



PAME WORKING GROUP MEETING REPORT NO: I-2012

26-27 MARCH, 2012
STOCKHOLM, SWEDEN

PAME
Protection of the Arctic Marine Environment



ARCTIC COUNCIL



**PROGRAM FOR THE
PROTECTION OF THE ARCTIC MARINE ENVIRONMENT**



PAME

Working Group Meeting Report

No: I-2012

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Agenda Item 1: Opening of the Meeting

The Protection of the Arctic Marine Environment (PAME) Working Group met 26-27 March 2012 at the facilities of the Prime Minister's Office in Stockholm, Sweden. The list of participants attending the Meeting is in Annex I.

The Meeting was opened with a warm welcome by the Swedish Head of Delegation. The Meeting was chaired Mr. Magnus Johannesson.

Agenda Item 2: Introduction and Adoption of the Agenda

A list of documents submitted for consideration at the Meeting is in Annex II. All power-point presentations are available within the password protected area of the PAME homepage. A compilation of all Records of Decisions and Follow-up Actions from the Meeting is in Annex IV.

This Meeting focused on forwarding the PAME activities as per the PAME Work Plan 2011-2013.

The Meeting adopted the agenda as presented in Annex III

Agenda Item 3: Information from the Chair and Secretariat

The PAME Chair informed the meeting of the main outcomes from the last SAO meeting held from 8-9 November 2011 and attended by the PAME vice-chair, Elizabeth McLanahan on behalf of PAME. PAME's submissions and the presentation on the status of the Arctic Ocean Review (AOR) project were well received by the SAOs.

Russel Shearer, AMAP Chair provided a status on the work being done on the Arctic Change Assessment project proposal and Annika Nilsson, Sweden provided an update on the Arctic Resilience Report project.

Sesselja Bjarnadottir, Iceland, provided a summary of outcomes from the GPA Intergovernmental Review Meeting (IGR 3) which was held in Manila, the Philippines in January 2012 and informed the Meeting of the main priorities of the GPA Coordination Office during the 2012-2016 period.

Record of Decisions and Follow up Actions

- ✓ *The Meeting noted the information on the main outcomes of the GPA Intergovernmental Review Meeting (IGR 3) which was held in Manila, the Philippines in January 2012 and outlines that nutrients, marine litter and wastewater management will be the priorities for the GPA Coordination Office during the period 2012-2016.*
- ✓ *The Meeting thanked Russel Shearer AMAP Chair for the summary status of the ACA project proposal and Annika Nilsson/Sweden for the summary status of the Arctic Resilience Report, and expressed desire to participate in the work of these projects with regard to their clear linkages with the PAME work and mandate.*

Agenda Item 4: Arctic Marine Shipping Assessment follow-up activities

The AMSA agenda items were addressed in plenary followed by an AMSA breakout session where respective shipping experts discussed the AMSA activities in more details including continuation of work among respective AMSA leads. The AMSA breakout session was co-chaired by: Peter Oppenheimer (USA) and Jens Henning (Norway).

AMSA I(A) – Linking with other International Organizations

The United States provided a status report on activities of the Arctic Regional Hydrographic Commission (ARHC) as a follow up to the AMSA Recommendation I(A).

AMSA Recommendation I(A) states the following:

“That the Arctic states decide to, on a case by case basis, identify areas of common interest and develop unified positions and approaches with respect to international organizations such as...the International Hydrographic Organization (IHO)...to advance the safety of Arctic marine shipping....”

The ARHC was established in October 2010 under the auspices of the International Hydrographic Organization (IHO) by Canada, Denmark, Norway, the Russian Federation and the United States in recognition of the need for enhanced collaboration and coordination on Arctic hydrographic issues¹. The ARHC has established the following three working groups: Strategic Planning, Operations and Technologies and Marine Routeing Guide. The fourth working group being proposed is the Chart Advisory Group.

The ARHC's most recent meeting took place in September 2011 in Copenhagen. Finland and Iceland attended as observers. The United Kingdom's request for observer status was denied as one ARHC member state believed that the newly established Commission should conclude its initial work before opening meeting participation to the many potentially interested non-Arctic states.

The United States presented the following ARHC action items from the September 2011 meeting which may be of interest to PAME:

- ✓ Mariners Routeing Guide for the Northwest Passage: Review prototypes presented at ARHC-2 for development of an Arctic Mariners Routeing Guide for the Northwest Passage and possibly the Northern Sea Route;
- ✓ Technologies for Charting: Further evaluate and prepare a scientific symposium on the use of advanced technologies for hydrography, such as remote sensing. Develop a draft paper sharing experiences using satellite and LiDar technologies for improving ARHC hydrographic planning and charting;
- ✓ Enhanced exchange of arctic hydrographic data and joint surveys as feasible;
- ✓ Development of a conceptual model to prioritize hydrographic activities in the Arctic region;
- ✓ Raising stakeholder awareness and support of ARHC efforts to improve navigation safety in the Arctic; and
- ✓ Addressing concerns with safety of navigation in light of polar projection issues in the Arctic.

The ARHC's 3rd meeting is scheduled for 9-11 October 2012 in Tromsø, Norway.

The United States recommended that:

- ✓ PAME monitor the work of ARHC and look for opportunities to exchange information of mutual interest and, where appropriate, coordinate and collaborate.
- ✓ Periodic reports be made at PAME meetings on ARHC activities.

¹ The constitutive document of the ARHC, *The Statutes of the Arctic Regional Hydrographic Commission*, is available online at http://www.iho.int/mtg_docs/rhc/statutes/ArHC_Statutes.pdf. Additional information, including past ARHC meeting documents, may be found at http://www.iho.int/srv1/index.php?option=com_content&view=article&id=435&Itemid=690.

Record of Decisions and Follow up Actions

PAME requested member governments to analyze the Arctic-relevant activities of International Mobile Satellite Organization (IMSO) and World Meteorological Organization (WMO) and present summary reports to PAME-II 2012. Canada agreed to prepare a report on the work of WMO and USA agreed to prepare a report on the work of IMSO.

AMSA I(B) – IMO Polar Code status update

The United States provided status update on the developments of IMO's mandatory Polar Code as a follow up to the AMSA Recommendation I(B) and informed the Meeting that the target completion date has been extended from 2012 to 2014.

AMSA Recommendation I(B) states the following:

“That the Arctic states, in recognition of the unique environmental and navigational conditions in the Arctic, decide to cooperatively support efforts at the International Maritime Organization to strengthen, harmonize and regularly update international standards for vessels operating in the Arctic. These efforts include: support the updating and the mandatory application of relevant parts of the Guidelines for Ships Operating in Arctic Ice-covered Waters (Arctic Guidelines)aimed at safety and protection of the Arctic environment.”

The objective of the Polar Code is to increase marine safety and environmental protection in Polar Regions and is intended to address, among other things, ship design and equipment; operation of vessels; training of crew; search and rescue, and protection of the marine environment. Delays in this process can to some extent be attributed to extended discussions on how to proceed with the environmental chapter of the Polar Code.

The United States recommended that:

- ✓ PAME encourage the timely development of the environment chapter for the Polar Code, taking into account that the Polar Code will include provisions for both Antarctic and Arctic waters.
- ✓ PAME encourage IMO bodies that are actively working to develop regulations, policies, and guidelines on environmental issues relevant to the Polar Code, including among others, ballast water management, anti-fouling, and black carbon emissions, to consider the unique ecological characteristics of the Arctic with a view towards incorporating appropriate standards for ships operating in polar water in their ongoing work at IMO on the Polar Code.
- ✓ To the extent it has not already done so, each PAME member government should re-familiarize itself with all of the currently applicable IMO regulations, policies, guidelines, and best practices on the provision of adequate port waste reception facilities, and to the maximum practicable, implement them for its Arctic ports.
- ✓ PAME review the AMSA II(C) report with a view towards identifying environmental protection gaps in areas of heightened ecological and cultural significance and explore possible future research needs to inform the development of environmental protection regulations relevant to the Arctic in IMO instruments.
- ✓ In the context of future work on AMSA II(D), PAME consider operational measures for vessels in polar waters, including among others, Special Areas under MARPOL, voyage planning for the protection of marine mammals, and vessel tracking systems.

Record of Decisions and Follow up Actions on IMO Polar Code

- ✓ *PAME continues to support the expeditious development of the Polar Code, noting the extension of the proposed completion date to 2014, and invites all PAME member governments to ensure that their IMO delegations have all relevant scientific environmental data, in particularly AMSA (IIC) data, and technical information available for their consideration.*
- ✓ *PAME agrees that the environmental chapter is an essential part of the Polar Code and notes the importance of the chapter's timely completion and the significance of PAME's work in this regard.*
- ✓ *PAME invites permanent participants, observers, and other interested parties to timely share with their member government IMO representatives any data that will aid in the further development of the Polar Code.*

AMSA I(B) – Heavy Fuel Oil in The Arctic (HFO) Phase II

The project leads (Norway/Russia/US) informed the Meeting that in order for the contact group, and Norway as coordinator and main contact point for the project, to proceed with the tendering procedure and hiring of a consultant, then PAME I-2012 needed to agree on the overall scope of the Terms of Reference for the work. More specifically: it was required to reach an agreement on whether all possible relevant options and measures should be included and discussed in the report. In addition, the report will include a full-year analysis of use and transport of HFO based on the Automatic Identification System (AIS).

Norway stressed that, in accordance with the original project concept, the task of the consultant is to identify and compile information on relevant options and measures related to HFO in the Arctic, not to provide any conclusions or recommendations on the options..

An updated timeline for the next steps of the project will be subject to PAME's decision.

Canada asked about possible linkages and collaborative efforts between the HFO Phase II and the EPPR project on Recommended Practices for Arctic Oil Spill Prevention (RP3).

A Record of Decisions and Follow up Actions on HFO Phase II Project

- ✓ *PAME was unable to reach consensus on the inclusion in the HFO Phase II analysis of a ban on the use of HFO in the Arctic. PAME agreed that the ban on carriage of HFO as cargo would not be included in the analysis.*
- ✓ *PAME agreed that the project co-leads and the contact group are to resume work on the project intersessionally and submit a progress report to PAME II-2012.*
- ✓ *PAME agreed that co-leads are to continue to explore opportunities to use the information collected within the HFO study to be accessible in the www.arcticdata.is database.*

AMSA I(D) – Strengthening Passenger Ship Safety in Arctic Waters – follow-up and developments

The United States provided a status report on the follow up of the AMSA Recommendation I(D) included voyage planning, shipping insurance and the MS *Costa Concordia* aftermath followed by recommendations to the PAME working group as per Annex V.

AMSA Recommendation I(D) states the following:

“That Arctic states should. . . strongly encourage cruise ship operators to develop, implement and share their own best practices for operating in [the remote and cold Arctic region], including consideration of measures such as timing voyages so that other ships are within rescue distance in case of emergency.”

An invitation had been extended to the shipping insurance industry as a means to provide PAME member with a better understanding of the positive role the marine insurance can play in helping to strengthen ship safety and environmental protection in the Arctic. Mr. David Bolomini gave a presentation on the shipping insurance industry from the perspective of the International Group of P&I Clubs which comprises 13 mutual marine insurance associations (“Clubs”) which cover over 90% of world ocean-going tonnage and over 95% of ocean-going tankers. The Group functions to provide a forum for the exchange of information between clubs and other maritime organizations and sectors and to represent the views of clubs’ shipowner members on matters of concern to the shipping industry in relation to insurance and liability issues.

Current and future issues and challenges for the shipping insurance industry include:

- Increased claims severity
- Competition (Anti-trust) legislation and regulations
- Piracy
- Reinsurance security and capacity
- Increasingly stringent solvency/regulatory/sanctions compliance requirements

Mr. Bolomini was asked if there was any available information on coverage of shipping in the Arctic, and how insurance premiums were set for Arctic shipping. He responded by noting that premiums are based on tonnage and type and as risks increase the premiums increase.

ICC Alaska noted that the offshore oil and gas industry was not covered by the P&I Clubs.

Record of Decisions on AMSA I(D) - Strengthening Passenger Ship Safety

PAME thanked Mr. David Bolomini (International P & I Group) for his presentation on marine insurance.

AMSA II(A) – Arctic Indigenous Marine Use Survey (AIMUS): update on activities by AIA and Saami Council

AMSA Recommendation II(A) states the following:

„That the Arctic states should consider conducting surveys on Arctic marine use by indigenous communities where gaps are identified to collect information for establishing up-to-date baseline data to assess the impacts from Arctic shipping activities.“

AIA informed the meeting of status and development of the AIMUS scoping paper and noted that it had been presented to both CAFF and AMAP in Fall 2011 and that coordination will be sought with the ICC Canada project on “Circumpolar Wide Inuit Response to AMSA” which was endorsed by SDWG and approved by SAOs in March

2012. To this end the AIMUS scoping paper will be submitted to the SDWG chair for consideration intersessionally. In addition AIA plans to produce a proposal, in consultation with Saami Council and other PP organizations which will have an Indigenous marine use Survey component which will be presented to the Fall 2012 SDWG meeting. Details on this proposal will also be circulated to PAME, CAFF and AMAP.

