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2026 SMM Summary of Changes

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Updates uploaded to the ship's intranet - 09/17/2026

5.0 - 9/17/2026 - Master's Responsibility, Authority, & Guidance

- Added:
 - The assignment of watches, work rotations, and "call-outs" as required for the safe and efficient operation of the vessel. This includes modification of or removal from duty based on performance.

7.0.9 - 9/17/2026 - Crew Work Hours and Rest Periods

- Added:
 - If Mariner and Master are not in agreement on the accuracy of the Work/Rest form:
 - Master to contact Port Captain and/or Port Engineer
 - Shoreside contact to find out why there is not agreement
 - Master to document the reason in the comments section and note who was contacted shoreside
- Old USCG/STCW Record of Hours Worked and Hours of Rest Removed

6.1 - 9/17/2026 - Crew Familiarization & Qualifications Form

- Added section for Additional Training with the below two items
 - **1.** ____/____ Has completed the TGT CREW Cybersecurity Awareness Training course at <http://www.rvtgt.uw.edu/csat/csat.php>
 - **2.** ____/____ Has completed the required Husky Prevention and Response Training (<https://www.washington.edu/titleix/title-ix-employee-course/>) and submitted the course certificate to maropsadmin@uw.edu this may have been completed prior to joining the vessel.

Updates uploaded to the ship's intranet - 07/31/2026

2.3 - 7/31/2026 - Master Key Control

- Section renamed to "Berthing Areas Master Key Control"

- Implementation Plan section updated to "Background" with information about the implementation of the new Master Control Program
- Added: US Coast Guard Policy Letter 23-04 Guidance On Statutory Information Requirements Within Accommodation Spaces On Merchant Vessels
- Added screenshot of blank Master Key Log

5.1 - 07/31/2026 - Master's Change of Command Report and Inventory Form

- Added STCW Work/Rest records signed for departing crew
- Added IMO list after Sailing Orders, voyage plan
- Added "Change of Command (COC)" to deck log entry line
- Moved "repair schedule" to the Maintenance item

7.0.9 - 07/31/2026 - Crew Work Hours and Rest Periods

- Title of section updated from Crew Rest and Overtime
- Purpose and Procedure updated to reflect the new use of ISF WATCHKEEPER
- Work Rest Form updated to match ISF Watchkeeper

Updates uploaded to the ship's intranet - 6/8/2026

7.5 - 06/04/2026 - Cybersecurity

- Information added about the basic cybersecurity training requirement for all crew members

10.3.1 - 06/04/2026 - Deck Critical Equipment and Maintenance Form

- Motor Rebuilt dates removed from Winches, boom, a-frame, and capstan
- Medical Kit Expiration date added under Ship's Hospital

Updates uploaded to the ship's intranet - 4/30/2026

2.1 - 04/30/2026 - Safety and Environmental Policy

- USCG reference links updated

6.1 - 04/30/2026 - Crew Familiarization & Qualifications Form

- Cybersecurity awareness training bullet point added

10.3.2 - 04/30/2026 - 3rd Mate Safety Inspection Form

- Eye Wash Station drain and refill frequency changed from quarterly to every 6 months

Updates uploaded to the ship's intranet - 03/09/2026

10.4 3/9/2026 Master's Monthly Report

- Added "During scheduled maintenance periods for the vessel, portions of the Master's Monthly Report may be suspended with approval from the Port Captain."

Updates uploaded to the ship's intranet - 03/05/2026

2.1 - 03/05/2026 Harassment & Personal Relationships

- Links updated

3/5/2026 - Added "During scheduled maintenance periods for the vessel, the requirement for monthly critical equipment forms may be suspended with approval from the Port Captain." to:

- 10.2 Reporting and Record Keeping
- 10.3 Monthly Critical Equipment Forms
- 10.3.1 Deck Critical Equipment and Maintenance Form
- 10.3.2 3rd Mate Safety Inspection Form
- 10.3.3 2nd Mate Navigation Form
- 10.3.4 Engineering Critical Equipment and Maintenance Form
- 10.3.5 Steward Critical Equipment and Maintenance Form

10.1 - 03/05/2026 - Maintenance Procedures

- Added "During scheduled maintenance periods for the vessel, the requirement for monthly critical equipment forms may be suspended with approval from the Port Captain."
- Added recommendation to complete UW Hand and Power Tool Safety Course with link to the course included

Updates uploaded to the ship's intranet - 02/26/2026

2026 Summary of Changes - 02/26/2026

- Moved 2025 changes to Previous Years' Summary of Changes
- This page updated to show only 2026 Changes

Updates uploaded to the ship's intranet - 02/06/2026

4.0 - 02/06/2026 - Designated Person (DP)

- Replaced Robert Kamphaus with Gregory Higgins

8.0.1 - 02/06/2026 - Emergency Contacts

- Dean - College of the Environment information updated
- Director - School of Ocean phone number added
- Associate Director information updated
- Marine Superintendent information updated to new Manager of Marine Operations

- Admin Assistant information updated
- Risk Management information updated to UW Compliance and Risk Services
- Risk Management Insurance coordinator information updated to UW Risk Services

SMM 1.0.1 Safety Management Manual

Introduction and Application

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The University of Washington (UW), School of Oceanography, operates the R/V *Thomas G. Thompson*, which is owned by the Office of Naval Research (ONR). The University of Washington School of Oceanography follows the International Maritime Organization's (IMO) International Safety Management (ISM) Guidelines.

