

## **7.7 Coordination of Vessels**

Advance coordination with other vessels in the area, including those from National Programs, will prevent ships from arriving at the same place at the same time. Should it prove possible to establish in advance that non-IAATO vessels intend to visit the same localities, it may be possible to alter arrival times to reduce the coincident environmental impact at a particular site. IAATO has a comprehensive *Vessel Call Data* operational document that is distributed to all vessels, COMNAP, and other relevant parties in advance of the season.

COMNAP's MiniATOM is also provided to the Members as part of their pre-season documentation in order for each Member's vessels to have the contact for ships and bases operated by the Parties.

In addition, IAATO's online ship-scheduling program has proven to be an effective management tool towards coordinating vessel schedules prior to the season.

## **7.8 Ship Operations**

The use of light fuels for ship and small boat operations helps minimize pollutants discharged to the environment. Efforts are made to minimize disturbances to animal and plant communities through avoidance, low-impact boat operations and maintaining low boat speeds and engine noise while in the presence of animal communities. Plant and animal communities are observed undisturbed with minimal impact to the sea and land routes used for observation.

### **7.8.1 Oil and Oily Mixtures**

The M/V *Scenic Eclipse* complies with the standards required under Article 3 of Annex IV. As mentioned above, *Scenic Eclipse* carries an approved SOPEP. Waste oil will be retained on board for disposal on return to port. Limited oil spill contingency response equipment is carried on board, and officers and crew are trained in emergency response procedures.

### **7.8.2 Garbage**

The ships' Management, (Captains, officers, crew, ship's Hotel Managers) are generally aware of their obligations under the terms of MARPOL. The ship has the latest IMO type approval standard for incineration. (MEPC 244 (66)).

On-board incineration of waste is an approved garbage treatment process under MARPOL, which incorporates specifications for shipboard incinerators. Vessels with incinerators are designed, constructed, operated and maintained in accordance with this standard. Dry garbage is to be incinerated or treated otherwise by accepted standards. In addition, the ship has the following garbage processing equipment which minimizes the collected volume. This includes: a bale compactor, Glass crusher, waste shredder, and tin densifier. The bone crusher are than later put in cold storage. The storage area can contain estimated garbage generated in the course of 3 weeks provided it has been processed. MARPOL totally prohibits the discharge of all garbage at sea (except food waste). All plastics will either be burned or brought back and disposed of in port.

The ship will comply with the Protocol on Environmental Protection to the Antarctic Treaty, Annex III, and Article 7 Prohibited Products. *No polychlorinated biphenyls (PCB's), non-sterile soil, polystyrene beads, chips or similar forms of packaging, or pesticides (other than those required for scientific, medical or hygiene purposes) shall be introduced onto land or ice shelves or into water in the Antarctic Treaty area.* If any of these items are found, they will be removed and brought back to port for disposal. Discussions will take place with ship's management and crew to ensure that such packaging and other prohibited items are not used. The M/V *Scenic Eclipse* will also comply with Annex III of the Protocol to remove all stated items including electrical batteries. Publicity will be given to this on-board ship. There is a separate box or an alternative sorting system in the ship's office where passengers, officers, staff and crew are asked to bring all expired batteries so that they can be returned to port for proper disposal.

Food wastes are separated according to MARPOL, Protocol Annex II, Appendix C and 'all' All poultry wastes will either be kept refrigerated or in frozen storage for disposal upon return to port or incinerated. "All other products," predominantly kitchen waste from food preparation and disposal, will be stored in tanks until they can be released. No poultry products will be taken ashore or onto the ice.

At IAATO's 18<sup>th</sup> and 27<sup>th</sup> Annual Meetings the membership agreed a waste management policy as noted below. This establishes a procedure that **exceeds** MARPOL and also reduces the potential for cumulative impacts:

*The IAATO Membership has discussed waste management practices in marine areas adjacent to the area of the Antarctic Treaty and agreed that: for IAATO Member operated SOLAS vessels and IAATO yachts (if applicable), the restrictions on discharge into the sea from vessels that apply in the Antarctic Treaty area, pursuant to the Protocol on Environmental Protection to the Antarctic Treaty and MARPOL 73/78, including the latest amendments per the Polar Code<sup>2</sup>, should be extended northward to apply everywhere south of the Antarctic Convergence<sup>1</sup> (Polar Front); the location of the Antarctic Convergence shall normally be deemed to be the line defining the northern limit of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) set forth in Article I, paragraph 4 of the Convention<sup>1</sup>, unless measurement of variation in sea water temperature clearly establishes its location as further north;*

*with the long-term objective of preventing any discharge of waste by IAATO Member operated vessels on Antarctic voyages, all such vessels capable of doing so are strongly urged to retain all waste on board for appropriate shore-side disposal; and IAATO open lines of communication with the appropriate authorities in gateway ports aimed at promoting expansion of environmentally sound waste reception facilities.*

### **7.8.3 Sewage**

The vessel is required to comply with the MARPOL requirement for sewage treatment. All sewage, gray water and kitchen sink water is stored in tanks until it can be processed. The treatment plant chlorinates and flocculates sewage, separating solids and liquids. If possible, all waste will be held in tanks and disposed of when the ship is north of the Antarctic Convergence. If this is not possible, the ship has in operation an approved sewage treatment plant certified to meet the operational requirements of MARPOL and the Polar Code. The Polar Code requires that discharges will be done as far as practicable from the nearest land, any ice shelf fast ice or areas of ice concentration exceeding 1/10. (Polar Code 4.2.1.3. 4.2.2).

If the ship operates in areas of ice concentrations exceeding 1/10 for extended periods of time, Then treated sewage may be discharged in those areas, subject to approval of the ship's administration (flag or class) (Polar Code 4.2.3).

### **7.8.4 Ballast**

Those responsible for managing ballast on the ship will ensure that the ship's management are aware of and comply with international guidelines for preventing the introduction of unwanted aquatic organisms and pathogens from ship's ballast water and sediment discharges. *Scenic Eclipse* will require the uptake and release of only clean ballast picked up in the Southern Ocean north of 60°S and will not allow tank washing water, other oily residues or mixtures to be released in Antarctica. The ships are required to comply with the international agreed Ballast Water Convention and ATCM Decision 2 (2006) on Ballast Water Exchange in the Antarctic Treaty Area. In addition, there is an IMO approved Ballast Water Treatment system installed consistent with IMO Ballast Water Convention which entered into force September, 2017. In addition, the ship will have a biofouling management plan in order to further mitigate the introduction of non-native species.

### **7.8.5 Stack Emissions**

The M/V *Scenic Eclipse* burns marine gas oil. The ship will produce normal amounts of hydrocarbon, heat and trace chemical emissions. The emissions will be a function of the types and quantity of fuel burned, and potential smoke emissions from the incinerator. The vessel will have opacity meters installed which will provide an alarm if opacity exceeds 20%. Impacts to air quality will be no more than minor or transitory as well as local.

The helicopters burn aviation fuel with limited emissions will be no more than minor or transitory. See Appendix 11. 14 for additional information.

### **7.8.6 Avoidance of Harmful Interference with Biota**

All expeditions intend to show passengers marine mammals at sea, with a primary focus on large baleen whales and Orcas. Much of this will be possible from the ship itself, whilst under