| ­AMSA Report Recommendation | Implementation Lead | Status | Rationale for Update/Next Steps  |
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| **THEME I - ENHANCING ARCTIC MARINE SAFETY** |
| **I(A) Linking with International Organizations** - "That the Arctic states decide, on a case by case base, **[TO CONTINUE TO]** identify areas of common interest and develop unified positions and approaches with respect to international [**AND REGIONAL BODIES]** **~~organizations such as the IMO, IHO, WMO and IMSO~~** **[WITH RECOGNIZED COMPETENCE, TO PROMOTE AND ADVANCE SAFE, SECURE, ENVIRONMENTALLY SOUND AND SUSTAINABLE]** Arctic marine shipping; and encourage meetings, as appropriate of member state national maritime safety organizations to coordinate, harmonize and enhance the implementation of the Arctic maritime regulatory framework." | Arctic States, PAME, EPPR | **Ongoing**. Arctic States have submitted information papers that advance this Recommendation to PAME, other AC Working Groups, and other relevant bodies for consideration; PAME has invited these and other relevant bodies to submit papers to and make presentations at PAME meetings (e.g., IALA, ICES, ARHC, IICWG, ICS, ACGF, CLIA, NCM, NAMMCO, JCOMM, ETSI, AECO, etc.) to become involved in the Arctic Shipping Best Practices Information Forum (ASBPIF), established by PAME in 2017. Additional bodies with which PAME might pursue initiatives include: (1) the Arctic Coast Guard Forum; (2) the Tokyo and Paris Port State Control MOUs; (3) the International Labour Organization, which is responsible for the Maritime Labour Convention; (4) the Nautical Institute, which has contributed significantly to the knowledge of ice navigation; and (5) the International Transport Workers Federation (ITF), which has been instrumental in the protection of seafarers generally. | *Update Recommendation to encourage Arctic States through AC Working Groups and Subsidiary Bodies to continue to reach out to other bodies with recognized competence and, more specifically, explore areas of mutual interest that could form the basis of initiatives or projects that enhance Arctic marine shipping safety and sustainability. Possible bodies with which the Arctic Council could explore new or updated initiatives include not only intergovernmental organizations, but also industry and non-governmental organizations.* |
| **I(B) IMO Measures for Arctic Shipping -** "That the Arctic states, in recognition of the unique environmental and navigational conditions in the Arctic, decide to [**CONTINUE TO]** cooperatively support efforts at the IMO 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) and Drawing from IMO instruments, in particular the Arctic Guidelines,~~ augment**[ING OF]** global IMO ship safety and pollution prevention **[INSTRUMENTS]** ~~conventions~~ with specific mandatory requirements or other provisions for ship construction, design, equipment, **[COMMUNICATIONS]** crewing, training and operations, aimed at safety and **[ENVIRONMENTAL]** protection**; [DEVELOP CONSENSUS RECOMMENDATIONS AT THE REGIONAL LEVEL TO SUPPORT GLOBAL MEASURES ADOPTED BY IMO; AND REPORT PERIODICALLY REGARDING SUCH EFFORTS."]** | Arctic States, PAME | **Ongoing**. PAME adopted RoDs supporting timely conclusion of IMO Polar Code negotiations and undertook projects of relevance to, though not included within, the environmental chapter of the Polar Code (e.g., on HFO). PAME also took actions to encourage Arctic States to ratify the Ballast Water Management Convention, which entered into force in September 2017 (see entry for Recommendation II(E)), to participate more actively in the WMO-IOC Voluntary Observing Ships (VOS) Scheme, and to monitor developments in global and regional bodies regarding potential impacts on marine mammals (see entry for Recommendation II(G)). PAME and EPPR are also working jointly on a new low-sulphur fuels project that focuses on the fate, behavior and toxicity of bunker fuels in cold water circumstances. | *Update Recommendation to encourage PAME to continue to support efforts at IMO to strengthen, harmonize and regularly update international standards for vessels operating in the Arctic, omitting reference to the Guidelines for Ships Operating in Arctic Ice-Covered Waters, which have been superseded by the Polar Code.