ICC Canada noted that they would look into how the AIMUS scoping paper is linked to their “*Circumpolar Wide Inuit Response to AMSA*” project to explore how these two projects may complement each other.

Record of Decisions and Follow up Actions AMSA II(A) – Survey of Arctic Indigenous Marine Use

- ✓ *PAME encouraged AIA and Saami Council to further explore possible collaborations with the ICC project on “Circumpolar Wide Inuit Response to AMSA” as it relates to further developments of the AIA/Saami Council scoping paper on Survey of Arctic Indigenous Marine Use.*

AMSA II(C) – Areas of Heightened Ecological and Cultural Significance

The AMSA II(C) project is being developed by national experts with the assistance from AMAP, CAFF, and SDWG. Lead countries are Norway, Canada, Denmark/Greenland and the United States.

AMSA Recommendation II(C) states the following:

„That the Arctic states should identify areas of heightened ecological and cultural significance in light of changing climate conditions and increasing multiple marine use and, where appropriate, should encourage implementation of measures to protect these areas from the impacts of Arctic marine shipping, in coordination with all stakeholders and consistent with international law.“

The 4th draft of the AMSA II(C) project was submitted prior to this Meeting in an effort to facilitate the initiation of work on AMSA II(D) – *Specially Designated Arctic Marine Areas*. This draft does not contain a section on areas of heightened cultural significance since as it was deemed to be inadequate at this stage and additional time was needed to allow SDWG and others to contribute more information. This section will be circulated separately for review.

The co-leads will clarify the delivery of the final version when the cultural section is ready for review and will discuss this work in more details with SDWG. At this time it is estimated that the ecological part of the report will be edited and published for delivery to PAME by the 1st of July.

The AMSA II(C) co-leads noted that this project is 4 months behind schedule and presented a revised timeline and progress to date which can be found in Annex VI.

IUCN raised the question if plans had been made to use the AMSA II(C) Report for the CBD process.

ICC Alaska thanked the AMSA II(C) co-leads for efforts to date on the inclusion of Traditional Ecological Knowledge (TEK) and emphasized the need to bring this issue to the attention of the SAOs on how to incorporate and capture TEK in Arctic Council projects.

Russia and the United States noted that AMSA II(C) covers areas within national waters but the AMSA II(D) project covers areas outside waters subject to national jurisdiction.

Record of Decisions and Follow up Actions on AMSA II(C)

- ✓ *PAME thanked the CAFF and AMAP Working Groups for developing the ecological component of the AMSA II (C) report, and look forward to the completion of both the ecological and cultural components.*
- ✓ *PAME member governments are invited to share the AMSA II(C) report with their respective national experts for review by 20 April 2012 and more broadly when published, especially IMO delegations.*

AMSA II(D) – Specially Designated Arctic Marine Areas

The AMSA II(D) project is co-led by Norway, the United States, Finland and Russia, and will be carried out with the assistance of a contact group.

AMSA Recommendation II(D) provides:

That the Arctic states should, taking into account the special characteristics of the Arctic marine environment, explore the need for internationally designated areas for the purpose of environmental protection in regions of the Arctic Ocean.

The initiation of the AMSA II(D) project is subject to the finalization of the AMSA II(C) project. Due to delays in the AMSA II(C) project the planned meeting between the AMSA II (C) and II (D) project leads which was initially scheduled for January 2012 has been postponed. A revised work plan, allowing for the AMSA II (C) consultation process was presented at this Meeting. Details of the Terms of Reference for the AMSA II(D) project and for the consultant was discussed in the contact group during this Meeting. The AMSA II(D) co-leads aim to finalize the project in time for the 2013 Ministerial and include a status report in the 2013 AMSA Progress Report.

The co-leads informed the meeting of following planned intersessional work:

- ✓ Update workplan with a revised timeline taking into account delays in the finalization of the AMSA II(C) report
- ✓ Update ToR for the project and for the consultant
- ✓ Enter into contract with consultant
- ✓ Develop concept for a workshop

The AMSA II(D) co-leads were encouraged to cooperate with respective IMO experts to include potential protective measures and the need for ship traffic information and other relevant information.

The United States reported on the relevance of the adequacy of port waste reception facilities (PRF) as one of the necessary preconditions for bringing into effect “Special Areas” adopted by member governments of (IMO) under the International Convention for the Prevention of Pollution from Ships, 73/78 (MARPOL). A higher level of protection is afforded “Special Areas” than other areas of the sea by requiring ships when sailing in these areas to comply with more stringent discharge requirements. “Special Area” designation is available under five of MARPOL’s six annexes.

The United States suggested that PAME member governments take a fresh look at the availability and adequacy of port waste reception facilities in their respective countries as an important component of any potential future work regarding MARPOL “Special” Areas in the Arctic region. The report on *Specially Designated Arctic Marine Areas and*

Port Waste Reception Facilities as submitted by the United States, including suggested recommendations to PAME is in Annex VII.

Canada noted relevance of the work on AMSA II(C) and AMSA II(D) to the developments of the IMO Polar Code.

Norway noted that different perspectives of PRFs in the Arctic support that PAME further explore this issue.

Record of Decisions and Follow up Actions AMSA II(D) and PRFs

- ✓ *PAME encourages the advancement of the AMSA II(D) project, including based on the finalization of the ecological component of AMSA II (C), and stresses the importance of completing the cultural component of AMSA II(C) as soon as possible.*
- ✓ *PAME noted that it would likely not be able to submit a final AMSA II(D) report to the 2013 Arctic Council Ministerial meeting due to delays in the completion of the AMSA II(C) report, and would provide a status report on the AMSA II(D) project to the 2013 Arctic Council Ministerial meeting.*
- ✓ *PAME thanked Captain David A. Condino (USA) for his presentation on port waste reception facilities in the Arctic region.*
- ✓ *PAME reaffirmed that the geographical focus of the AMSA II(D) project is on areas beyond national jurisdiction/high seas areas of the Arctic Ocean.*
- ✓ *PAME member governments are encouraged to consider and make use of information in the AMSA II(C) report regarding marine areas within national jurisdiction.*
- ✓ *PAME decided that the co-leads of the AMSA II (D) project are to further develop the project work plan and Terms of Reference intersessionally, and to share those revised documents with the contact group by 1 June 2012.*
- ✓ *PAME requests member governments to submit to PAME II-2012 information on current and projected shipping traffic in the high seas areas of the Arctic Ocean.*
- ✓ *PAME invites EPPR to submit to PAME II-2012 meeting information on shipping incidents in the Arctic, in particular incidents that result in oil pollution of the marine environment.*
- ✓ *PAME requests member governments to submit information to PAME II-2012 regarding shipping incidents that resulted in pollution of the marine environment other than oil spills in the high seas areas of the Arctic Ocean.*
- ✓ *PAME requests the co-leads of the AMSA II (D) project to submit to PAME II-2012 a report that summarizes available IMO measures and tools regarding special areas, routing measures and PSSAs for protecting the marine environment from the threats of international shipping.*
- ✓ *PAME Secretariat to invite an expert from the IMO to give a presentation on relevant IMO measures and tools to PAME II-2012 in coordination with the co-leads.*
- ✓ *PAME encourages the member governments to regularly check and as necessary and appropriate update information on their port waste reception facilities in the Arctic region in IMO's GISIS database.*
- ✓ *PAME invites member governments to submit reports to PAME II-2012 on how they select the ports for which they upload information to IMO's GISIS database.*

Sweden informed the Meeting of proposed workshop in an effort to identify marine ecologically and biologically significant areas (EBSAs) in the Arctic and noted such efforts within OSPAR and other relevant organizations.

The Meeting noted the need for the submission of proposal on such a workshop before deciding on next steps. Furthermore, some participants noted possible overlaps with AMSA II(C) and AMSA II(D) projects and suggested that a proposed workshop on EBSAs be considered in parallel with these projects.

Record of Decisions and Follow up Action on EBSAs

- ✓ *Sweden will share with PAME before the PAME II-2012 meeting a concept paper on the Swedish ideas to support a process towards the identification of marine ecological and biological significant areas (EBSAs).*

AMSA II(F) on Oil Spill Prevention and AMSA III(C) on Circumpolar Environmental Response Capacity

EPPR provided an update on status of their contributions to relevant AMSA follow-up activities and informed the Meeting that the project on *Recommended Practices for Arctic Oil Spill Prevention Project (RP3)* was a contribution to AMSA II(F).

AMSA Recommendation II(F) states the following:

„That the Arctic states decide to enhance the mutual cooperation in the field of oil spill prevention and, in collaboration with industry, support research and technology transfer to prevent release of oil into Arctic waters, since prevention of oil spills is the highest priority in the Arctic for environmental protection.“

AMSA Recommendation III(C) states the following:

„That the Arctic states decide to continue to develop circumpolar environmental pollution response capabilities that are critical to protecting the unique Arctic ecosystem. This can be accomplished, for example, through circumpolar cooperation and agreement(s), as well as regional bilateral capacity agreements.“

The RP3 project will focus on the following three key themes: offshore oil and gas; maritime shipping, land-based activities and maritime surveillance which is an important preventive measure for surveillance and detection of accidental or intentional releases. The co-leads are Norway and Canada and this project will be done in cooperation with PAME

Other EPPR projects which contribute to AMSA II(F) include:

- ✓ Arctic Region Oil Spill Response Resource and Logistics Guide. A pilot project based on ERMA tool
- ✓ Revision of the Environmental Risk Analysis and Matrices, renamed the “Arctic-wide Pollution Source Risk Matrix”

Following EPPR projects contribute to the implementation of AMSA III(C) on Circumpolar Environmental Response Capacity:

- ✓ BoHaSA² report finalized – follow up project in cooperation with IMO OPRC HNS TG³

² Behaviour of oil and other Hazardous Substances in Arctic waters

- IMO Arctic Region Chapter: In Situ Burn (ISB) of Oil Spills on Water and Broken and Solid Ice Conditions
- ✓ Safety Systems in Implementation of Economic and Infrastructural Projects
 - Joint Norwegian - Russian oil spill exercise and subsequent workshop on SAR, Prevention and Oil Spill Response 5-7 June 2012 in Kirkenes, Norway

Finally, EPPR informed the Meeting that their Preparedness and Response Expert Group will provide support to the Task Force to develop an Instrument on Arctic Marine Oil Pollution Preparedness and Response (co-chaired by the United States, the Russian Federation and Norway) by developing guidelines. The next meeting of the Task Force will be in Finland 19-22 June 2012.

Record of Decisions and Follow up Actions AMSA II(F) and AMSA III(C)

- ✓ *PAME welcomed the information from the Russian Federation on enhancing SAR and response capacity in the Arctic region*
- ✓ *PAME welcomed the information from EPPR on their follow-up activities on AMSA Recommendations II(F) and III(C) and encourage continued cooperation with EPPR, in particular on the Recommended Practices Prevention Project (RP3) and invite EPPR to inform on progress to PAME II-2012.*

AMSA III (B) – Arctic Marine Traffic Systems

A representative from the European Maritime Safety Agency (EMSA) was invited to this Meeting to give a presentations on Automated Identification Systems (AIS), Long Range Identification and Tracking of ships (LRIT), and/or similar ship monitoring/tracking systems that are or may be deployed by Arctic countries to support implementation of AMSA Recommendation III(B).

AMSA Recommendation III(B) provides:

That the Arctic states should support continued development of a comprehensive arctic marine traffic awareness system to improve monitoring and tracking of marine activity, to enhance data sharing in near real-time, and to augment vessel management service in order to reduce the risk of incidents, facilitate response and provide awareness of potential user conflict. The Arctic states should encourage shipping companies to cooperate in the improvement and development of national monitoring systems.

Mr. Marin Chintoan-Uta, Head of Unit, Satellite based monitoring services of EMSA⁴ presented to the Meeting the use of EMSA ship traffic information systems for Arctic regions. He provided an overall introduction to the main EMSA tasks; EMSA ship traffic monitoring systems including Automated Identification Systems (AIS), Long Range Identification and Tracking of ships (EU LRIT Data Center – further information at: <http://www.emsa.europa.eu/operations/maritime-surveillance/lrit.html>) and their respective coverage, capacities and use of these systems in the Arctic region.

