ARM 7.1 R/V ARMSTRONG Masters Standing Orders

Originator:	Approved By:
Kent Sheasley	Albert F. Suchy

1. Purpose

The purpose of this procedure is to set forth the Master's Standing Orders aboard R/V Armstrong.

2. Responsibility

It is the responsibility of the Master to establish standing orders and to ensure that all Deck Officers follow these orders.

3. General

The Following Standing Orders, in conjunction with and in addition to the WHOI Safety Management Manual (volumes 1 & 3), are to be read, understood, and signed by each bridge Watch Officer when reporting aboard and prior to assuming a bridge watch.

The Standing Orders give basic direction and guidance in operational limits and procedures that have been found to be safe, efficient, and in the practice of good seamanship.

No matter what time of day or night, ship's location, situation noted in the standing orders, or anything otherwise, **CALL THE MASTER IF IN ANY DOUBT**.

BRIDGE EQUIPMENT:

Watch officers are expected to be familiar with all electronics, controls, and indicators on the bridge. This includes (but not limited to):

1) Fire Detection panel and it's operation
2) General Alarm Bell actuator
3) GMDSS console and operation
4) Radars and inputs/sensors
5) ECDIS system and inputs/sensors
6) Dynamic Positioning System (DPS) and inputs/sensors
7) Location of fire extinguishers, ventilation shut-downs, emergency lighting switches, fixed firefighting system (Hi-Fog), water tight door controls, fuel shut-down box, emergency engine shut-downs
8) Abandon ship equipment - flares, SCTs, lifejackets, exposure suits
9) VHF and UHF radios
10) Navigation light panel
11) Ship's whistle (manual and automatic) controls
12) Electronic aids to navigation – anemometers, doppler speed log, compasses, fathometer
13) Steering and Propulsion system/modes, switching between modes/stations, and emergency steering shut-downs
14) Internal Communication systems

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Bridge Watch Schedule:

Mates:		AB / OS:
Chief Mate:	0600-0800, 1200-1800	0400-0800, 1600-2000 – 1 AB
Second Mate:	0800-1000, 0000-0600	0000-0400, 1200-1600 – 1 AB & 1 OS
Third Mate:	1000-1200, 1800-2400	0800-1200, 2000-2400 – 1 AB

Note: Ordinary Seaman may be assigned to day work when conditions warrant per Captain.

LOOKOUTS:
A proper lookout, per USCG Navigation Rules, is to be maintained at all times. When conditions warrant (reduced visibility, close proximity to shore or congested traffic) a second seaman may be required, and off-watch personnel can be called out per posted schedule.

WATCH STANDING:
It is the Watch Officer's responsibility to maintain a safe, efficient, and productive watch using the practice of good seamanship. It is our job to keep the vessel's occupants safe and achieve the science goals. Watch standers, especially the Mate on Watch, shall stay aware of all available information sources, equipment settings, displays, as well as deck operations. Watch Standers and Mates shall maintain an overall big-picture view of all information. A regular and effective scan of all bridge displays and views of deck operations should be developed and used constantly.

Bridge Watch Officers shall provide training to new seamen, as well as provide practice to regular shipmates, in standing a proper and effective watch. This includes hand steering and steering system/console operation, proper lookout procedures using the point system, fire detection panel operation, and checking the magnetic compass in comparison to the gyro compass.

All watch turnovers (both Mates and Helm/lookouts) shall include:

1) Gyro Heading
2) Magnetic compass check
3) Steering system mode in use, including any thrusters de-assigned (and why they are as such)
4) Status of ship's generators, and which are online
5) Current operation and anticipated operations, especially equipment tethered to the ship or close aboard, as well as their limitations and concerns
6) Any discrepancies in navigation or steering/control equipment
7) Visual, Radar, and AIS contacts

In addition to the above, the Watch Officer's turnovers shall include a thorough pass-down description of the navigation and operational/science plan and activities (past, current, and anticipated), as well as any discrepancies in equipment or machinery (including whether the Master has been informed as appropriate).

- Make sure you can hear, and understand, the VHF and UHF radios at all times.
- Make sure any position reports required (such as Greenpos) go out on time and in the proper format.
- All radio communications are to be pleasant, courteous, clear, and professional.

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CPA GUIDELINES:
When underway in open water, maintain greater than 1.5 nm CPA to other vessels regardless of their size. If there is science equipment deployed, that minimum may be increased as appropriate to protect the equipment. The watch officer should be aware at all times of how much wire/equipment may be out, where it is leading, its depth, and its horizontal distance from the vessel.

When operating in coastal, congested, or confined waters, the CPA limit can be reduced to 1.0 nm as long as traffic is proceeding in a recognized and comfortable manner (consistent course and speed, or dead in the water). If the vessel is in a traffic separation scheme, “stay in your lane”.

In all cases, the CPA and relative motion of all targets are to be monitored closely by the watch. Both collision avoidance and vessel security should be considered when monitoring any contact. CPAs of less than 0.5 nm are not authorized without notifying the Master.

