PAME I-2013 Agenda Item 4.5(c)
AMSA Recommendation II(D)
Specially Designated Arctic Marine Areas: Adequate Port Reception Facilities and Application of IMO and ISO Standards for Management of Ship Generated Waste in the Arctic

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References and Related Documents

Det Norske Veritas (DNV) Technical Report, 14-07-2006, PAME (II) 06/Annex to Agenda Item 5/Norway/*Port Reception Facilities in the PAME Region*
PAME (I) 12/4.1/a/USA/*Status of IMO's Development of the Polar Code*
PAME (I) 12/4.6/b/USA/*Specially Designated Arctic Marine Areas and Port Waste Reception Facilities*
PAME (II) 12/4.5/a/USA, Norway, Finland, Canada, Russia, Denmark & Sweden/*IMO Measures for Area-Based Protection*
PAME (II) 12/4.5/c/USA/*Port Waste Reception Facilities*
PAME II-2012 Final Record of Decisions (RoDs)

Background

AMSA Recommendation II (D) provides that:

> *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 2006 DNV Technical Report recognized that enhancing the availability and use of adequate Port Reception Facilities (PRF) in the Arctic for ship-generated waste and cargo residues would provide better protection of the marine environment from pollution from ships. A general recommendation of the report was that PAME continue to study the role of PRFs in the Arctic and support the development of harmonized guidelines on waste reception facilities in the PAME region.

This paper outlines some of the work undertaken by the IMO and the International Organization for Standardization (ISO) in the multi-lateral effort to tackle the issue of inadequate PRFs for ship generated wastes; the role of PRFs in the prevention of pollution of the marine environment from ships' waste; what "adequate" means; PRF adequacy reporting to IMO; and how this work could be applied to the unique circumstances in the Arctic.

Special Areas and Reporting of adequate PRFs

As noted in PAME (II) 12/4.5/a/, the *International Convention for the Prevention of Pollution from Ships* (MARPOL) provides for the designation of particular areas of the ocean as special areas. In order for a Special Area to enter into effect, the proposing State(s) must demonstrate the availability and adequacy of PRF in the proposed Special Area.

IMO's Global Integrated Shipping Information System (GISIS)

PAME (II) 12/4.5/c/ highlighted IMO's Global Integrated Shipping Information System (GISIS),[1] a publically available database that includes a module on PRFs and information on PRFs at Arctic and near Arctic ports in Arctic Council States. As mentioned above, each MARPOL Contracting Party bordering a Special Area is required to report that (adequate) PRFs are provided in order for the Special Area and its attendant protective measures to enter into effect. While each Contracting Party to the relevant MARPOL Annex bordering a Special Area is required to provide a separate specific report on the availability of adequate PRF for bringing designated Special Area discharge restrictions into effect, the GISIS database supports the reporting requirement to IMO. GISIS also supports the MARPOL requirement for reporting of allegations of inadequacy at PRFs.

PAME (II) 12/4.5/c/ updated PAME II-2012 participants concerning information included in the GISIS database on the availability and adequacy of PRFs in Arctic Council States. PAME II-2012 adopted a RoD reminding Arctic Council member governments of the general requirements under MARPOL to provide information on PRF adequacy to IMO.

PAME Shipping Work Group Discussion

- At PAME II-2012, the Shipping Work Group breakout session discussed the usefulness of GISIS as applied to Arctic ports and PRFs, with special regard for moving forward with proposals for recommending Special Area status under one or more MARPOL Annexes. Part of the discussion centered on the need to determine what constituted an "adequate" PRF; at least to determine what adequacy meant for the purpose of designating a particular sea area in Arctic polar waters as a Special Area. ISO 16304 (see below) helps define what is meant by adequacy.

- The Shipping Work Group breakout session also considered existing IMO guidance and IMO initiatives on PRFs as they would apply to the Arctic including the ongoing standards development work on ship waste management by the ISO that could specifically address the unique technical challenges for managing ships' waste in the Arctic. PAME II RoDs under AMSA II(D) encouraged member governments to utilize and keep current GISIS and to assist in the ISO standards development work.

MARPOL and the IMO/ISO Connection

ISO work on standards development is an outcome of work started by IMO's Marine Environment Protection Committee (MEPC) in 2007 and was a work item under the original terms of reference agreed to by MEPC to tackle inadequacy of reception facilities. This work included support and input from delegates representing Arctic Council member states including Norway, Finland, Denmark, Canada and the United States. ISO, having already agreed to develop a shipboard waste management standard by 2007, agreed in 2009 to initiate work on the development of a port waste reception facility standard.

About ISO Standards

[1] The GISIS database may be found at http://gisis.imo.org/Public/Default.aspx.

The ISO is a non-governmental organization based in Geneva and its member delegations are composed of national standards bodies in member countries and observer organizations. National industry standards bodies such as American National Standards Institute (ANSI), United States, and Standard Norge, Norway, and observer organizations provide expertise in many disciplines and can tackle specific challenges, such as planning and operations for ships and ports in Arctic regions, and the establishment of baseline industry standards for all stakeholders.

- Although non-mandatory and not binding on governments, ISO standards are often based on, and set industry standards for the implementation of, international treaties such as MARPOL. Contracting parties to treaties often rely on ISO standards, such as with MARPOL, to develop national legislation to implement their treaty obligations. If incorporated into national legislation, ISO standards can be enforced by member states.