He informed the Meeting that EMSA can provide:

³ Technical Group on Preparedness Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances

⁴ www.emsa.europa.eu

- ✓ Integrated ship traffic monitoring system using Sat-AIS and LRIT as the main streams of information
- ✓ Shore-based AIS and/or Satellite-based Vessel Monitoring System (VMS) data can be easily integrated if agreed by relevant Arctic countries
- ✓ •Search and Rescue (SAR) vessel detection can be added as an optional features
- ✓ •Satellite based oil spill monitoring via the CleanSeaNet (CSN – further information at: <http://www.emsa.europa.eu/operations/maritime-surveillance/safeseanet.html>) can be used for certain areas (subject to limitations imposed by the natural conditions in the area)

These services are already provided to various user communities and are therefore just a matter of adjusting to specific requirements of the Arctic users' needs.

Furthermore, EMSA is willing to develop hydro-meteorological information as an additional layer of the ship traffic information system; EU ICE-Monitoring system. Following a similar approach as in the case of CSN, EMSA can coordinate the ingestion, integration and correlation of Ice related information from existing providers (PolarView, MyOcean, ICEMAR, others) into a EU ICE-monitoring service.

The Meeting discussed the reports as submitted by the following countries on national vessel traffic and monitoring systems: Canada (further info at: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2010-127>), Finland, Greenland, Iceland, Norway and the United States.

Record of Decisions and Follow up Actions AMSA III(B)

- ✓ *PAME thanked Mr. Marin Chintoan-Uta from EMSA for his presentation on traffic monitoring and tracking systems.*
- ✓ *PAME requests each member government to submit a paper to PAME II-2012 on how other member governments may request access to data collected by their respective national vessel traffic monitoring and tracking systems.*
- ✓ *PAME agreed to explore how information expected to be contained in the HFO Phase II Report can be used to further work on the AMSA III(B) recommendation.*
- ✓ *PAME agreed to further explore how it might work with and benefit from the work of EMSA and similar organizations.*

2013 AMSA Progress Report

PAME agreed to update the status of the AMSA implementation progress in a similar manner to the 2011 AMSA Progress Report as per the PAME Work Plan 2011-2013. Such a progress report will be submitted to the 2013 Ministerial meeting.

This work was initiated during this Meeting and details on how to proceed was discussed in more details in the AMSA breakout group.

Record of Decisions and Follow up Actions on 2013 AMSA Progress Report

- ✓ *PAME agreed to prepare an AMSA progress report for submission to the 2013 Arctic Council Ministerial meeting*
- ✓ *PAME requests member governments to submit reports to PAME II-2012 on information to be included in the 2013 AMSA progress report.*
- ✓ *Canada, Finland and the USA agreed to co-lead the development of the 2013 AMSA progress report.*

Shipping projects for the PAME Work Plan period 2013-2015

The AMSA breakout group discussed longer range shipping projects for consideration and inclusion into the PAME 2013-2015 Work Plan.

Record of Decisions and Follow up Action on new shipping projects

- ✓ *PAME encourages member governments to submit proposals for shipping projects to PAME II-2012 for possible inclusion in PAME 2013-2015 work plan.*

Agenda Item 5: Follow up on the 2009 Offshore Oil and Gas Guidelines

The United States is the lead country on the following two projects which contribute to the follow up on the 2009 Offshore Oil and Gas Guidelines:

- ✓ Arctic Offshore Oil and Gas Management, Regulation and Enforcement a Legal Regime Web-Based Information Resource (MRE Project).
- ✓ Health, Safety and Environmental Management Systems and the Use of Best Operating Practices for Offshore Arctic Oil and Gas Drilling Activities (HSE Project)

MRE Project

The MRE project lead provided a summary of progress to date and informed the Meeting that the Oil and Gas Contact Group had made good progress in compiling and organizing the web-based informational resources. All countries have some websites and documents listed and linked under the various topical headings including:

- 1) Country Laws, Regulations, Notices, Rules, and Guidance and Management system documents
- 2) Science and Technical Reports
- 3) Strategic Environmental Assessments
- 4) Monitoring methods and results
- 5) Inspection/enforcement procedures and results
- 6) Accident and incident reporting
- 7) Statistics for discharge types and amounts, waste handling, etc.

Currently the PAME Secretariat is formatting the content and developing the website and the progress can be followed at the PAME web portal where a draft/prototype MRE is located in the protected area on the PAME homepage under "oil and gas MRE."

Work is underway to consolidate the major headings and roll-up the links into hyperlinks in an effort to streamline the information provided. Next steps are to add feedback windows for user comments, add graphics, add a search function and fill in the gaps.

Record of Decisions and Follow up Actions on the MRE Project

- ✓ *The Meeting welcomed the progress on the Arctic Oil and Gas Management, Regulation and Enforcement Regulatory Regime Web-Based Information Resource project (MRE Project) and further development of its website.*
- ✓ *PAME members are encouraged to review and verify the draft MRE document and provide additional links and information as per the categories identified on the MRE website by 10 May 2012 and provide comments to the website located in the password protected area on the PAME homepage under "MRE".*

- ✓ *The MRE website will be completed by the PAME II-2012 meeting and will be updated annually or as necessary.*

HSE Project

The HSE Project lead informed the Meeting that the initiation of this project would take place in an oil and gas breakout session during this Meeting with the discussion of the management systems in use and/or required by Arctic nations. A preliminary table has been prepared comparing certain elements of the HSE systems for the United States, Canada, Norway, and Greenland in addition to elements of the HSE Systems as addressed in the Arctic Offshore Oil and Gas Guidelines. This provides the basis for further comparison and analysis of common elements and differences in these systems which will be elaborated on with the aim to identifying gaps or special components for Arctic specific considerations.

The Oil and Gas contact group discussed the possible agenda items for the planned HSE Workshop to be convened in Iceland in June 2012 and noted the importance of coordinating efforts with EPPRs workshop on Best Practices for Prevention of Marine Pollution project (BP3 Project) which will be convened at same time and place.

EPPR informed that Meeting that contacts has been made with this project in relations to the BP3 project for collaborative efforts.

Russia noted that they would make efforts to submit information on HSE systems in the near future.

Record of Decisions and Follow up Actions on the HSE Project

- ✓ *The Meeting welcomed the initiation of the Health, Safety and Environmental Management Systems and the Use of Best Operating Practices for Offshore Arctic Oil and Gas Drilling Activities project (HSEMS Project).*
- ✓ *The oil and gas contact group will compile information on HSE Management Systems relevant to offshore oil and gas operations used by Arctic states and those contained in the 2009 Arctic Offshore Oil and Gas Guidelines. These systems will be compared and analysed with consideration of elements that could benefit from Arctic specific guidance.*
- ✓ *The Meeting welcomed the ongoing collaboration between PAME and the EPPR/RP3 project leads including the planned HSEMS/RP3 workshops to be held back-to-back in June 2012 in Reykjavik. The HSEMS workshop agenda to be developed in close cooperation with EPPR.*
- ✓ *The oil and gas contact group will develop a report on the HSE Management Systems and recommendations for possible further guidance for the 2013 Arctic Council Ministerial meeting.*

Agenda Item 6: Arctic Ocean Review Project (AOR)

The AOR co-leads informed the meeting that Phase II has started in accordance with the project's timeline. Following two lead authors have been confirmed: *Prof. Betsy Baker*, Vermont Law School, Expertise in UNCLOS, Arctic Law and Policy and *Bernie Funston*, Chairperson of the Canadian Polar Commission's Board of Directors, Expertise in legal, policy, and science matters for the Arctic. Furthermore, individual chapter authors have been secured. To date, the AOR co-leads have agreed to a Table of Content which includes 7 Chapters. The roles of both the lead and chapter authors have been confirmed as follows:

Executive Summary / Recommendations

Introduction

Chapter 1-Marine Living Resources (chapter authors: Ted McDorman, University of Victoria and Alison Reed, U.S. NOAA)

Chapter 2-Offshore Oil and Gas (Chapter author: Betsy Baker, Vermont Law School)

Chapter 3-Arctic Marine Operations and Shipping (Chapter author: Lawson Brigham, University of Alaska Fairbanks)

Chapter 4-Arctic Pollution (Chapter authors: Russel Shearer, Lars Otto, AMAP Working Group)

Chapter 5-Human Dimension (Chapter author: Henry Huntington, Science Director, PEW Environmental Group, SDWG Contributing Author(s))

Chapter 6-Arctic Marine Science (Chapter author: Bernie Funston, Canadian Polar Commission)

Chapter 7-Ecosystem Based Management (Chapter authors: Alf Hakon Hoel, University of Tromsø and Tom Laughlin, IUCN)

Upcoming events include an AOR Conference/Workshop to be convened in Canada in September 2012 back-to-back with the PAME II-2012 meeting. The AOR Report's Annotated Outline, Table of Contents and AOR Phase II project plan and timeline was distributed to participants prior to this Meeting.

Finland noted that some policy gaps could be coordinated with work on AMSA recommendations II(C) and II(D).

The United States (as one of the AOR co-leads) informed the Meeting that the draft of the AOR Report including its recommendations would be provided to SAOs in advance of their meeting in November 2012. Furthermore, the United States noted that there were a number of Arctic-related science groups which could better coordinate their respective work and contribute more directly to the application of ecosystem approach to management within different sectors. One possibility is to initiate some type of cooperative agreements/Memorandum of Understanding (MoUs) between the private and public sectors.

Sweden noted that they had not been very active in the AOR work to date but hoped to have the capacity to become more involved.

Russia noted that the application and use of maritime spatial planning should not be incorporated in the AOR project at this time but rather to be considered as a part of the AOR recommendations.

Greenland emphasized the benefits of linking gaps and challenges in the oil and gas sector.

ICC Canada emphasized their desire to work with the AOR chapter authors as relevant and the AOR co-leads and informed the Meeting of following report: *The Sea Ice is Our Highway An Inuit Perspective on Transportation in the Arctic*⁵.

China as one of the ad-hoc observers to the Arctic Council asked for guidance on how they can participate in the AOR project (and other projects as relevant) and if they can

⁵ http://psc.apl.washington.edu/HLD/ArcticChange11/20080423_iccamsa_finalpdfprint.pdf

have an access to project specific password protected areas that are considered work in progress. China's inquiries were sent to the Arctic Council Chairmanship for guidance and clarification.

Record of Decisions and Follow up Actions on the AOR Project

- ✓ *The Meeting welcomed the update provided on the status of the AOR Phase II project, including the annotated outline and table of contents as developed by lead authors in close collaboration with the AOR co-leads.*
- ✓ *The Meeting encouraged active outreach and consultations with the other Arctic Council working groups and experts as relevant on the thematic area outlines and abstracts.*
- ✓ *The AOR co-leads will convene an AOR workshop back-to-back with the next PAME II-2012 meeting with a similar structure to the previous AOR workshops and targeted with the appropriate experts. Details on the workshop agenda will be sent out by July 2012.*
- ✓ *The Meeting was reminded of the AOR Phase II Work Plan and PAME members were encouraged to provide inputs in a timely manner as per the key milestones in an effort to help facilitate the production of the report, noting in particular the need for PAME to ensure that SAOs are updated keeping in mind the final deadline for submission to the 2013 Ministerial meeting.*
- ✓ *CAFF informed the Meeting that they will contribute to the AOR project with particular input to the Chapter on Living Marine Resources. Discussions will continue with relevant working groups to ensure necessary input.*
- ✓ *The Meeting noted the importance of the Human Dimension component of the review and encouraged active consultations with SDWG and Permanent Participants in this regard.*

Agenda Item 7: Ecosystem Approach (EA)

The EA co-leads (Norway and USA) provided a summary of the main points from the Ecosystem Approach to Management (EA) Workshop which took place in Stockholm, from 22-23 March 2012.

The EA co-leads informed the Meeting that the PAME chair had sent a letter to the other Arctic Council working groups working on marine-related issues (AMAP, CAFF and SDWG) inviting them to participate in the PAME-led Ecosystem Approach (EA) Expert Group on the ecosystem approach to management. This is in line with the PAME Work Plan 2011-2013 where increased emphasis on the ecosystem approach to management is recognized as the foundation of the Arctic Councils' work and the essential need to apply the ecosystem approach to manage Arctic marine-related issues.

The co-leads informed the Meeting that the Terms of Reference and the work plan of the EA Expert Group had been updated to reflect its expansion and 2011-2013 work plan items, taking into account the Arctic Council Ecosystem Expert group activities.

Norway as one of the EA co-leads prepared and submitted a draft concept paper that summarized previous discussions and agreements on concepts and terminology related to ecosystem approach to management. This concept paper was circulated to the EA workshop participants for their comments and an updated version of the concept paper will be presented to PAME II-2012 meeting. The concept paper will be used to prepare a short brochure on the EA which will also be submitted for consideration and agreement at the PAME II-2012 meeting.