At all times, rules of the road (including lights, shapes, and whistle signals) shall be followed. If you anticipate a need to deviate from the rules, or cannot maintain CPA minimums per these orders, call the Master immediately and as ahead of time as possible, or anytime in doubt.

Slow, stop, back down, alter or reverse course to avoid an “In Extremis” situation.

SCIENCE OPERATIONS:
The purpose of the R/V Armstrong is to conduct scientific data collection operations. These operations are conducted using a wide array of equipment, in an even wider variety of deployment methods, in all types of weather and sea conditions. The on-board routines and practices have been established, developed, and refined over many years to accomplish the science mission in the most safe, practical, and consistent way. There are several “bread and butter” operations that are described in the information/reference section of the rough log. Gaining a solid understanding of these operations will help in the bigger goal of understanding how to effectively and safely use this ship as a science platform. Do not hesitate to ask questions of the Master or experienced Mates in these situations and why certain details (such as keeping a straight wire, knowing the “bail out” maneuver, and setting up for a mooring deployment) have more applications than just the one situation or deployment type. We will continue to strive to do whatever we safely can for science.

Safety is the highest priority at all times. Call the Master any time if in doubt as to the safety of conducting any operation. The Watch officer has the authority and responsibility to halt any activity that appears to be unsafe. Examples are lack of PPE, improper or no use of taglines, or insufficient personnel to do the job safely. It is expected that these conditions will be rectified in short order and operations will continue.

ICE NAVIGATION:
When the vessel is operating in higher latitudes, the watch must be continually vigilant to the possible presence of ice. It is especially important to maintain proper visual lookouts AT ALL TIMES, and additional lookouts may be called out.

Both radars are to remain in operation with general guidelines being the 3 cm radar set to lower range scales (6 nm or less), and the 10 cm radar set to scales 12 nm or greater for early detection and long range scanning. Interference reductions should be set as low as practical to highlight poor radar targets nearest the vessel. Larger icebergs are generally detectable by radar. It is the smaller sized pieces that are of greater concern, as they are hard to detect until close aboard. Of particular concern are “Bergy Bits” and “growlers”, which are the general size of a piano to VW bug; they are hard to detect until close aboard, yet can do significant damage to the hull if contact is made. In any case, all ice is of concern.

If ice is encountered in the ship’s path – steer around (if clear), slow, or stop the ship as necessary. Notify the Captain immediately, but taking effective action is the first priority. Do not allow ice to come in contact with the hull unless the Master is present and approves the situation.

While in Ice Country:

a. Whenever the vessel is making way, one watchstander will be looking forward and scanning AT ALL TIMES. Keep breaks to a minimum, and if someone is on break, the mate will personally maintain full lookout duties; scanning for ice, primarily Bergy Bits and Growlers (from piano to VW bug sized pieces).
b. Utilize the Ice Lights during hours of evening twilight to morning twilight.
c. The 3 cm radar shall be kept at low ranges and minimal sea filter to aid in ice detection.
d. All deadlights and curtains will be checked during evening twilight to ensure the minimum amount of back-light which interferes with night vision. Bridge electronics should be dimmed as much as practical as well.
e. DO NOT let the hull come in contact with ice. Slow, alter course, stop, or back down as necessary.
f. There will be NO computer work (other than for navigation) while underway at night. If you need to alter a waypoint or otherwise adjust something, do so expeditiously.

VESSEL SECURITY:
Using a constant 360 scan around the vessel, be aware of the possibility of other vessels mirroring our movements, approaching closer than normal, or any threatening or suspicious manner. Report all such situations immediately to the Master and Ship’s Security Officer (Ch Mate). In-port procedures are posted and will be followed according to the Chief Mate’s in-port bill and security plan.

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When to notify/call the Captain in general:

a. Any time there is doubt
b. If the standing orders cannot be maintained
c. If ANY equipment (machinery, electronics, science gear) has a failure or is not functioning properly or as expected
d. Before making changes to parameters in electronic equipment that is not “normal” operator setting changes
e. If there is a change, failure, or adjustment to safety gear, ground tackle, or hull fittings
f. If there is a change, opening, or adjustment to stability or watertight fittings
g. If a navigational aid or hazard to navigation was not sighted as it should, or one was sighted that should not be
h. When another vessel is not acting as agreed/expected with regard to maneuvering or when in doubt of another vessels intentions, especially if they continue to close in what appears will be inside CPA limits (per Standing Orders) and/or you cannot get a response via VHF
i. If there is a significant change in weather for concern of operations or safety of people and vessel
j. If anything is sighted (or otherwise detected) that could be safety gear (or remnants of) or signs of distress (lifejackets, epirbs, life rings, life rafts, survival suits, radio call, etc)
k. Vessel encounters reduced visibility (less than 1 nm)
l. Vessel encounters an amount of ice (growlers or bigger) where continual (or nearly so) course changes are needed to avoid contact
m. If there is any question about the safety or control of deck operations

Captain Kent D. Sheasley
R/V Neil Armstrong
January 2015