* *Addition of “Communications” suggested by the WMO, which noted the current limitations of the GMDSS in Arctic waters, and the challenge of providing universal access to meteorological and ice information to ships in these waters.**Additional Arctic shipping efforts at the IMO might address marine litter, fate and toxicity of spilled bunker fuel, black carbon and/or other air emissions, gray water discharges, and anthropogenic underwater noise incidentally generated by merchant ships.*  |
| **I(C) Uniformity of Arctic Shipping Governance** - "That the Arctic states should~~explore the possible harmonization of Arctic marine shipping regulatory regimes within their own jurisdictions and uniform Arctic safety and environmental protection regulatory regimes~~ **[ENCOURAGE BROAD SUBSCRIPTION TO IMO INSTRUMENTS AND THEIR UNIFORM IMPLEMENTATION, IN PARTICULAR AS THEY RELATE TO SAFE, SECURE, AND ENVIRONMENTALLY SOUND AND SUSTAINABLE ARCTIC SHIPPING]**, consistent with UNCLOS, **AND WHERE POSSIBLE STENGTHEN EFFORTS TO HARMONIZE IMPLEMENTATION AND ENFORCEMENT.]** ~~that could provide a basis for protection measures in regions of the central Arctic Ocean beyond coastal state jurisdiction for consideration by the IMO~~. ~~"~~ |   | PAME has supported ratification and entry into force of IMO instruments such as the Ballast Water Management Convention and actively encouraged negotiation of the Polar Code and its effective and timely implementation. Further, PAME developed a regional reception facilities plan for submission by Arctic States to IMO to help coastal States and ships meet their MARPOL obligations in the Arctic. PAME has also embarked upon an initiative to facilitate coordinated and consistent implementation of the IMO’s Polar Code.  | *Edits to this Recommendation are intended to refocus it on supporting IMO as the international organization with recognized global competence to regulate ship safety and environmental performance. In terms of implementation and enforcement, the Arctic Shipping Best Practices Information Forum (ASBPIF) was in large measure established to facilitate effective implementation of and compliance with the Polar Code. Similar efforts with respect to other IMO instruments, including through the Arctic Coast Guard Forum and the Paris and Tokyo Port State Control MOUs, seems desirable.* |
| **I(D) Strengthening Passenger Ship Safety in Arctic Waters** - "That the Arctic states should ~~support the application of the IMO's enhanced Contingency Planning Guidance for Passenger Ships Operating in Areas Remote from SAR Facilities, given the extreme challenges associated with rescue operations in the remote and cold Arctic region; and~~ strongly encourage cruise ship operators **[TO APPLY INTERATIONAL RULES AND STANDARDS ADOPTED BY THE IMO AS WELL AS CONTINUE TO]** develop, implement and share their own best practices for operating in such conditions, including consideration of measures **[TO FURTHER STRENGTHEN SHIP SAFETY AND ENVIRONMENTAL SUSTAINAILITY]**  ~~such as timing voyages so that other ships are within rescue distance in case of emergency~~." | PAME, EPPR | **Ongoing.** PAME’s Arctic Shipping Best Practices Information Forum has provided a venue for a broad spectrum of Arctic shipping stakeholders, including cruise lines, to share information important to effective implementation of the Polar Code. Compliance with the Code will strengthen passenger ship safety in Arctic waters. PAME’s Arctic Marine Tourism Project developed voluntary best practice guidelines (2015) (available online at <http://bit.ly/2gk6prC>)and has a follow-on project that is assessing industry practices and site-specific visitor guidelines throughout the Arctic. | *Reference to the IMO Contingency Planning Guidance for Passenger Ships Operating in Areas Remote from SAR Facilities, while important, no longer needs to guide PAME's work and can be removed from the Recommendation. The Recommendation is updated to identify promote the development of additional best practices and guidelines, both for the activities of ships carrying passengers in Arctic waters and for the passengers themselves, especially when they venture close to shore and when they disembark to visit coastal sites.**Note that last phrase would be dropped -- ship "pairing" is a concept that no longer appears supported by industry or maritime administrations in light of IMO passenger ship safety initiatives, guidance, and updates of relevant instruments. See, e.g.,* [*http://bit.ly/2BJAplT*](http://bit.ly/2BJAplT)*.*  |