The co-leads have been working on revising the LME map and will submit the final map including a supporting text to the PAME II-2012 meeting for approval. The work program for the EA co-leads and the PAME-led EA expert group for the 2012-2013 period include the following activities:

- ✓ Complete revision of Arctic LME map
- ✓ Inventory of 'ecosystem status reports'
- ✓ Integration of monitoring and assessment
 - Work with AMAP, CAFF and SDWG
 - ACA – linking LME and Pan-Arctic scales
 - Data issue – availability, access, management, portals – ICES, PICES
- ✓ Ecological objectives will be addressed in 2013
- ✓ Contribute to the updating of the Arctic Marine Strategic Plan (AMSP) as relevant

The United States informed the Meeting of the ongoing work of the Arctic Council's Ecosystem-based Management (EBM) Experts Group and emphasized that the work of this group is to address both terrestrial and marine ecosystems with the aim to get higher political endorsement of EBM in the work of the Arctic Council in addition to applying EBM as the working model of how to approach regional developments. The PAME-led Expert Group is working at a more of an operational level i.e. on ways to make this approach real in the Arctic marine environment by designing frameworks, mechanisms and tools for an ecosystem approach to management. Hence both groups do complement each other.

Sweden informed the Meeting that the EU Marine Strategy Framework Directive may have some information on scaling issues when addressing ecosystem-based approach to marine management.

IUCN noted that the EA concept paper would benefit the work of the EBM Expert Group.

Record of Decisions and Follow up Actions on the EA Activities

- ✓ *The Meeting welcomed the summary of the main points highlighted from the Workshop on Ecosystem Approach to Management (EA Workshop) that took place in Stockholm 22-23 March and look forward to receiving the final EA Workshop Report.*
- ✓ *The Meeting agreed to revised Terms of Reference and the work plan of the new PAME-led EA Expert Group to reflect its expansion and 2011-2013 work plan items, taking into account the Arctic Council Ecosystem Expert group activities (as a separate document)*
- ✓ *The Meeting noted that the draft concept paper has been developed (version 20 March 2012) and agreed to circulate it to the EA Workshop participants and EA Expert Group members for comments by 1st of May 2012. Updated version of the concept paper to be presented to PAME II-2012 meeting for approval.*
- ✓ *The Meeting agreed that the draft concept paper will be forwarded to the Arctic Council EbM expert group for their use.*
- ✓ *The Meeting agreed that the draft concept paper will be used to prepare a short brochure on the EA. Draft brochure will be submitted for consideration and agreement at the PAME II-2012 meeting.*

- ✓ *The Meeting requested the co-leads to submit the revised LME map and supporting text to the PAME II-2012 meeting.*
- ✓ *The Meeting noted that an expert workshop will be held in Fall 2012 to discuss data management, availability, integration, and communications as essential to implement the ecosystem approach to management.*
- ✓ *The Meeting supported that the LME should be pursued as the appropriate and primary unit for applying the ecosystem approach to management of the marine environment recognizing that it accommodates management at other spatial scales.*

Agenda item 8: Update the status of the Arctic Marine Strategic Plan (AMSP)

The co-leads (Norway and USA) provided a summary of the rationale for updating the AMSP since its adoption in 2004. The Arctic Marine Environment has been, and will continue to be subject to increasing pressures from climate change, economic activities, and pollution. Most of the strategic actions in the AMSP 2004 have been or are in the process of being completed.

The update of the AMSP will provide a platform for more coordinated and integrated actions and can support decision making at international, regional, national and local levels. The update will also respond to commitments by the global community to sustainable development and protection of marine biodiversity and environment through the application of the ecosystem approach and integrated coastal and ocean management

Project proposal for updating AMSP was approved at PAME I-2011 and one of the tasks of the PAME led EA Expert Group was to contribute input to the development of AMSP Phase I Scoping process as relevant. The co-leads emphasized that the updating of AMSP should be considered a stand-alone activity. In the original project document the update was planned as a two step approach but the co-leads are considering merging the work into one phase in an effort to better align the process with other relevant Arctic Council products and follow-up recommendations that can feed into the update of the AMSP.

Below is a tentative timeline for updating AMSP as proposed by the co-leads:

22-23 March 2012	Ecosystem Approach Workshop	Initial input to the AMSP update
26-27 March 2012	PAME I-2012	Presentation of status and tentative timeline
April – August 2012	Intersessional work	Co-leads to expand on process, approach and timeline (updated project documents) + initial information to other AC working groups
September 2012	PAME II-2012	Approval of updated project documents
October 2012 – March/April 2013	Intersessional work	Outreach to other AC working groups etc
	Scoping workshop	Input to the update from AC working groups etc

Spring 2013 – March 2015		Main development stage
May 2015	Ministerial Meeting	Presentation of AMSP 2015

Record of Decisions and Follow up Actions on the Update of AMSP

- ✓ *The Meeting noted the summary of status and proposed next steps on the proposed updating process of the AMSP by the co-leads and noted that this work would mainly be done as a stand-alone PAME activity in conjunction with the other Arctic Council working groups and with specific inputs from the PAME-led EA expert group.*
- ✓ *The Meeting agreed on the importance of the need to ensure a consultative process with other Arctic Council working groups, PPs and observers as work proceeds. Furthermore, the co-leads noted direct relevance to a number of deliverables for the 2013 Arctic Council that should be taken into account in this work and the need to adjust the timeline to ensure that full account is taken of such inputs.*
- ✓ *The Meeting took a note of the tentative timeline (Annex II) with the proposed next steps to include an intersessional work from April-August 2012 with the aim to expand on process, approach and timeline and initiate the communication and collaboration with other Arctic Council working groups.*
- ✓ *PAME requested member governments and other Arctic Council working groups to nominate experts to serve as co-leads or contact group members by 1 May 2012.*
- ✓ *The Meeting requested the co-leads to submit an updated project document for the PAME II-2012 meeting for approval.*

Agenda item 10: PAME Administration Next Meeting

Canada announced the hosting of the next PAME meeting (PAME II-2012) in the fall of 2012 and that details on logistics would be sent to PAME in due time.

Record of Decisions and Follow up Actions

- ✓ *Invite PAME delegations to include IMO, oil and gas, and ecosystem experts in their delegations to the PAME II-2012 meeting.*
- ✓ *To encourage member governments and Permanent Participants to develop project proposals and to submit no less than 30 days prior to the PAME II-2012 for possible inclusion in the 2013-2015 PAME work plan.*
- ✓ *PAME Chair to present status and progress on the AMSA follow-up activities and other projects as relevant to the upcoming SAO meeting 28-29 March 2012.*
- ✓ *The location of the next PAME Meeting will be in Canada, timing and venue to be determined.*
- ✓ *Finland will consider the hosting of a PAME meeting during 2013.*

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<i>EMSA (invited speaker)</i>	<i>International Group of P&I Clubs (inv. speaker)</i>
<p><u>Marin Chintoan-Uta</u> Head of Unit Satellite Based Monitoring Services European Maritime Safety Agency (EMSA) Cais do Sodré 1249-206 Lisbon, Portugal</p> <p>Email: Marin.CHINTOAN-UTA@emsa.europa.eu</p>	<p><u>Mr. David Bolomini</u> International Group of P&I Clubs Peek House 20 Eastcheap London, UK</p> <p>Email: David.Bolomini@internationalgroup.org.uk</p>



ANNEX II – LIST OF DOCUMENTS

Agenda Item 2 – Introduction and Adoption of the Agenda

- ✓ Revised draft Agenda with timeline version 29 Feb 2012

Agenda Item 3 – Information from the Chair and Secretariat

Agenda item 3.1 – Nuuk Ministerial and SAO Report to Ministers

- ✓ SAO Meeting Report 8-9 Nov 2011

Agenda Item 3.4 – GPA/Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

Agenda Item 4– Arctic Marine Shipping Assessment follow-up activities

Agenda Item 4.1 (a) US Report on Status of the Polar Code

Agenda Item 4.1 (c) US Report on Passenger Ship Safety

Agenda Item 4.1 (c) Reference Document IMO MEPC 1-Circ 779 re Titanic

Agenda Item 4.2 – AMSA I(A), Status Report on Arctic Regional Hydrographic Commission (ARHC) activities by US

Agenda Item 4.2 – AMSA I(A), ARHCC Marine Traffic in the Arctic 2011

Agenda Item 4.2 – AMSA I(A), Final ARHC2 summary of actions

Agenda Item 4.2 – AMSA I(A), Report of the 2nd meeting of the ARHC Sep 2011

Agenda Item 4.3 - AMSA I(B) HFO Phase II Annotation

Agenda Item 4.4 AMSA II(A) Development of an Arctic Indigenous Marine Use Survey Process (AIMUS final version 12 Sep 2011)

Agenda Item 4.4 AMSA II(A) AIMUS Status Report

Agenda Item 4.4 information documents

- SDWG cover letter Inuit Response to AMSA (Jan 2012)
- SDWG Inuit Response to AMSA project proposal (Jan 2012)

Agenda Item 4.5 AMSA II(C) letter to PAME Chair

Agenda Item 4.5 AMSA II(C) Progress Report March 2012

Agenda Item 4.5 AMSA II(C) Draft Report

Agenda Item 4.6 (a) annotation to AMSA II(D) PSSA

Agenda Item 4.6 (b) US Report on Waste Reception Facilities with annex

Agenda Item 4.6 (b) Annex to PRF

Agenda Item 4.9 (b) Canada Vessel Tracking Services and the following link which refers to the reporting regulation that supports the tracking of vessels <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2010-127>

Agenda Item 4.9 (b) Finland Report on Vessel Tracking Systems

Agenda Item 4.9 (b) Greenland Report on Vessel Tracking Systems

Agenda Item 4.9 (b) Iceland Report on Vessel Tracking Systems

Agenda Item 4.9 (b) Norway Report on Traffic Awareness Systems

Agenda Item 4.9 (b) US Report on Vessel Tracking Systems

Agenda Item 4.9 (a) Links to information documents for the EMSA presentation:

<http://www.emsa.europa.eu/operations/maritime-surveillance/safeseanet.html> (for SSN)

<http://www.emsa.europa.eu/operations/maritime-surveillance/lrit.html> (for EU LRIT DC)

Background Documents – AMSA follow-up:

- ✓ AMSA follow-up Matrix on implementation status
- ✓ Status on Implementation of the AMSA 2009 Report, Recommendations, May 2011

Agenda Item 5 - Follow up on the Arctic Offshore Oil and Gas Guidelines (2009)

Agenda Item 5.1 – MRE Project

- Summary progress on MRE project
- 1st draft of the web-based MRE project

Agenda Item 5.2 – HSE Project

- Summary progress on HSE project
- HSE Management Systems Summary
- HSE Management Systems Table
- HSE Elements – Arctic Considerations
- HSE draft workshop agenda

Background documents:

- ✓ *Arctic Oil and Gas, 2007 Recommendation Matrix for follow-up*

Agenda Item 6 – Arctic Ocean Review (AOR) Project

- ✓ Annotation to AOR agenda
- ✓ AOR Table of Contents
- ✓ AOR Annotated Outline
- ✓ AOR Phase II Project Plan and Timeline

Background documents:

- ✓ AOR Phase I Report

Agenda Item 7 – Ecosystem Approach

Background documents:

- ✓ Ecosystem Workshop Report 22-23 of January (Tromso, Norway)

Agenda Item 8 – Update on the Arctic Marine Strategic Plan (AMSP)

Background documents:

- ✓ Implementation status of AMSP
- ✓ 2004 Arctic Marine Strategic Plan (AMSP)

Additional Information

- ✓ PAME Operating Guidelines

- ✓ Nuuk 2011 Ministerial Declaration
- ✓ PAME Work Plan 2011-2013
- ✓ PAME II-2011 RoDs
- ✓ List of nominated experts for PAME projects (Feb 2012)
- ✓ PAME Progress Report to SAOs 28-29 March 2012



ANNEX III – AGENDA

MONDAY, March 26

09:00-09:30

Item 1: Opening of the Meeting

Item 2: Introduction and Adoption of the Agenda (PAME Chair)

Item 3: Information from the Chair and the Secretariat

- 3.1 Outcome from the SAO meeting 8-9 Nov 2011 (PAME Chair/vice-Chair)
- 3.2 Arctic Change Assessment – status (Russel Shearer, AMAP Chair) – Tuesday morning
- 3.3 Arctic Resilience Report – status (Annika Nilsson, Sweden) – Tuesday morning
- 3.4 Summary outcomes from the GPA IGR-3 meeting (Sesselja Bjarnadottir, Iceland)