- The ISO ship's waste management standards are developed under the premise that MARPOL applies to all ocean/sea areas including the Arctic Ocean. This includes all international waters seaward of territorial seas (normally extending seaward12 nautical miles from the baseline) and to ports and terminals in MARPOL Contracting Party States. MARPOL Parties have the responsibility to provide reception facilities (as a port state) and enforce MARPOL regulations for all ships under the authority of Port State Control or Flag State Control granted by the Convention. ISO Standards for Arctic shipping (i.e. waste management aboard ships, and at PRFs in Arctic ports) would be developed under the same premise.

Existing ISO Standards on Managing Ship's Waste

ISO 21070: In September 2011, ISO published ISO 21070, *International Standard on Management and Handling of Shipboard Garbage.* This standard provides specific guidance for ship operators on best practices meant to ensure that ships can retain on board ship generated wastes until they reach port, where the wastes can be discharged to a MARPOL reception facility. ISO 21070 also covers waste segregation to encourage recycling; waste storage aboard ships while enroute; and information relating to on board waste management equipment and technologies for:

- Compactors (to reduce volume of stored wastes on board while enroute)
- Comminutors for food wastes (a requirement in all special areas where food wastes must be comminuted and can only be discharged beyond 12 nautical miles)
- Pulpers (similar to comminutors but can be used for paper and packaging materials to reduce volume of stored wastes on board while enroute)
- Plasma Arc Waste Destruction Systems (significantly reduce volume, may be used for food waste)
- Shredders (to reduce volume of stored wastes on board while enroute, and to encourage recycling)
- Incinerators (to reduce volume of stored wastes on board while enroute)
- Calculating the amounts of waste (to ensure adequate storage on board and for accurate record keeping and recording as required by MARPOL)

- Record Keeping and Advance Notice Forms/Waste Delivery Receipts (as required by MARPOL)

Some or all of these technologies and shipboard waste management strategies may be applicable to all vessels (in fact MARPOL Annex V is applicable to all vessels) but may need to be tailored to address specific issues unique to shipping in Arctic waters. These issues include longer duration of voyages due to the limited number of ports and/or navigational considerations unique to high latitude sailing (e.g. fog, weather, darkness), inability to discharge galley wastes due to proximity of ice shelf or land, Special Area designation/restrictions within Arctic waters, cold weather operations and waste storage challenges, and port infrastructure challenges for discharging wastes.

ISO 16304: This draft *International Standard on Management of wastes at port reception facilities* is under development and is presently being prepared for publication. The draft ISO PRF standard is in two parts with Part I dealing with planning of port reception facilities and Part II dealing with PRF operating standards. Topics covered are:

- Waste Segregation (to promote recycling activities)
- Storage (proper storage to ensure that wastes from ship's does not enter the marine environment)
- Waste Minimizing (universal concept for both ships and port operations)
- Waste Handling Equipment (efficient waste handling equipment to ensure safety and environmentally sound waste handling)
- Recycling (to promote sustainable practices for all)
- Local and National Regulations (incorporated by reference for enforcement)
- Treatment technologies (best management practice, industry standards)
- Port Waste Management Planning (for existing and new PRFs)

One important area the ISO Draft International Standard covers is the definition of "adequacy" as it relates to satisfying the MARPOL requirements for providing adequate PRFs in Special Areas.

Further discussion at PAME I – 2013 on ISO standards for operations in the Arctic Ocean might include how to:

- Promote best management practices for management of ships waste aboard ships and ashore at Arctic port facilities
- Enhance record keeping and reporting for ship owners/crews and port/terminal operators in Arctic regions
- Promote concepts of "Cradle-to-Grave" management of ships' waste and principles of reduce, re-use and recycle in Arctic regions
- Ensure wide distribution of guidance for waste handling, management, technology, and responsible and environmentally sound management principles for shipping interests in Arctic regions.

Recent and near term ISO Initiatives relating to Arctic Shipping

In Cyprus at the September 2012 meeting of the ISO Subcommittee on Marine Environment Protection (ISO/TC8/SC2), ANSI proposed that ISO standards on managing ship's waste address Arctic shipping and PRFs in the Arctic and called for project proposals to be introduced at the next intersessional meeting of the work group for standards development.[2] The Cyprus ISO meeting included attendees from the Arctic Council member states of Norway and the United States. The next ISO/TC8/SC2 meeting will be held in Oslo, Norway, 3-7 June 2013. An intersessional work group (WG4) meeting on ship waste management standards will be held in the United Kingdom (venue to be determined) the week following the PAME I-2013 meeting (18-19 February 2013). Application of ISO standards to Arctic shipping is on the WG4 meeting agenda for further discussion.[3]

Recommendations

The U.S. recommends that:

- PAME member states, prior to PAME II-2013, review and update with current data, all information in the GISIS PRF module for their Arctic ports.

- PAME encourage member governments to support ISO's work on revisions or supplements to existing ISO Standards for management of ship's waste and planning and operation of PRFs to address unique circumstances of Arctic ports, and the existing and planned infrastructure and shipping activity in the Arctic.

- PAME encourage member governments to consider participating in the ISO standards development process through their own national standards bodies.

In conjunction with these recommendations, the U.S. offers to develop and submit to PAME II-2013 an up-to-date report of all existing GISIS-reported PRFs for the Arctic region based on information available in GISIS. The U.S. also offers to provide update reports to PAME II-2013 and subsequent PAME meetings on the progress of existing proposals for ISO standards development on Arctic shipping and specifically on the standards for ship's waste management and for PRF.

[2] Condino, D., ANSI Head of Delegation (HoD) Report, ISO/TC8/SC2/WG4, 7 September 2012, Lemosos, Cyprus, dated 20 November 2012

[3] WG4 Chair (Condino, USA) will provide venue details for anyone wishing to attend either the Oslo meeting or the intersessional WG 4 meeting.