| **I(E) Arctic Search and Rescue (SAR) Agreement** - "That the Arctic states **[SHOULD ACTIVELY COOPERATE IN OPERATIONALIZING *THE AGREEMENT ON COOPERATION ON AERONAUTICAL AND MARITIME SEARCH AND RESCUE IN THE ARCTIC, 2011*, AND IN MAINTAINING A STATE OF READINESS TO RESPOND TO EMERGENCIES]** ~~decide to support developing and implementing a comprehensive multi-national Arctic Search and Rescue (SAR) Instrument, including aeronautical and maritime SAR, among the eight Arctic nations and, if appropriate, with other interested parties in recognition of the remoteness and limited resources in the region."~~ |  EPPR | **Completed.** Arctic States signed the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic in Nuuk, Greenland on May 12, 2011. The Agreement entered into force on January 19, 2013. Tabletop and live exercises (e.g., SAREX) have and should continue to take place, including under the auspices of EPPR and its expert group on SAR.  | *Modification of the text of the Recommendation recognizes that the “Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic” has come into force, and Arctic States should actively cooperate to operationalize the agreement and conduct drills to maintain a state of readiness.* |
| **THEME II - PROTECTING ARCTIC PEOPLE AND THE ENVIRONMENT** |
| **II(A) Survey of Arctic Indigenous Marine Use** - That the Arctic states should consider conducting surveys on Arctic marine use by the indigenous communities where gaps are identified to collect information for establishing up-to-date baseline data to assess the impacts from Arctic shipping activities." | Arctic States, Permanent Participants. | **Ongoing.**  | *Retain recommendation.* |
| **II(B) Engagement with Arctic Communities** - That the Arctic states decide to determine if effective communication mechanisms exist to ensure engagement of their Arctic coastal **[AND INDIGENOUS]** communities and, where there are none, to develop their own mechanisms to engage and coordinate with the shipping industry, relevant economic activities and Arctic communities (in particular during the planning phase of a new marine activity) to increase benefits and help reduce the impacts from shipping." | Arctic States, Permanent Participants. | **Ongoing.** | *Retain Recommendation. Modify it as indicated to be consistent with the terminology of the Declaration on the Establishment of the Arctic Council, 1996 (the Ottawa Declaration), which observes that one of the purposes of the Arctic Council is to “provide a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and other Arctic inhabitants…”.* |
| **II(C) Areas of Heightened Ecological and Cultural Significance -** "That the Arctic states [**SHOULD, TAKING INTO ACCOUNT THE SPECIAL CHARACTERISTICS OF THE ARCTIC MARINE ENVIRONMENT** ~~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 **[ADOPTION BY RELEVANT BODIES WITH RECOGNIZED COMPETENCE]** ~~implementation~~ of measures [**RELATING TO]** ~~these~~ areas **[OF HEIGHTENED ECOLOGICAL OR CULTURAL SIGNIFICANCE THAT MERIT PROTECTION]** from the impacts of Arctic marine shipping, in coordination with all stakeholders and consistent with international law."  |   | **Ongoing.** In 2013, AMAP, CAFF and SDWG issued a report identifying the central Arctic Ocean beyond national jurisdiction as an area of heightened ecological significance. The report is available online at <http://bit.ly/2iDYwOn>.  | *This text as modified reflects that AMAP, CAFF, and SDWG issued a report in 2013 that identified areas of heightened ecological and cultural significance throughout the Arctic. The Report identified the central Arctic Ocean beyond national jurisdiction as an area of heightened ecological significance. The text modifications also reorient the Recommendation on supporting appropriate actions regarding the identified area.*  |