09:30-14:00

Item 4: Arctic Marine Shipping Assessment follow-up activities

I. Enhanced Arctic Maritime Safety

- 4.1 AMSA I(B) and I(D) – IMO Polar Code and initiatives to improve Arctic passenger Ship safety (Denmark/USA)
 - a) *IMO developments on mandatory Polar Code (update by USA)*
 - b) *Presentation by the shipping insurance industry on factors that go into setting insurance premiums for Arctic cruises (David Bolomini, International Group of P&I Clubs)*
 - c) *Arctic Passenger Ship Safety-follow-up and developments (USA)*
- Discussions and next steps*

- 4.2 AMSA I(A) – Update and Status on Activities of Other International Organizations

Presentation on Arctic Regional Hydrographic Commission (ARHC) activities (USA)

- 4.3 AMSA I(B) – Heavy Fuel Oil in The Arctic (HFO) Phase II (Norway/Russia/US)

- ✓ *The layout of the HFO Phase II Study: Presentation for discussion by Norway*
- ✓ *Discussions of possible international actions regarding HFO in the Arctic*
- ✓ *Agreement on next steps*

II. Protecting Arctic People and the Environment

- 4.4 AMSA II(A) – Survey of Arctic Indigenous Marine Use: Update on activities by AIA and Saami Council

Update/status by AIA/Saami Council

4.5 AMSA II(C) – Areas of Heightened Ecological and Cultural Significance (AMAP/CAFF/SDWG)

✓ *Presentation on the AMSA II(C) report*

✓ *Discussions, next steps and linkages with the implementation of II (D)*

4.6 AMSA II(D) – Specially Designated Arctic Marine Areas (Finland/Norway/Russia/US)

a) *Report from the AMSA II(D) Contact Group (Norway)*

b) *Report on Ship Waste Reception Facilities in the Arctic (USA)*

c) *Presentation on proposal by the Swedish Chairmanship for a workshop on “identifying areas of ecologically and biologically significant areas” (Bertil Hakansson/Sweden)*

Discussions and next steps

4.7 AMSA II(F) – Oil Spill Prevention

EPPR to provide update

III. Building the Arctic Marine Infrastructure

4.8 AMSA III (C) – Circumpolar Environmental Response Capacity

EPPR to provide update

4.9 AMSA III (B) – Arctic Marine Traffic Systems

a) *Presentation on Automated Identification System (AIS), Long Range Identification and Tracking of ships (LRIT) and/or similar ones that may be deployed by Arctic countries (Marin Chintoan-Uta, Head of Unit, Satellite Based Monitoring Service, EMSA)*

b) *Brief Discussion of Reports submitted on national vessel traffic and monitoring systems*

Breakout Session for AMSA follow-up activities from 14:00-17:00 parallel with plenary to finalize relevant documents and prepare draft RoDs for further discussion and agreement under Agenda Item 9. AMSA breakout session co-chaired by: Peter Oppenheimer (USA) and Jens Henning (Norway).

14:00-15:00

Item 5: Follow up on the 2009 Arctic Offshore Oil and Gas Guidelines (OOGG) and OGA - USA

5.1 Arctic Oil and Gas Management, Regulation and Enforcement a Legal Regime Web-Based Information Resource (MRE Project)

Update by lead on information received, way forward and links with the HSE project

5.2 Health, Safety and Environmental Management Systems and the Use of Best Operating Practices for Offshore Arctic Oil and Gas Drilling Activities (HSE Project)

Update by lead on way forward, including planned HSE workshop

15:15-16:00

Item 6: Arctic Ocean Review Project (Canada/Norway/Iceland/Russia/USA)

✓ *Presentation and summary of status of the AOR Phase II work*

- ✓ *Comments on draft AOR outline as per the AOR Phase II Work Plan*
- ✓ *Discussions and next steps (RoDs)*

16:00-17:00

Item 7: Ecosystem Approach (Norway/USA)

- ✓ *Summary of outcomes from the EA Workshop (22-23 March 2012) and report on progress and implementation as per the EA Work Plan 2011-2013 (leads)*
- ✓ *Information on the Arctic Council EBM Expert Group (USA)*
- ✓ *Discussions and next steps (RoDs)*

Item 8: Update the status of the Arctic Marine Strategic Plan (Norway/USA)

- ✓ *Proposed scoping process as per PAME Work Plan 2011-2013 (Annex 6)*
- ✓ *Discussions and next steps (RoDs)*

RECEPTION

TUESDAY, March 27

09:00-11:30

Continue Item 3

- 3.1 Arctic Change Assessment – status (Russel Shearer, AMAP Chair)
- 3.2 Arctic Resilience Report – status (Annika Nilsson, Sweden)

Item 9: Address any outstanding issues from previous day

- ✓ *Agenda Item 4 - AMSA follow-up activities*
- ✓ *Agenda Item 5 - OOGG and OGA follow-up*
- ✓ *Agenda Item 6 - AOR Project*
- ✓ *Agenda Item 7 - Ecosystem Approach*
- ✓ *Agenda Item 8 - AMSP Update*

11:30-13:00 – break for PAME Chair and Secretary to prepare draft RoDs

13:00-16:00/17:00

Item 10: Summary of Meeting Decisions and Follow up Actions (Chair & Secretariat)

- ✓ *The PAME Progress Report and deliverables to the SAO meeting 28-29 March 2012 (Chair)*
- ✓ *Main Records of Decisions from the meeting (Chair)*
- ✓ *Next PAME meeting (proposed timing Sep/Oct 2012 and location TBD)*

Item 11: Any other business and closing of the Meeting

End of PAME I-2012 Meeting at 16:00/17:00 on the 27th of March

ANNEX IV – RECORD OF DECISIONS AND FOLLOW-UP ACTIONS

Information from the Chair and Secretariat (Agenda Item 3)

- *The Meeting noted the information on the main outcomes of the GPA Intergovernmental Review Meeting (IGR 3) which was held Manila, the Philippines in January 2012 and outlines that nutrients, marine litter and wastewater management will be the priorities for the GPA Coordination Office during the period 2012-2016.*
- *The Meeting thanked Russel Shearer AMAP Chair for the summary status of the ACA project proposal and Annika Nilsson/Sweden for the summary status of the Arctic Resilience Report, and expressed desire to participate in the work of these projects with regard to their clear linkages with the PAME work and mandate.*

Arctic Marine Shipping Assessment follow-up activities (Agenda Item 4)

AMSA I(A) – Linking with International Organizations:

- *PAME requested member governments to analyze the Arctic-relevant activities of International Mobile Satellite Organization (IMSO) and World Meteorological Organization (WMO) and present summary reports to PAME-II 2012. Canada agreed to prepare a report on the work of WMO, and USA agreed to prepare a report on the work of IMSO.*

AMSA I(B) - Polar Code:

- *PAME continues to support the expeditious development of the Polar Code, noting the extension of the proposed completion date to 2014, and invites all PAME member governments to ensure that their IMO delegations have all relevant scientific environmental data, in particularly AMSA (IIC) data, and technical information available for their consideration.*
- *PAME agrees that the environmental chapter is an essential part of the Polar Code and notes the importance of the chapter's timely completion and the significance of PAME's work in this regard.*
- *PAME invites permanent participants, observers, and other interested parties to timely share with their member government IMO representatives any data that will aid in the further development of the Polar Code.*

AMSA I(B) - HFO Phase II Project (co-leads: Norway/Russia/US):

- *PAME was unable to reach consensus on the inclusion in the HFO Phase II analysis of a ban on the use of HFO in the Arctic. PAME agreed that the ban on carriage of HFO as cargo would not be included in the analysis.*
- *PAME agreed that the project co-leads and the contact group are to resume work on the project intersessionally and submit a progress report to PAME II-2012.*
- *PAME agreed that co-leads are to continue to explore opportunities to use the information collected within the HFO study to be accessible in the www.arcticdata.is database.*

AMSA I(D) - Strengthening Passenger Ship Safety

- *PAME thanked Mr. David Bolomini (International P & I Group) for his presentation on marine insurance.*

AMSA II(A) – Survey of Arctic Indigenous Marine Use

- *PAME encouraged AIA and Saami Council to further explore possible collaborations with the ICC project on “Circumpolar Wide Inuit Response to AMSA” as it relates to further developments of the AIA/Saami Council scoping paper on Survey of Arctic Indigenous Marine Use.*

AMSA II (C) – Areas of Heightened Ecological and Cultural Significance (AMAP/CAFF/SDWG)

- *PAME thanked the CAFF and AMAP Working Groups for developing the ecological component of the AMSA II (C) report, and look forward to the completion of both the ecological and cultural components.*
- *PAME member governments are invited to share the AMSA II(C) report with their respective national experts for review by 20 April 2012 and more broadly when published, especially IMO delegations.*

AMSA II (D) – Specially Designated Arctic Marine Areas (Co-leads: Finland / Norway / Russia / USA)

- *PAME encourages the advancement of the AMSA II(D) project, including based on the finalization of the ecological component of AMSA II (C), and stresses the importance of completing the cultural component of AMSA II(C) as soon as possible.*
- *PAME noted that it would likely not be able to submit a final AMSA II(D) report to the 2013 Arctic Council Ministerial meeting due to delays in the completion of the AMSA II(C) report, and would provide a status report on the AMSA II(D) project to the 2013 Arctic Council Ministerial meeting.*
- *PAME thanked Captain David A. Condino (USA) for his presentation on port waste reception facilities in the Arctic region.*
- *PAME reaffirmed that the geographical focus of the AMSA II(D) project is on areas beyond national jurisdiction/high seas areas of the Arctic Ocean.*
- *PAME member governments are encouraged to consider and make use of information in the AMSA II(C) report regarding marine areas within national jurisdiction.*
- *PAME decided that the co-leads of the AMSA II (D) project are to further develop the project work plan and Terms of Reference intersessionally, and to share those revised documents with the contact group by 1 June 2012.*
- *PAME requests member governments to submit to PAME II-2012 information on current and projected shipping traffic in the high seas areas of the Arctic Ocean.*
- *PAME invites EPPR to submit to PAME II-2012 meeting information on shipping incidents in the Arctic, in particular incidents that result in oil pollution of the marine environment.*
- *PAME requests member governments to submit information to PAME II-2012 regarding shipping incidents that resulted in pollution of the marine environment other than oil spills in the high seas areas of the Arctic Ocean.*
- *PAME requests the co-leads of the AMSA II (D) project to submit to PAME II-2012 a report that summarizes available IMO measures and tools regarding special areas, routing measures and PSSAs for protecting the marine environment from the threats of international shipping.*

- *PAME Secretariat to invite an expert from the IMO to give a presentation on relevant IMO measures and tools to PAME II-2012 in coordination with the co-leads.*
- *PAME encourages the member governments to regularly check and as necessary and appropriate update information on their port waste reception facilities in the Arctic region in IMO's GISIS database.*
- *PAME invites member governments to submit reports to PAME II-2012 on how they select the ports for which they upload information to IMO's GISIS database.*
- *Sweden will share with PAME before the PAME II-2012 meeting a concept paper on the Swedish ideas to support a process towards the identification of marine ecological and biological significant areas (EBSAs).*

AMSA III (B) – Arctic Marine Traffic Systems

- *PAME thanked Mr. Marin Chintoan-Uta from EMSA for his presentation on traffic monitoring and tracking systems.*
- *PAME requests each member government to submit a paper to PAME II-2012 on how other member governments may request access to data collected by their respective national vessel traffic monitoring and tracking systems.*
- *PAME agreed to explore how information expected to be contained in the HFO Phase II Report can be used to further work on the AMSA III(B) recommendation.*
- *PAME agreed to further explore how it might work with and benefit from the work of EMSA and similar organizations.*

AMSA III (C) – Circumpolar Environmental Response Capacity

- *PAME welcomed the information from the Russian Federation on enhancing SAR and response capacity in the Arctic region*
- *PAME welcomed the information from EPPR on their follow-up activities on AMSA Recommendations II(F) and III(C) and encourage continued cooperation with EPPR, in particular on the Recommended Practices Prevention Project (RP3) and invite EPPR to inform on progress to PAME II-2012.*

2013 AMSA Progress Report

- *PAME agreed to prepare an AMSA progress report for submission to the 2013 Arctic Council Ministerial meeting*
- *PAME requests member governments to submit reports to PAME II-2012 on information to be included in the 2013 AMSA progress report.*
- *Canada, Finland and the USA agreed to co-lead the development of the 2013 AMSA progress report.*

Longer range shipping projects for PAME 2013-2014 Work Plan.

