



SAFETY MANAGEMENT MANUAL

ATL 01 R/V ATLANTIS CREWING	
Originator:	Approved By:
Christopher Morgan	Al Suchy

1. Purpose

The purpose of this procedure is to describe the vessel's concept design, voyage profile and complements for the Coast Guard in accordance with the Marine Safety Manual, Volume III, Chapter 23, Manning Requirements For Automated Vessels; Code of Federal Regulations (CFR); Standards in Training, Certification (STCW); Safety of Life at Sea (SOLAS); and Navigation and Vessel Inspection Circulars (NVIC).

The Woods Hole Oceanographic Institution (WHOI) is presently operating the R/V ATLANTIS (AGOR-25), which is owned by the Office of Naval Research (ONR). It is a member of the University National Oceanographic Laboratory System (UNOLS).

2. VESSEL DESCRIPTION

The R/V ATLANTIS is a 274 foot oceanographic research vessel classed and built under survey by the American Bureau of Shipping with designation symbols Σ A1 (E), Σ AMS, Σ ACCU, and Ice Class "C". The vessel is inspected under 46 CFR Subchapter U (Oceanographic Research Vessels) for unrestricted service and periodically unattended machinery plant. The vessel meets IMO regulations for SOLAS and MARPOL.

The vessel has the following characteristics:

Displacement	3512 LT	
Gross Tons	3180 Tons	
Length (LOA)	274 feet	
Beam	52.5 feet	
Draft	19 feet	
Maximum Speed	15 knots	
Propulsion Horsepower.....	6,000 Hp	
Voyage Range	17,280 NM	
Voyage Endurance	60 days	
Complement (Crew and Scientists)		59

The machinery plant is an integrated diesel electric propulsion system consisting of two independent propulsion drive trains, split propulsion/ship's service bus, diesel generator sets and azimuthing bow thruster. All are fully automated for periodically unattended operation.

Vessel control stations are located on the Bridge Center Console, Port and Starboard Bridge Wings and Electronic Lab on the main deck. Machinery control stations are



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located on the Bridge Center Console, Main Control Console, and individual local machinery panels.

3. VESSEL MISSION PROFILE

The R/V ATLANTIS is operated by a civilian crew and performs open ocean (seaward of the boundary line) and near coastal oceanographic research worldwide. The mission profile consists of:

- Logistical support for the manned research submarine ALVIN
- Physical, chemical and biological oceanography
- Multi-discipline environmental investigations
- Ocean engineering and marine acoustics
- Marine geology and geophysics
- Bathymetric, gravity and magnetic surveys
- Ocean bottom mapping surveys
- Shipboard data processing and sample analyses

Science missions will include launching, recovery and support of the manned submarine ALVIN as well as launching, towing and recovery of scientific packages, both tethered and autonomous, including the handling, monitoring and servicing of remotely operated vehicles (ROVs) and autonomous underwater vehicles (AUVs).

The vessel will average approximately 280 days at sea per year with the length of missions ranging from just a few days up to 60 days each. The vessel will typically have a several day in-port layover period between missions for science staff exchange and preparations.

4. CREW UTILIZATION

A crew utilization analysis has been performed to quantify the daily labor and rest hours for individual members for a 60-day voyage.

Each member is provided with adequate rest periods while still being available for training and non-routine activities. Regulatory statutes and the managing operator's administrative policies governing work hours and rest periods discussed below have been satisfied.



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Administrative Policies:

- Routine Work Day: Maximum of 12 hours in a 24-hour period (Marine Safety Manual, Volume III, Chapter 22.C.5.d).
- Non-Routine Work Day: Maximum of 14 hours in a 24-hour period, but not exceeding 36 hours in a 72-hour period (Marine Safety Manual, Volume III, Chapter 22.C.5.d).
- Minimum Rest period: Rest period will be at least 10 hours in a 24-hour period (46CFR15.1111(a.(1))). Rest period will be 77 hours in any 7 day period (46CFR15.1111(a.(2))).
- Minimum Rest Period Duration: Off duty time will be governed by science schedules and non-routine activities. The hours of rest under (46CFR15.1111(a.(1))) may be divided into no more than two periods in any 24-hour period, one of which must be at least 6 hours in length, and the interval between consecutive periods of rest must not exceed 14 hours (46CFR15.1111(b)).
- Employment Agreements: Crewmembers' concurrence to work in excess of an 8 hour day to be documented (Marine Safety Manual, Volume III, Chapter 22.C.2a).
- Overtime Limitations: Overtime limits are set by the Director of Ship Operations and may change depending on the mission, funding and status of the vessel.

Personnel:

- Current Required Crew Complement (COI dated 2/12): Master (1), Chief Mate (1), 2nd Mate (1), 3rd Mate (1), Able Seaman (4), Ordinary Seaman (2), Chief Engineer (1), 1st Assistant Engineer (1), 2nd Assistant Engineer (1), 3rd Assistant Engineer (1), and (1) Oiler for a total of 15 members.
- Reduced Crew complement when operating not more than 12 hours in any 24 hour period (USCG COI): Master, Chief Mate, Licensed Mate (1), Able Seaman (2), Ordinary Seaman (1), Chief Engineer, Licensed Engineer (2), and (2) Oiler for a total of 11 members.
- Additional Persons in the Crew: It is requested that the vessel be allowed to carry 7 additional persons in the crew. These are as follows: 1 ET/Comm (Deck Department), 1 Steward (Steward's Department), 1 Cook (Steward's Department), 1 Mess Attendant (Steward's Department), 1 Oiler (Engine



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Department), 1 Oiler/Electrician (Engine Department), 1 Wiper (Engine/Deck Department).

- Science staff: The maximum number of scientific personnel is limited to the remaining berths on board the vessel. There are 59 berths on the vessel. With the number of required crewmembers at 15 and the additional persons in the crew 7, the maximum number of scientific personnel is to be 37.

5. STATION BILL ASSIGNMENTS

Station Bill assignments have been established for the crew complement to ensure that an adequate response can be mustered for all emergency conditions. Emergency events considered were abandon ship, man overboard, ship collision/grounding and fire.

A shipboard fire or collision/grounding is considered to be the worst case scenario. It requires largest number of crew members required to muster an adequate response and still provide for the continued safe operation of the vessel. Two emergency squads (damage control or fire hose teams) and watch standers are necessary to respond to these emergencies.

A minimum crew complement of 15 is required to fill all Station Bill assignments. The crew complement is 15 with 7 persons in addition to the crew for a total complement of 22.