| **II(D) Specially Designated Arctic Marine Areas** - "That the Arctic states should, taking into account the special characteristics of the Arctic marine environment, **[CONTINUE TO]** explore the need for **[AND FEASIBILITY OF]** internationally designated areas for the purpose of environmental protection in regions of the Arctic Ocean." | Arctic States, PAME, Other Arctic Council Working Groups | **Ongoing.** PAME continues to entertain proposals for initiatives it might undertake to advance this Recommendation. | *The text as modified provides support for future work by Arctic States, PAME, and other AC Working Groups to continue to explore the need for and feasibility of internationally designated areas for the purpose of environmental protection in regions of the Arctic Ocean.* |
| **II(E) Protection from Invasive Species -** "That the Arctic states should ~~consider ratification of the IMO International Convention for the Control and Management of Ships Ballast Water and Sediments, as soon as practical~~ **[IMPLEMENT THE [REQUIREMENTS OF THE] IMO INTERNATIONAL CONVENTION FOR THE CONTROL AND MANAGEMENT OF SHIPS BALLAST WATER AND SEDIMENTS IN A TIMELY AND EFFECTIVE MANNER.]** Arctic states should also assess the risk of introducing invasive species through ~~ballast water~~ **[BIOFOULING]** and other means so that **[THEY CAN IMPLEMENT]** adequate prevention measures ~~can be implemented~~ in waters under their **[RESPECTIVE]** jurisdiction**[S]**."  | Arctic States, PAME | **Ongoing.** PAME has encouraged ratification of the BWM Convention, which entered into force on September 8, 2017 after Finland ratified it. See also entry for Recommendation I(B). PAME has also contributed to the development and implementation of the Arctic Invasive Alien Species Strategy and Action Plan (ARIAS) (2017), available online at http://bit.ly/2wDo441.  | *Update recommendation to encourage Arctic States to effectively implement the IMO Ballast Water Management Convention. Retain second sentence and update it to reflect the threat posed by biofouling for which IMO has adopted voluntary “Guidelines for the Control and Management of Ships’ Biofouling to Minimize the Transfer of Invasive Aquatic Species”,* [*MEPC.207(62) (15 July 2011).*](http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-%28MEPC%29/Documents/MEPC.207%2862%29.pdf) |
| **II(F) Oil Spill Prevention -** "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." | Arctic States, EPPR | **Ongoing.** Arctic States signed the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic at Kiruna, Sweden on May 15, 2013, and it entered into force on March 26, 2015. EPPR has had a lead role in developing and implementing this Agreement. In 2015, Arctic Council Ministers approved the "Framework Plan for Cooperation on Prevention of Oil Pollution from Petroleum and Maritime Activities in the Marine Areas of the Arctic" (Framework Plan). The objective of the Framework Plan is to strengthen cooperation, including exchange of information, among the Participants in the field of prevention of marine oil pollution in order to pretect the Arctic marine environment. EPPR is also developing Aractic Marine Risk Assessment Guidelines. | *Retain recommendation as it focuses on prevention - a topic not addressed by the Arctic Marine Oil Pollution Preparedness and Response instrument.*  |