- *PAME encourages member governments to submit proposals for shipping projects to PAME II-2012 for possible inclusion in PAME 2013-2014 work plan.*

Follow up on the 2009 Offshore Oil and Gas Guidelines (Agenda Item 5)

MRE Project

- *The Meeting welcomed the progress on the Arctic Oil and Gas Management, Regulation and Enforcement Regulatory Regime Web-Based Information Resource project (MRE Project) and further development of its website.*
- *PAME members are encouraged to review and verify the draft MRE document and provide additional links and information as per the categories identified on the MRE website by 10 May 2012 and provide comments to the website located in the password protected area on the PAME homepage under “MRE”.*
- *The MRE website will be completed by the PAME II-2012 meeting and will be updated annually or as necessary.*

HSE Project

- *The Meeting welcomed the initiation of the Health, Safety and Environmental Management Systems and the Use of Best Operating Practices for Offshore Arctic Oil and Gas Drilling Activities project (HSEMS Project).*
- *The oil and gas contact group will compile information on HSE Management Systems relevant to offshore oil and gas operations used by Arctic states and those contained in the 2009 Arctic Offshore Oil and Gas Guidelines. These systems will be compared and analysed with consideration of elements that could benefit from Arctic specific guidance.*
- *The Meeting welcomed the ongoing collaboration between PAME and the EPPR/RP3 project leads including the planned HSEMS/RP3 workshops to be held back-to-back in June 2012 in Reykjavik. The HSEMS workshop agenda to be developed in close cooperation with EPPR.*
- *The oil and gas contact group will develop a report on the HSE Management Systems and recommendations for possible further guidance for the 2013 Arctic Council Ministerial meeting.*

Arctic Ocean Review Project (AOR) (Agenda Item 6, co-leads: Canada / Norway / Iceland / Russia / US)

- *The Meeting welcomed the update provided on the status of the AOR Phase II project, including the annotated outline and table of contents as developed by lead authors in close collaboration with the AOR co-leads.*
- *The Meeting encouraged active outreach and consultations with the other Arctic Council working groups and experts as relevant on the thematic area outlines and abstracts.*
- *The AOR co-leads will convene an AOR workshop back-to-back with the next PAME II-2012 meeting with a similar structure to the previous AOR workshops and targeted with the appropriate experts. Details on the workshop agenda will be sent out by July 2012.*
- *The Meeting was reminded of the AOR Phase II Work Plan and PAME members were encouraged to provide inputs in a timely manner as per the key milestones in an effort to help facilitate the production of the report, noting in particular the need for PAME to ensure that SAOs are updated keeping in mind the final deadline for submission to the 2013 Ministerial meeting.*

- *CAFF informed the Meeting that they will contribute to the AOR project with particular input to the Chapter on Living Marine Resources. Discussions will continue with relevant working groups to ensure necessary input.*
- *The Meeting noted the importance of the Human Dimension component of the review and encouraged active consultations with SDWG and Permanent Participants in this regard.*

Ecosystem Approach (Agenda Item 7, co-leads: Norway/USA)

- *The Meeting welcomed the summary of the main points highlighted from the Workshop on Ecosystem Approach to Management (EA Workshop) that took place in Stockholm 22-23 March and look forward to receiving the final EA Workshop Report.*
- *The Meeting agreed to revised Terms of Reference and the work plan of the new PAME-led EA Expert Group to reflect its expansion and 2011-2013 work plan items, taking into account the Arctic Council Ecosystem Expert group activities (Annex I)*
- *The Meeting noted that the draft concept paper has been developed (version 20 March 2012) and agreed to circulate it to the EA Workshop participants and EA Expert Group members for comments by 1st of May 2012. Updated version of the concept paper to be presented to PAME II-2012 meeting for approval.*
- *The Meeting agreed that the draft concept paper will be forwarded to the Arctic Council EbM expert group for their use.*
- *The Meeting agreed that the draft concept paper will be used to prepare a short brochure on the EA. Draft brochure will be submitted for consideration and agreement at the PAME II-2012 meeting.*
- *The Meeting requested the co-leads to submit the revised LME map and supporting text to the PAME II-2012 meeting.*
- *The Meeting noted that an expert workshop will be held in Fall 2012 to discuss data management, availability, integration, and communications as essential to implement the ecosystem approach to management.*
- *The Meeting supported that the LME should be pursued as the appropriate and primary unit for applying the ecosystem approach to management of the marine environment recognizing that it accommodates management at other spatial scales.*

Update the status of the Arctic Marine Strategic Plan (Agenda Item 8, co-leads: Norway/USA)

- *The Meeting noted the summary of status and proposed next steps on the proposed updating process of the AMSP by the co-leads and noted that this work would mainly be done as a stand-alone PAME activity in conjunction with the other Arctic Council working groups and with specific inputs from the PAME-led EA expert group.*
- *The Meeting agreed on the importance of the need to ensure a consultative process with other Arctic Council working groups, PPs and observers as work proceeds. Furthermore, the co-leads noted direct relevance to a number of deliverables for the 2013 Arctic Council that should be taken into account in this work and the need to adjust the timeline to ensure that full account is taken of such inputs.*
- *The Meeting took a note of the tentative timeline (Annex II) with the proposed next steps to include an intersessional work from April-August 2012 with the aim to to expand on process, approach and timeline and initiate the communication and collaboration with other Arctic Council working groups.*

- *PAME requested member governments and other Arctic Council working groups to nominate experts to serve as co-leads or contact group members by 1 May 2012.*
- *The Meeting requested the co-leads to submit an updated project document for the PAME II-2012 meeting for approval.*

PAME Administration Next Meeting (Agenda Item 10)

- *Invite PAME delegations to include IMO, oil and gas, and ecosystem experts in their delegations to the PAME II-2012 meeting.*
- *To encourage member governments and Permanent Participants to develop project proposals and to submit no less than 30 days prior to the PAME II-2012 for possible inclusion in the 2013-2015 PAME work plan.*
- *PAME Chair to present status and progress on the AMSA follow-up activities and other projects as relevant to the upcoming SAO meeting 28-29 March 2012.*
- *The location of the next PAME Meeting will be in Canada, timing and venue to be determined.*
- *Finland will consider the hosting of a PAME meeting during 2013.*



ANNEX V – AMSA I(D) Strengthening Passenger Ship Safety in Arctic Waters by USA

AMSA Recommendation I(D) provides that:

That Arctic states should. . . strongly encourage cruise ship operators to develop, implement and share their own best practices for operating in [the remote and cold Arctic region], including consideration of measures such as timing voyages so that other ships are within rescue distance in case of emergency.

To advance implementation of this recommendation, representatives of member governments, permanent participants and observers at PAME II-2011 participated in a break-out session to discuss a range of shipping issues, including passenger ship safety.

The break-out meeting and subsequent plenary discussions on passenger ship safety resulted in the adoption of three decisions (RODs). These were:

- *Strongly encourage the cruise ship industry to augment existing and/or develop new best practices for operations in the Arctic to enhance safety and environmental protection.*
- *Instruct PAME Secretariat to liaise with the EPPR regarding Automated Mutual Assistance Vessel Rescue System (AMVERS) and its potential use in the Arctic for cruise ships to voluntarily report their locations and use it in voyage planning, and to report back to PAME.*
- *To the extent that pollution prevention and passenger ship safety are linked, invite EPPR to inform PAME I-2012 on how their work could help to support implementation of AMSA Recommendation I(D).*
- *Direct the PAME Chair/Secretariat to invite a member of the shipping insurance industry to make a presentation at PAME-I 2012 on factors that go into setting insurance premiums for Arctic cruises.*

Follow-up and Developments

Voyage Planning: After conducting additional research, the United States ascertained that the vessel traffic monitoring and reporting systems, such as automatic identification of ships (AIS) and long range identification and tracking (LRIT) are likely to be of greater utility than AMVERS for PAME's interests due to the greater frequency with which ships report under the former systems.

Shipping Insurance: The PAME Secretariat extended a speaking invitation on 8 February 2012 to Mr. David Bolomini of the International Group of P&I Clubs to provide PAME members with a better understanding of the positive role marine insurance can play in helping to strengthen ship safety and environmental protection in the Arctic, including developments, trends and directions in the marine insurance industry since issuance of the 2009 AMSA Report and the industry's perspective on what types of information it uses, and needs, to set insurance rates for Arctic shipping

MS Costa Concordia Aftermath: The tragic sinking on 13 January 2012 of the ultra-modern, \$570 million MS *Costa Concordia*, the largest Italian cruise ship ever built, has drawn renewed attention to passenger ship safety at the IMO and elsewhere. Carrying 3,229 passengers and 1,023 crew, this 114,137 GT vessel struck a rock in the Tyrrhenian Sea just off the shore of Isola del Giglio near the western coast of Italy. The impact tore a 160-foot long gash in her hull. With water flooding in and listing, the ship drifted back to

Giglio Island where she grounded, lying on her side in shallow water. At least 25 passengers and crew have been confirmed dead. While the IMO has affirmed that it is the competent international body to regulate passenger ship safety and deal with the safety debate after the MS *Costa Concordia* accident,⁶ PAME may be able to provide important information to the IMO to assist it in that regard. PAME may also wish to explore other options for addressing the potential environmental impacts of Arctic cruise tourism, listed below under recommendations.

Recommendations

- First and foremost, the U.S. recommends that PAME continue to monitor and support wherever possible development of the IMO Polar Code.
- In light of the renewed attention to passenger ship safety resulting from the MS *Costa Concordia* tragedy and based on the forthcoming AMSA II(C) Report, the U.S. recommends that PAME member governments use the AMSA II(D) process as well as their own national processes as appropriate to identify areas where a passenger ship incident could have a significant adverse impact on an area of heightened ecological or cultural sensitivity. If areas particularly sensitive to a shipping incident are identified, PAME could consider asking the IMO to issue a non-binding circular recommending that passenger ships voluntarily stay out of these areas, or exercise extreme caution when navigating through them. Precedent for this approach exists.⁷ This process could occur more quickly than a formal request for IMO designation of areas to be avoided or other ship routing measures, thus helping to mitigate risks sooner. PAME member governments may also decide that seeking only a non-binding IMO circular is sufficient to secure adequate protections. In addition to, or as an alternative, PAME member governments could directly approach passenger vessel industry associations - such as the Cruise Lines International Association (CLIA) and the Association of Arctic Expedition Cruise Operators (AECO) - to request that they voluntarily refrain from navigating in areas where the risk of an incident that may adversely affect an area of heightened ecological or cultural significance is greater.
- The U.S. recommends that PAME consider developing tourism site visit guidelines for cruise ship passengers, in cooperation with other Arctic Council Working Groups, Arctic Council observers, and the cruise ship industry. The Antarctic Treaty Consultative Parties have adopted over 30 measures, decisions, and resolutions related to tourism since 1966. See http://www.ats.aq/devAS/info_measures_list.aspx?lang-e and search on “tourism”). They measures, decisions and resolutions are under continual review and continue to be updated and refined to mitigate the potential adverse environmental impacts of cruise ship tourists. The Antarctic Treaty Consultative Parties are currently developing a multi-year strategic work plan that is

⁶ IMO Press Release, *IMO Secretary-General Says that IMO is Right Body to Deal with Safety Debate After Costa Concordia* (30 January 2012) (available at <http://www.imo.org/MediaCentre/PressBriefings/Pages/04-passengership.aspx>). The press release notes that the IMO Secretary-General has added an item on “Passenger Ship Safety” to the agenda of the IMO’s Maritime Safety Committee (MSC), which meets for its 90th sessions from 16-25 May 2012. The press release also notes that the IMO Secretary-General “appreciates any initiatives of Member Governments and the industry to improve safety and encourages them to put forward their contributions to MSC-90.”

⁷ On 31 January 2012, IMO issued a nonbinding Circular (MEPC.1/Circ.779) alerting its Member Governments of, and asking them to take action as appropriate regarding, a U.S. request for vessels to refrain from discharging any garbage, waste or effluent in a 10-square mile zone above the *R.M.S. Titanic* wreck site. The Circular is attached to this report and is available online at http://www.gc.noaa.gov/documents/2012/013112_gcil_mepc1-circ779.pdf.

expected to include further work on tourism. As cruise tourism in the Arctic grows, disembarkation of tourists is likely to increase with the potential for attendant adverse impacts on coastal areas. AECO recently issued site-specific guidelines for Svalbard that provide advice for visitors (www.aeco.no/guidelines) with the aim of safeguarding the environment and cultural remains while allowing for nature experiences. Without endorsing or otherwise speaking to the merits of these AECO guidelines, Arctic Council Working Groups could use them, along with measures, resolutions and decisions of the Antarctic Treaty Consultative Parties, as starting points for discussions to develop Arctic-wide tourism site visit guidelines.

