WASTE MANAGEMENT PLAN

DESIGNATED PERSON IN CHARGE

The Master has designated the Chief Mate as the person in charge of the Waste Management Plan. As such, the Chief Mate shall develop a plan that complies with all rules and regulations governing shipboard refuse to the satisfaction of the Master. The Chief Mate shall be responsible for administering the plan and ensuring that this vessel remains in compliance at all times with regard to the discharge, burning, and record keeping of all shipboard refuse. The Waste Management Plan shall be posted in conspicuous locations throughout the vessel.

CREW AWARENESS

All crew members and science party members shall be familiar with and comply with the Waste Management Plan at all times. Any questions concerning this plan shall be addressed to the Chief Mate. Keep in mind that intentional and/or unintentional violations of federal regulations with regard to shipboard refuse could lead to significant financial fines (up to $25,000) levied against the vessel.

Each department head (Chief Mate, Chief Engineer, Chief Steward, Expedition Leader, and Chief Scientist) shall see to it that the Waste Management Plan is adhered to within their respective departments and that all federal regulations are adhered to.

The Waste Management Plan is necessary to keep Atlantis safe and sanitary. It is also required by law. Your full cooperation is expected.

ARTHUR D. COLBURN, III
MASTER, R/V ATLANTIS
1. The laws governing shipboard refuse are very clear on what and when trash can be discarded at sea. All other refuse must be either retained on board or incinerated.

2. When trash is discarded at sea, the Mate on Watch is required to log:
   - The time/s of the overboard discharge and/or incineration.
   - The type of trash incinerated, food waste overboard, and trash disposed ashore.
   - The amount of food waste overboard, trash incinerated, and trash disposed ashore.
   - The location of the ship.

3. At no time shall food waste be thrown overboard unless the Mate on Watch is notified beforehand.

4. At no time shall food waste be thrown overboard during Alvin Operations or when Atlantis is within six (6) miles of a dive site.

5. Only crewmembers are authorized to discard food waste over the side.

6. The separation of shipboard refuse is imperative if Atlantis is to remain in compliance with federal regulations.

7. It is each individual’s responsibility to separate his/her own trash as the mixing of trash is not permitted. This extends to any and all trash that accumulates in staterooms, labs, deck spaces, engine spaces and shop areas. There are no exceptions.

8. The fact that the ship has an incinerator onboard does not eliminate the need to separate the trash. The mixing of trash for the incinerator shall be done by the persons responsible for burning the trash. They will not be responsible for separating trash. That is each individual’s responsibility.

9. Because it is standard company policy to recycle wherever practicable, any shipboard environmentally harmful anti-freeze that needs to be recycled shall be collected in DOT barrels until reaching port (preferably WHOI). The Port Office will need to be informed to contact an environmentally friendly recycling company. Once in port, the recycling company will exchange empty DOT barrels for those containing the anti-freeze to be recycled.

See the attached separation scheme and trash bin location.
TYPES OF TRASH

All trash shall be separated as follows:

Biodegradable (for disposal at sea)
- Food Waste – all food waste. (i.e. leftovers, scraps, snacks)

Burnable (to be incinerated)
- Plastics – all plastics, rubber, styrofoam, and synthetic non-biodegradable materials
- Paper – all paper products including wood

Non-Burnable: (for disposal ashore)
- Cans – all cans except paint cans, oil cans, and aerosol cans
- Glass – broken and unbroken glass of all types
- Steel

Hazardous (HazMat disposal ashore)
- Flammable Waste
- Explosives
- Dirty / Oily Rags
- Fuel / Oil Filters
- Fuel / Oil Cans
- Paint – Brushes, Cans, Roller
- Aerosol Cans

Chemical / Radioactive Waste
- All science parties are responsible for the safe storage and removal of any chemical and/or radioactive waste that they bring aboard or generate.
- A list that includes the type, location and volume of all chemicals brought on board shall be provided to the Chief Mate.
- Material safety data sheets (MSDS) for all chemicals shall also be provided to the Chief Mate.

Peter T. Leonard Jr
Chief Mate, R/V ATLANTIS
**SUMMARY OF RESTRICTIONS TO THE DISCHARGE OF GARBAGE INTO THE SEA UNDER REGULATIONS 4, 5 AND 6 OF MARPOL ANNEX V**

Note: The following table is intended as a summary reference. The provisions in MARPOL Annex V, not the table below, prevail.

<table>
<thead>
<tr>
<th>Garbage Type 1</th>
<th>All ships except platforms 2</th>
<th>Within special areas Regulation 6 (Distances are from nearest land or ice-shelf)</th>
<th>Offshore platforms located more than 12 nm from nearest land and ships when alongside or within 500 meters of such platforms 4 Regulation 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food waste comminuted or ground 4</td>
<td>≥ 3 nm, en route and as far as practicable</td>
<td>≥ 12 nm, en route and as far as practicable 2</td>
<td>Discharge permitted</td>
</tr>
<tr>
<td>Food waste not comminuted or ground</td>
<td>≥ 12 nm, en route and as far as practicable</td>
<td>Discharge prohibited</td>
<td>Discharge prohibited</td>
</tr>
<tr>
<td>Cargo residues 5,6 not contained in wash water</td>
<td>Discharge prohibited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cargo residues 5,6 contained in wash water</td>
<td>≥ 12 nm, en route and as far as practicable</td>
<td></td>
<td>Discharge prohibited</td>
</tr>
<tr>
<td>Cleaning agents and additives 5 contained in cargo hold wash water</td>
<td>Discharge permitted</td>
<td>≥ 12 nm, en route and as far as practicable (subject to conditions in regulation 6.1.2)</td>
<td>Discharge prohibited</td>
</tr>
<tr>
<td>Cleaning agents and additives 5 in deck and external surfaces wash water</td>
<td></td>
<td></td>
<td>Discharge permitted</td>
</tr>
<tr>
<td>Animal carcasses (should be split or otherwise treated to ensure the carcasses will sink immediately)</td>
<td>Must be en route and as far from the nearest land as possible. Should be &gt; 100 nm and maximum water depth</td>
<td>Discharge prohibited</td>
<td>Discharge prohibited</td>
</tr>
<tr>
<td>All other garbage including plastics, synthetic ropes, fishing gear, plastic garbage bags, incinerator ashes, clinkers, cooking oil, floating garbage, lining and packing materials, paper, rags, glass, metal, bottles, crockery and similar refuse</td>
<td>Discharge prohibited</td>
<td></td>
<td>Discharge prohibited</td>
</tr>
</tbody>
</table>

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1. When garbage is mixed with or contaminated by other harmful substances prohibited from discharge or having different requirements, the more stringent requirements shall apply.
2. Comminuted or ground food wastes must be able to pass through a screen with mesh no larger than 25 millimeters (one inch).
3. The discharge of introduced avian products in the Antarctic area is not permitted unless incinerated, autoclaved or otherwise treated to be made sterile.
4. Offshore platforms located 12 nautical miles from nearest land and associated ships include all fixed or floating platforms engaged in exploration or exploitation or associated processing or seated mineral resources, and all ships alongside or within 500 meters (1650 feet) of such platforms.
5. Cargo residues means only those cargo residues that cannot be recovered using commonly available methods for unloading.
6. These substances must not be harmful to the marine environment.