| **II(G) Addressing Impacts on Marine Mammals [SEABIRDS, FISH, AND OTHER MARINE LIFE] -** "That the Arctic states decide to engage with relevant international ~~organizations~~ **[BODIES]** to further assess the effects on marine mammals due to ship noise, disturbance and strikes in Arctic waters; and consider, where needed, to work with the IMO **[AND OTHER COMPETENT INTERNATIONAL AND REGIONAL BODIES SUCH AS IWC AND NAMMCO]** in developing and implementing mitigation strategies." | Arctic States, Arctic Council Working Groups | **Ongoing**. PAME has invited relevant international organizations such as IWC, NAMMCO and the International Quiet Ocean Experiment (IQOE) to submit papers and/or make presentations at PAME. Canada and WWF are currently co-leading a project on underwater noise in the Arctic. Such noise may have implications for living marine resources beyond marine mammals. | *The text modifications broaden this recommendation to encourage initiatives related not only to marine mammals, but also other marine life in the Arctic. This broadening reflects an increase in knowledge and a greater appreciation for the potential impact of anthropogenic activities on Arctic marine life. See., e.g., UN Sustainable Development Goal 14, 2017 UN Oceans Conference.* |
| **II(H) Reducing Air Emissions -** "That the Arctic states **[CONTINUE**] ~~decide~~ to support **IMO EFFORTS TO ADDRESS AIR EMISSIONS FROM SHIPS AS WELL AS]** the development of improved practices and innovative technologies for ships in port and at sea to help reduce current and future emissions of greenhouse gases (GHGs), Nitrogen Oxides (NOx) Sulfur Oxides (SOx) and ~~Particulate Matter (PM)~~ **[BLACK CARBON AND OTHER PARTICULATE MATTER (PM)]** ~~taking into account~~the ~~relevant IMO regulations.~~" | Arctic States, AC Working Groups and Subsidiary Bodies, including the AC Expert Group on Black Carbon and Methane (EGBCM). | **Ongoing**. PAME has taken limited action on this Recommendation. The AC Task Force on Black Carbon and Methane (now the Expert Group on Black Carbon and Methane) recommended in its 2019 report to the 11th Arctic Council Ministerial meeting that countries: *"Develop, as appropriate, and report on measures and best practices to reduce particulate matter and black carbon emissions from shipping.* | *Revise this Recommendation, replacing "decide" with "continue" since a decision to support was already taken, and modify it to indicate explicit Arctic State support for work at IMO to address air emissions from ships. Consistency with IMO’s ongoing work on black carbon is achieved by replacing the reference to "Particulate Matter" with "black carbon and other Particulate Matter." (This fits within the Bond definition that MEPC decided for black carbon.) The words “taking into account…” are deleted for the following reason. At IMO, "taking into account" is usually paired with guidance of a recommendatory nature such as guidelines rather than binding regulations of a mandatory nature. The original formulation of this recommendation could inadvertently suggest that the IMO regulations on air emissions are recommendatory.*  |
| **THEME III - BUILDING THE ARCTIC MARINE INFRASTRUCTURE** |
| **III(A) Addressing the Infrastructure Deficit -** "That the Arctic states should **[CONTINUE TO]** recognize that improvements in Arctic marine infrastructure are needed to enhance safety and environmental protection in support of sustainable development. Examples of infrastructure where critical improvements **~~are needed~~** **[REMAIN NECESSARY]** include: ice navigation training; navigational charts; communications systems; **[AIDS TO NAVIGATION]**, port services, including reception facilities for ship-generated waste; accurate and timely ice information (ice centers); **[METEOROLOGICAL FORECASTS]**; places of refuge; and icebreakers to assist in response." | Arctic States, PAME, EPPR | **Ongoing**. PAME's principal role has been in the Regional Reception Facilities Project and Plan, which was finalized at PAME I-2017. PAME is supporting consideration of the RRFP by Arctic State IMO delegations. PAME has entered into a cooperative MOU with the Arctic Regional Hydrographic Commission. | *Retain Recommendation. Add “aids to navigation” and “meteorological forecasts” as additional areas where infrastructure improvements remain necessary. It has been suggested that requirements for ships to report ice observations and iceberg locations in the Arctic could be strengthened to help with hazard notification.*  |