- The U.S. recommends that PAME explore in greater depth how it could promote coordination by the Arctic cruise ship industry of navigation by passenger ship vessels with each other and with land-based emergency services to minimize the risk of loss of life in the event of a maritime incident. This concept has received significant support. For example:
 - AMSA Recommendation I(D) calls for consideration of “measures such as timing of voyages so that other ships are within rescue distance in case of emergency.”
 - IMO’s *Enhanced Contingency Planning Guidance for Passenger Ships Operating in Areas Remote from SAR Facilities* (MSC.1/Circ. 1184) (31 May 2006), recommends consideration of “voyage pairing, i.e., mutual exchange of information that may be available to the SAR Authority or the vessel operator with reference to other passenger ships operating in the same area, so that, if two or more passenger ships are operating in the same general area at the same time, each can be used as a SAR facility in case of accident to another.”⁸
 - The Denmark, Greenland, and Faroe Islands *Strategy for the Arctic 2011-2020* commits these nations “to work for the inclusion of requirements in the polar code under IMO auspices that cruise ships coordinate their navigations with the emergency services, including other cruise ships which could come to the rescue if a maritime incident occurs.”⁹
 - The International Association of Antarctic Tour Operators (IAATO) has adopted standards and procedures that effectively implement the concept through coordination of itineraries in advance among vessel operators and mandatory participation in the IAATO satellite vessel tracking system with hourly vessel reporting while operating in Antarctic waters.
 - U.S. Coast Guard Captain Melissa Bert has published articles in which she argues for compulsory tandem sailing for passenger vessels operating in the Arctic.¹⁰

⁸ IMO’s *Enhanced Contingency Planning Guidance for Passenger Ships Operating in Areas Remote from SAR Facilities* (MSC.1/Circ. 1184) (31 May 2006) is available online at

http://www.uscg.mil/hq/cg5/cg534/MassRescueOps/MSC_Circ_1184_Pax_Ships_in_Remote_Areas.pdf.

⁹ Danish Ministry of Foreign Affairs, *Denmark, Greenland and the Faroe Islands: Kingdom of Denmark Strategy for the Arctic 2011-2020* (Copenhagen, Ministry of Foreign Affairs, Denmark; Department of Foreign Affairs, Greenland; Ministry of Foreign Affairs, Government of the Faroes, 2011), 18 (available at <http://uk.nanoq.gl/~media/29cf0c2543b344ed901646a228c5bee8.ashx>).

¹⁰ See M. Bert, Council on Foreign Relations Policy Innovation Memorandum No. 14, *A Strategy to Advance the Arctic Economy* (Feb. 2012) (<http://www.cfr.org/arctic/strategy-advance-arctic-economy/p27258>); M. Bert, *The Arctic in Transition—A Call to Action*, 40 J. Mar. L. & Com. 481 (Oct. 2009).

PAME could promote adoption of this concept in one or more of at least four different ways: (1) seek to persuade the industry to adopt the concept as a “best practice”; (2) support explicit inclusion of the concept in IMO’s Polar Code; (3) develop voluntary PAME guidelines embodying the concept; and/or (4) seek to have the next Arctic ministerial meeting expressly endorse the concept.



ANNEX VI-AMSA II(C): Status report from co-leads of the project
Arctic areas of heightened ecological and cultural significance
March 13, 2012

For PAME, AMAP, SDWG and CAFF Working Groups meetings Spring 2012

The AMSA IIC project is 4 months behind schedule. The final report is expected to be circulated for national review on March 15th 2012 and the delivery of the final report to PAME will be decided after the deadline for comments. The report that goes on review in March will only contain information on the areas of heightened *ecological* significance. The section on the areas of heightened *cultural* significance has been taken out of this draft report and will be developed further under the leadership of SDWG and circulated separately for review.

History and Status of the AMSA IIC report:

18 November, 2010 1st draft of the AMSA II(C) project report was circulated for comments with deadline for comments.

19 January, 2011 2nd draft report circulated for a 2nd round of comments. Canada and Greenland/Denmark asked that earlier national content not be used in the draft report, so that new information resulting from Canadian and Greenlandic national studies on Ecologically and Biologically Significant Areas (EBSAs) could be incorporated into the final report.

7 February, 2011 3rd draft project report, without the full Canadian, Greenlandic, and Icelandic sections circulated to the Working Group Chairs of AMAP, CAFF and SDWG for their approval/consent to present to PAME.

15 February 2011 The 3rd Draft Report was delivered to PAME I, 2011. This draft was incomplete and contained information on identified areas of heightened ecological significance for only 9 of the 17 LMEs in the Arctic area and an incomplete cultural section. The core drafters started the process of including the missing information and began to prepare a 4th Draft project report of AMSA IIC.

30 June, 2011 Co-leads and core drafters held a meeting to discuss the status of the work on the AMSA IIC report including the delivery of data from Denmark/Greenland and Canada, hiring a professional editor for the AMSA IIC report, compilation of an integrated database for AMSA IIC, web portal for the communication of results, future steps, and the SDWG and Cultural section

12 July, 2011 Core Drafters meet to discuss incorporation and formatting of Canada and Greenland's new national assessments, most appropriate detail/formatting for text and maps, how to work together on text/maps for LMEs which straddle respective country boundaries, and the preferred way to present the areas of heightened ecological significance for the report.

9 August, 2011 Meeting held between CAFF and AMAP Secretariats and lead Core Drafter to discuss Editing of report, References, Data portal and maps, and Report Publication

9 September, 2011 Summary Progress report delivered to the SDWG, AMAP, CAFF and PAME working groups.

14 October, 2011 AIA provided preliminary Bering Sea Subarea Network subsistence maps for the cultural part of the report.

5 December 2011 Canada Data of their Arctic EBSAs was completed and submitted for inclusion into the AMSA IIC Final Report draft by the core-drafters.

3 January 2012 Greenland data and information received for the Greenland portion of Baffin Bay-Davis Strait LME and a new version for the Greenland Sea LME including the southern extension as the Greenland side of the Denmark Strait and the southeastern Greenland shelf for inclusion into the AMSA IIC Final Report draft by the core-drafters.

12 January, 2012 Letter from PAME Chair to SDWG Chair requesting input on the cultural part into the AMSA IIC Report.

18 January, 2012 Draft of Cultural Section of Report sent to AC and PPs for review and input.

31 January, 2012 Received subsistence use maps and Marine Protected Areas maps for Norway from Saami Council and incorporated in the February 10, 2012 Draft.

9 February, 2012 Received recommendation from ICC Alaska that the AMSA IIC Draft 4 not be finalized or submitted to SAOs as it still lacks use of Traditional Ecological Knowledge.

13 February, 2012 Progress report sent to AMAP, SDWG, CAFF, and PAME

14 February, 2012 SDWG Meeting discusses Cultural section of report and decides to re-engage in developing it further.

February 28, 2012 (1) Core-Drafters finish the 4th draft of the AMSA IIC report and recommend circulating for a three week National Review immediately so that it can be completed by the PAME meeting March 26-27, 2012. (2) Based on recommendations from SDWG and CAFF the cultural section was removed from the draft report before the final review. The cultural part will be developed further by SDWG and delivered to PAME at a later stage.

February 29, 2012 (1) SDWG Secretariat informed the SDWG will be discussing what the capabilities of the Working Group are and what timelines can be met in order to finalize the cultural part of the AMSA IIC report. These discussions will take place with Bret Bakken and Susan Barr of Norway. SDWG will inform the project team soon about the timelines they can meet and what their abilities are to accomplish the task. (2) At the CAFF board meeting several countries and PPs expressed concern regarding the length of review period and with the cultural component of the report and structural process, (3) U.S. PAME HoD discusses possible solutions to CAFF concerns with CAFF Secretariat suggesting a full 30 day national review and holding back the cultural section until SDWG can assess their capabilities and come up with a timeline. But at the same time allowing PAME to use the draft report for developing the AMSA IID project at their March 26-27, 2012 WG meeting. (4) Core Drafters deliver AMSA IIC Draft #4 without the cultural section to the co-leads.

March 1, 2012 (1) CAFF WG Meeting discusses AMSA IIC and recommends that Draft #4 should have a 30 day or more review time as per AC Rules of Procedure, and that the cultural section needs more work under SDWG and with PP input on Traditional Ecological Knowledge before this part can be sent for National Review with the ecological part. CAFF supported PAME's use of the draft report for their development of the AMSA IID project at the PAME WG meeting March 26-27, 2012. (2) AMAP Secretariat recommends short review turnaround to allow for the delivery of the ecological part of the AMSA IIC report to PAME for the March 26-27 WG meeting.

8 March, 2012 Letter from PAME Chair to the co-leads of AMSA IIC stating that PAME recognizes the need for a good review process of the report and that PAME can accept to use the latest draft version of the report for the discussions in their March meeting.

13 March, 2012 Co-Leads held a meeting and decided to release the Draft #4 AMSA IIC for National Review allowing 35 days and delivery to PAME of the draft report with the progress report on March 14.

14 March, 2012 New Draft (4th draft) circulated for final National review.

Timelines (revised).

The project is 4 months behind schedule. The final report is now circulated for national review March 14th and the delivery to PAME will be decided after the deadline for comments and after the PAME meeting in March 2012.

- ✓ **March 14, 2012** - Draft Final Report (4th draft) circulated to Working Group HoDs/national representatives and PPs for final review coordinated by the Expert Reference Group. Draft report delivered to PAME with progress report. The section on the Arctic areas of heightened cultural significance is being developed further by SDWG and will be delivered to PAME at a later stage—timeline pending.
- ✓ **March 14, 2012** - Draft report (4th draft) delivered to PAME with progress report.
- ✓ **April 20, 2012** - review completed.
- ✓ **End April and beginning of May, 2012** – Review comments addressed and any changes required incorporated and ecological part of report finalized.
- ✓ **May 15, 2012** Report (ecological part) circulated for approval by the AMAP and CAFF Working Groups.
- ✓ **May 15 to June 30 2012** - Report edited and laid out
- ✓ **July 1 2012** - Final AMSA IIC Report delivered to PAME on the Arctic areas of heightened ecological significance

ANNEX VII-AMSA II(D): Specially Designated Arctic Marine Areas and Port Waste Reception Facilities

AMSA Recommendation II(D) provides:

That the Arctic states should, taking into account the special characteristics of the Arctic marine environment, explore the need for internationally designated areas for the purpose of environmental protection in regions of the Arctic Ocean.

Adequate port waste reception facilities are one of the necessary preconditions for bringing into effect “Special Areas” adopted by member governments of the International Maritime Organization (IMO) under the International Convention for the Prevention of Pollution from Ships, 73/78 (MARPOL). A higher level of protection is afforded “Special Areas” than other areas of the sea by requiring ships when sailing in these areas to comply with more stringent discharge requirements. “Special Area” designation is available under five of MARPOL’s six annexes. These are Annex I (prevention of pollution by oil), Annex II (control of pollution by noxious liquid substances-only in effect in the Antarctic Special Area with no reception facility reporting requirement), Annex IV (prevention of pollution by sewage-no Special Areas are in Effect at this time), Annex V (prevention of pollution by garbage), and Annex VI (prevention of air pollution by ships – “Special Areas” are called Emission Control Areas – ECAs).¹¹

Although PAME member governments are awaiting finalization of the AMSA Recommendation II(C) report on areas of heightened ecological and cultural significance before more actively exploring the need for internationally designated areas through the current II(D) project, the United States believes PAME member governments should take a fresh look at the availability and adequacy of port waste reception facilities in their respective countries as an important component of any potential future work regarding MARPOL “Special” Areas in the Arctic region.

The starting point for any such assessment is the PAME Port Reception Facility project. The objective of the project, begun in 2004 and led by Norway, was to assess existing measures for port reception facilities for ship-generated waste and develop harmonized Arctic guidelines on waste reception facilities for member state consideration. To carry out the project, Norway retained Det Norske Veritas (DNV) to prepare a technical report that identified existing port reception facilities in the Arctic region, conducted a gap analysis, and summarized regulations and incentives for delivery of such facilities each country had implemented. The report, titled Port Reception Facilities in the PAME Region, was finalized in 2006 and is attached. While hampered by the limited information made available for its preparation, the DNV technical report recommended that PAME member governments implement IMO’s *Guidelines for ensuring the adequacy of Port Waste Reception Facilities*¹² and consider developing harmonized, Arctic-specific waste reception facility guidelines.

¹¹ IMO has made available online a list of MARPOL Special Areas under Annexes I, II and V and ECAs under Annex VI at <http://www.imo.org/OurWork/Environment/PollutionPrevention/SpecialAreasUnderMARPOL/Pages/Default.aspx>.

¹² The IMO *Guidelines for ensuring the adequacy of Port Waste Reception Facilities*, MEPC.83(44), were adopted on 13 March 2000 by MEPC and are available online at [http://www.imo.org/blast/blastDataHelper.asp?data_id=15685&filename=83\(44\).pdf](http://www.imo.org/blast/blastDataHelper.asp?data_id=15685&filename=83(44).pdf).

