed for the Arctic Council’s working group for Emergency Prevention, Preparedness and Response is still an ambitious and well-structured document, and joint exercises are an ambitious and promising enterprise. However, none of these efforts is sufficiently secured through the present regulation. The few new innovations that the Agreement brings about all leave ample discretionary margin for the parties to continue their isolated efforts, and the Agreement further-

108. The members of the Arctic Council have recently initiated a multilateral audit of the Arctic Council under coordination of The Office of the Auditor General of Norway and the Accounts Chamber of the Russian Federation. The members focus on slightly different issues in their efforts, however, see for example the State Auditors in Denmark’s (Statsrevisionerne) report to the Parliament: “Beretning om Danmarks indsats i Arktis” [Report on Denmark’s efforts in the Arctic], 16/2012 (2013), p. 18ff (search and rescue) and p. 23ff (maritime environment). The multilateral audit intends to produce a joint memorandum in the 2nd quarter of 2014, see a presentation of the project at: <http://www.eurosaiwgea.org/Activitiesandmeetings/AnnualEUROSAIWGEAmeetings/2012/10th/Documents/BM%20Fikkan%20Arctic%20Council%20Russia%20Norway.pdf> (last visited at 2 October 2013). See furthermore on the coordination between regional and Federal actors in Russia, Ivanova, ‘Oil Spill Emergency Preparedness in the Russian Arctic: A Study of the Mumansk Region.’

109. See Owens et al., ‘Field Guide for Oil Spill Response in Arctic Waters.’

more introduces no (real) remedies to address neglect or non-compliance. In other words, as a *legal* instrument, the Agreement brings very little to the table and the real developments in the Arctic Council are driven by the (fluctuating) investments of the parties.

The Agreement might answer an at least 30-year old request to further regulate oil disaster response coordination in the Arctic; however, in actuality this first step hardly develops from a symbolic gesture of accepting the challenge. In the event Oren Young is right to suggest that “a major determinant of the effectiveness of governance systems is the extent to which they are designed with the principal features of the relevant biophysical and socioeconomic systems in mind”¹¹⁰, there is still a long way to go before the actors involved can further safely explore the Arctic – and exploration will take place, irrespective of the state of preparedness of the Arctic states.

While it is encouraging that the Arctic Council engages in this important arena, and therefore might be a “promising step in this realm”¹¹¹ and “an important development”¹¹², it remains in light of pre-existing legal obligations and the challenges encountered, merely another drop in the ocean in terms of creating an effective legal regime.

110. Oren Young, ‘Arctic Tipping Points: Governance in Turbulent Times’, *Ambio*, 41 (2012), 75–84 p. 78.

111. *Ibid.*, p. 80.

112. Yalowitz, ‘Arctic Climate Change: Security Challenges and Stewardship Opportunities’, p. 33.