| **III(B) Arctic Marine Traffic System** - "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 **[delete: in near real-time],** and to augment vessel management service in order to reduce the risk of incidents, facilitate **[EMERGENCY]** response and provide awareness of potential user conflict. The Arctic states should encourage shipping companies **[AND OTHER MARITIME STAKEHOLDERS]** to cooperate in the improvement and development of national monitoring systems." | Arctic States, PAME through its Arctic Ship Traffic Data (ASTD) Framework and Project. | **Ongoing.** | *Operationalization of* [*PAME’s Arctic Ship Traffic Data (ASTD) system*](https://www.pame.is/index.php/projects/arctic-marine-shipping/astd) *is well underway and some 30 applications for access have been received since the system was launched in January 2019. The Arctic Shipping Best Practice Information Forum's web portal also includes links to authoritative information helpful to maritime administration, mariners, classification societies, insurance companies, port facilities and other stakeholders.*  |
| **III(C) Circumpolar Environmental Response Capacity** - "That the Arctic States decide to continue to develop **[AND STRENGTHEN]** circumpolar environmental pollution response capabilities that are critical to protecting the unique Arctic ecosystem. This can be accomplished, for example, through **[EFFECTIVE IMPLEMENTATION and OPERATIONALIZATION OF THE *AGREEMENT ON COOPERATION ON MARINE OIL POLLUTION PREPAREDNESS AND RESPONSE, 2013,* ADDITIONAL]** circumpolar cooperation and agreement(s), as well as regional bilateral capacity agreements." | Arctic States and EPPR | **Ongoing**. See Recommendation II(F). Arctic States signed the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic at Kiruna, Sweden on May 15, 2013, and it entered into force on March 26, 2015. EPPR supported negotiation of the Agreement and developed the Operational Guidelines, annexed to the Agreement.  | *Update Recommendation to reflect the adoption in 2013 of the “Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic” and its entry into force in 2016.* *EPPR has been given the mandate to update the operational guidelines.*  |
| **III(D) Investing in Hydrographic, Meteorological and Oceanographic Data -** "That the Arctic states should **[CONTINUE TO]** ~~significantly~~ improve, where appropriate, the level of and access to data and information in support of safe **[AND ENVIRONMENTALLY RESPONSIBLE]** navigation and voyage planning in Arctic waters. This would entail **[SUSTAINING AND CONTINUING TO]** increase~~d~~ efforts for: hydrographic surveys to bring Arctic navigation charts up to a level acceptable to support current and future safe, **AND ENVIRONMENTALLY RESPONSIBLE]** navigation; **[OBTAINING HYDROGRAPHIC DATA WHERE APPROPRIATE FROM INDUSTRY AND OTHER SOURCES SUCH AS CROWDSOURCED BATHYMETRY;]** and systems to support **[AND IMPROVE THE TIMELY]**  ~~real-time~~ acquisition, analysis and transfer of meteorological, oceanographic, sea ice and iceberg **~~information~~ [OBSERVATIONS TO METEOROLOGICAL CENTERS]**." |  Arctic States, PAME, EPPR. | **Ongoing**. PAME's principal contribution has been the Arctic Ship Traffic Data (ASTD) project and the adoption by SAOs in May 2017 of the ASTD Framework. PAME has also engaged with the Arctic Regional Hydrographic Commission and Arctic States have contributed to the development of national Arctic Voyage Planning Guides (AVPG); improved/coordinated voyage planning is also a primary focus of the ASBPIF. Consideration could be given to lending additional support to the WMO [Voluntary Observing Ship (VOS) Scheme](https://www.wmo.int/pages/prog/amp/mmop/JCOMM/OPA/SOT/vos.html) and the WMO [Ship of Opportunity Program (SOOP)](https://www.wmo.int/pages/prog/amp/mmop/JCOMM/OPA/SOT/soop.html). In 2013, PAME developed a paper on the VOS Scheme in the Arctic that Canada, Iceland, Norway, Sweden and the USA subsequently submitted to IMO Sub-Committee on Navigation, Communications and Search and Rescue (NCSR 1/27/3, 25 April 2014) | *Retain recommendation. Some proposed new clarifying text is added.**WMO suggested the clarification at the end of the Recommendation to emphasize the importance of transferring these observations to the meteorological centres to improve forecast and warning services.* |