After careful consideration and based on Norway's recommendation, PAME-I 2007 (March 2007) approved a record of decision (ROD) that suspended work on the Port Reception Facility project pending completion of the AMSA Report. The rationale for the suspension was two-fold. First, the IMO had created a port waste reception facilities module within its online Global Integrated Shipping Information System (GISIS) database.¹³ Second, due to the differing conditions and uses of each site, it was too difficult to generate harmonized guidelines for the Arctic that would not be too general. The ROD concluded by encouraging Arctic countries to update their respective port waste reception facility information in the GISIS database.

At its second session in 1974, the IMO's Marine Environment Protection Committee (MEPC) recognized that provision of port reception facilities (PRF) was (and remains to this day) crucial for effective MARPOL implementation. MEPC continues to encourage its Member States, particularly those Parties to the MARPOL Convention as port States, to fulfill their treaty obligations on providing adequate reception facilities.¹⁴ Most recently, MEPC issued a *Guide to Good Practice for Port Reception Providers and Users*,¹⁵ a work product of MEPC's Flag State Implementation Sub-Committee correspondence group, on tackling the inadequacy of reception facilities. This correspondence group included IMO and member state delegations from Norway, Denmark, and the United States and considered input from Canada, Sweden, and Finland as well as many other IMO Member States and stakeholder organizations.

Attached to this report is a table that summarizes information on the availability of port waste reception facilities in the eight Arctic Council countries. The table, based on information obtained from GISIS and other publicly accessible online sources, may not be comprehensive, accurate, or completely up-to-date. It nonetheless discloses what is readily ascertainable about the availability and adequacy of port waste reception facilities in the Arctic region. The chart makes clear that at present only MARPOL Annex I (and in the United States, Annex V) port reception facilities are sufficiently available to permit potential consideration of one or more spatially-limited MARPOL Annex I or Annex V "Special Areas" should the AMSA II(C) Report support the case for pursuing such designations.

MARPOL Annex II reception facilities are generally limited to liquid chemical loading and unloading ports. Consideration might be given to an Arctic MARPOL Annex II "Special Area" that would prohibit noxious liquid substance (NLS) residue discharge by transiting ships, but may not need a reception facility provision within a spatially-limited sea area without NLS loading or discharge ports or terminals.

¹³ IMO's GISIS database may be found at <http://gisis.imo.org>.

¹⁴ See

<http://www.imo.org/OurWork/Environment/PollutionPrevention/PortReceptionFacilities/Pages/Default.aspx>

¹⁵ The IMO *Guide to Good Practice for Port Reception Facility Providers and Users*, MEPC.1/Circ.671, was issued on 20 July 2009 and is available at

<http://www.imo.org/OurWork/Environment/PollutionPrevention/PortReceptionFacilities/Documents/671.pdf>.

Recommendation:

The United States recommends that:

- Each PAME member government review the attached chart and information contained in IMO’s GISIS database (www.gisis.imo.org) with respect to its port waste reception facilities in the Arctic;
- Where that information is incomplete, inaccurate, or outdated, PAME member governments should update it and ensure its completeness and accuracy;
- To the extent it has not already done so, each PAME member government should re-familiarize itself with all of the currently applicable IMO regulations, policies, guidelines and best practices on the provision of adequate port waste reception facilities, and to the maximum practicable, implement them for its Arctic ports;
- As existing Arctic ports are expanded and new ones are constructed, PAME member governments should bear in mind the need to provide adequate port waste reception facilities in accordance with MARPOL and other applicable requirements and policies; and
- A short report summarizing any activities it has undertaken, or plans to undertake, in fulfillment of these recommendations be submitted to PAME II-2012 by each PAME member government.

Port Waste Reception Facilities in the Arctic: Capabilities and Capacities

Information used to prepare this table comes from the IMO Global Integrated Shipping Information System (GISIS) database (www.gisis.imo.org) and the U.S. Coast Guard Maritime Information Exchange (CGMIX) (<http://cgmix.uscg.mil/>) with supplemental information from the World Port Source (www.worldportsource.com). GISIS uses cubic meters (m³) as its metric for waste capacity. (1m³ is equal to approximately 264.1 U.S. gallons.) CGMIX uses metric tons as its metric for waste capacity.

United States (Alaska)

Location	Facility	MARPOL Annex & Capacity
Adak	Adak Bulk Fuel Facility	Annex V – capacity unknown ¹⁶
Cold Bay	Peter Pan Seafoods, Port Moller	Annex V – capacity unknown
	Port of Cold Bay	Annex V – capacity unknown
Dillingham	Peter Pan Seafoods, Dillingham	Annex V –capacity unknown
Kvichak Bay/Egegik	Wards Cove Packing Co.	Annex V – capacity unknown
	Icicle Seafoods	Annex V –capacity unknown
King Cove	City Of King Cove	Annex I - 22.2 m ³ (20 metric tons): oily bilge water and oily residues (sludge) only Annex V – capacity unknown
Kotzebue	ISD, Shageluk	Annex V – capacity unknown
Kuskokwim Bay/Bethel	LKSD Housing, Kwethluk	Annex V – capacity unknown

¹⁶ Capacity” of a MARPOL Annex V port waste reception facility is subjective and “based on the needs of ships using the port.” MARPOL Annex I oily waste port reception facility capacity is more prescriptive and is based on actual capacity of the ships using the port.

	LKSD Kwethluk	Annex V – capacity unknown
	LKSD Nightmute	Annex V – capacity unknown
	LKSD Chefornak	Annex V – capacity unknown
Kuskokwim Bay/Eek	LKSD Eek	Annex V – capacity unknown
	LKSD Eek Housing, Eek	Annex V – capacity unknown
Kuskokwim Bay/Toksook	Nunakauiak Yupik Corp, Toksook Bay	Annex V – capacity unknown
Kuskokwim Bay/Togiak	Togiak Fisheries Inc., Togiak	Annex V – capacity unknown
Nome	Port of Nome	Annex V – capacity unknown
Point Hope/Barrow	North Slope Borough, Point Lay	Annex I-2107.8m ³ (1897 metric tons): oily bilge water oily residues (sludge), oily tank washings (slops), and dirty ballast water
Shemya	Eareckson Air Station	Annex V – capacity unknown
Norton Sound/ Emmonak	Kwikpak Fishery LLC	Annex V – capacity unknown
Norton Sound/ Gambell	Gambell Native Store	Annex I - 22.2 m ³ (20 metric tons): oily bilge water, oily residues (sludge), oily tank washings (slops), scale and sludge from tanker cleaning
Norton Sound/Sheldon Point	Swan Lake Corp, Sheldon Point	Annex V – capacity unknown
Norton Sound/St Michael	BSSD, St Michael	Annex V – capacity unknown
Norton Sound/ Unalakleet	BSSD Gambell	Annex I - 33.3 m ³ (30 metric tons): oily bilge water, oily residues (sludge)
Prudhoe Bay	Veco Inc	Annex I-1813.3m ³ (1632 metric tons): oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water
Sand Point	Trident Seafoods	Annex I -3174.4m ³ (2857 metric tons): oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water Annex V – capacity unknown
	City of Sand Point	Annex V – capacity unknown
Unalaska/Dutch Harbor (4 facilities)	44.4 m ³ at one facility	Annex V – capacity unknown

Russian Federation

According to World Port Source, the Russian Federation has 105 ports. Twenty-three of these ports appear to be located within PAME’s delineation of the Arctic. GISIS lists 8 ports with 12 facilities possessing oil waste reception facilities.

Location	Facility	Capacity
Barents Sea - Port of Arkhangelsk	Arkhangelskneft-eproduk	Annex I – 300,000m ³ : oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water,

		scale and sludge from tanker cleaning
	Sea Port Authority	Annex I – capacity unknown
	Bunkernaya Company	Annex I – 4,000 m ³ : oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water, scale and sludge from tanker cleaning
	Mornefteservis	Annex I - 800 m ³ : oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water, scale and sludge from tanker cleaning
	Belomorskaya splavnaya company	Annex IV -200 m ³ Annex V – capacity unknown
	Arkhangelsk river port	Annex IV - 400 m ³ Annex V – capacity unknown
Barents Sea - Port of Murmansk	Kron dex	Annex I - 250 m ³ : oily bilge water Annex IV - 250 m ³
	First Murmansk terminal	Annex I – 15,000 m ³ : oily bilge water Annex IV- 15,000m ³
	Murmansk Marine Fishing Port	Annex V - 4 m ³
Bering Sea - Port of Anadyr	Port Control	Annex I - 300 m ³ per year; oily bilge water
Bering Sea - Port of Beringovskiy	Port Control	Annex I – capacity unknown: oily bilge water
Bering Sea - Port of Petropavlovsk	Sea Port Authority	Annex I – capacity unknown: oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water, scale and sludge from tanker cleaning
	Oktopus Kab	Annex I - 416 m ³ : oily residues (sludge), scale and sludge from tanker cleaning Annex IV –capacity unknown
	Ecologia	Annex I - 416 m ³ : oily residues (sludge), oily bilge water, oily tank washings (slops), dirty ballast water, scale and sludge from tanker cleaning
	Transservis	Annex I - 655 m ³ : oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water, scale and sludge from tanker cleaning

	Gorvodokanal	Annex IV – capacity unknown
	Akros	Annex V –capacity unknown
	Oceanrybflot	Annex V – capacity unknown
	Fishing collective farm named after VI Lenin	Annex V - capacity unknown
	Rosmorport	Annex V – capacity unknown
	Natsrybresursy	Annex V – capacity unknown
	Industrial safety	Annex V – capacity unknown
Sea of Okhotsk - Port of Korsakov	Grot Oil	Annex I -150 m ³ : oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water, scale and sludge from tanker cleaning Annex IV - 150 m ³ Annex V - 150 m ³
Sea of Okhotsk - Port of Magadan	Sea Port Authority	Annex I – capacity unknown: oily bilge
	Marine Environmental Service	Annex I – unlimited oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water, scale and sludge from tanker cleaning Annex IV - unlimited Annex V- 15 m ³
Sea of Okhotsk - Port of Nikolaevsk	Amurskoe Parokhodstvo	Annex I - 1600 m ³ : oily bilge water, oily residues (sludge), oily tank washings (slops), scale and sludge from tanker cleaning Annex IV - 550 m ³ Annex V - 0.5 m ³

Canada

World Port Source lists only four Canadian ports within PAME’s delineation of the Arctic. Only one is listed in GISIS. The four ports are:

Tuktoyaktuk Harbor (Beaufort Sea)

Iqaluit Harbor (Labrador Sea)

Nanisivik Harbor (Baffin Bay)

Port of Churchill, Manitoba (Hudson Bay).

Annex I – capacity unknown: oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water)

Annex V – unknown capacity

Greenland

World Port Source lists 22 ports within PAME’s delineation of the Arctic. GISIS doesn’t list any ports as having port waste reception facilities.

Iceland

World Port Source lists 31 ports within PAME’s delineation of the Arctic. GISIS identifies four ports as having waste reception facilities.

Location	Facility	Capacity
Akureyri Harbor, Akureyri	Akureyri Harbour	Annex I – capacity unknown: oily bilge water, oily residues (sludge)
Isafjördur Harbour, Isafjördur – höfn	Isafjördur Harbour	Annex I – capacity unknown: oily bilge water, oily tank washings (slops)
Reykjavik Harbour, Reykjavík	Reykjavik Harbour	Annex I – capacity unknown: oily bilge water, oily residues (sludge), oily tank washings (slops), dirty ballast water
	Þorlákshöfn Harbour	Annex I – capacity unknown: oily bilge water, oily tank washings (slops)
	Keflavík-Njarvík	Annex I – capacity unknown: oily bilge water, oily tank washings (slops)
	Hafnarfjördur-Straumsvík	Annex I – capacity unknown: oily bilge water, oily residues (sludge)
	Directorate of Shipping (Reykjavík)	Annex II – capacity unknown
Vestmannaeyjar – höfn	Vestmannaeyjar Harbour	Annex I – capacity unknown: oily bilge water, oily residues (sludge)

Faroe Islands, Denmark

World Port Source lists four ports within PAME’s delineation of the Arctic. None are listed in IMO's GISIS database as having port reception facilities.

Norway

World Port Source shows 79 ports located within PAME’s delineation of the Arctic. GISIS identifies 55 ports with 286 separate facilities having waste reception facilities. The waste reception capacities of these facilities are not specified in GISIS. Specific information about these facilities is not included for brevity purposes.

Svalbard, Norway

World Port Source identifies 3 ports located in this group of islands but none are listed in IMO's GISIS database as having port waste reception facilities.