This manual provides information and guidance on various policies, regulations, procedures, safety, and lifesaving precautions. The intent is to assist everyone involved in meeting the scientific objectives, and throughout all operations, accomplish "Clean and Safe Science". This manual applies to the shore staff, crew, members of the scientific party, and the marine technicians.

The shore staff that directly oversees the vessel operations is referred to as UW Marine Operations, or UW MarOps. This staff is responsible for implementing and updating this manual. The marine technicians are referred to as SSSG (Shipboard Science Support Group) or RV Techs (Research Vessel technicians).

The section numbers in this manual correlate to the 13 ISM Code sections.

Other policies and useful information along with the most recent version of the SMM can be found at this link https://www.ocean.washington.edu/story/RV_Thomas_G_Thompson

The manual is also available on the ship's intranet server.

SMM 1.1 Safety Management System Overview

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The Safety Management System is required by the SOLAS Convention and is mandatory for all cargo ships of 500 gross tons and over. The Research Vessel *Thomas G. Thompson* is regulated under SOLAS as a cargo vessel. The ISM Code requires the certification of the company and compliance with the stated Safety Management System.

The ISM Code provides an international standard for the safe management and operation of ships and for pollution prevention. Central to the ISM Code is the establishment of a Safety Management System (SMS) that is documented and followed. The SMS is documented in a Safety Management Manual (SMM). The SMM is a living document that reflects what and how things are done safely on vessels operated by the University of Washington School of Oceanography, or UW MarOps.

Under the ISM Code UW MarOps is required to receive a Document of Compliance. This is issued by several third party organizations authorized by the International Maritime Organization. UW has chosen American Bureau of Shipping (ABS) to perform this function. A Document of Compliance is valid for a period of five (5) years. Compliance is verified annually within three months before or after each anniversary date of its issuance.

The safety management objectives of UW MarOps are to provide for safe practices in ship operations and a safe working environment. It assesses all identified risks to vessels, personnel and the environment and establishes appropriate safeguards. The SMS continuously improves safety management skills of personnel ashore and aboard ships, including preparing for emergencies related both to safety and environmental protection. The Safety Management System ensures compliance with mandatory rules and regulations and that applicable codes, guidelines and standards recommended by the Organization, Administrations, classification societies and maritime industry organizations are met.

The function of the Safety Management System is to develop, implement, and maintain a safety and environmental protection policy. It contains instructions and procedures to ensure safe operation of ships and protection of the environment. The SMS defines levels of authority and lines of communication between, and amongst, shore and shipboard personnel. It establishes procedures for reporting accidents and nonconformities with the provisions of the ISM Code, provides procedures to prepare for and respond to emergency situations, and procedures for internal audits and management reviews. These are documented in the Safety Management Manual.

The development and maintenance of the SMM is coordinated by the MarOps staff, under the direction of the Manager of Marine Operations. Input, recommendations, and changes to the SMM are encouraged from both shore and vessel personnel.

SMM 2.0 Safety and Environmental Policy

Version 2023 May 04

Updated AS Approved RAK

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UW School of Oceanography, Marine Operations (MarOps) is committed to providing a safe, healthy, and environmentally responsible workplace for employees and scientists.

The Safety Management System (SMS) will ensure a safe, healthy, and environmentally responsible workplace by:

- Complying with all applicable safety and environmental laws, regulation, and other university requirements; and
- Complying with all Federal, State and University rules to ensure employees work in a safe and healthy workplace with an atmosphere free from discrimination, harassment or intimidation; and
- Instilling the Mission of "Clean and Safe Science" in our operations; and
- Implementing, regularly reviewing, and continually improving an approved Safety Management System; and
- Providing instruction and procedures to promote safe operation, meeting or exceeding all safety and environmental regulations; and
- Promoting a workplace which identifies risks, actively corrects problems and trains employees for emergencies; and
- Creating a safe drug-free workplace which protects life, the environment, and property; and
- Monitoring safety and environmental performance through internal audits and management reviews.
- Committing to manage cyber risks - with emphasis on the security of the vessel's operational technology (OT) - as part of the overall approach to safety management and protection of the environment.

"Clean and Safe Science" shall remain posted throughout the ship to remind both crew and science members that safety and environmental awareness are a part of every operation and are everyone's responsibility.

More guidance can be found throughout this SMM and in the UW Vessel webpage "Participant Information" at:

https://www.ocean.washington.edu/story/Participant_Information

SMM 2.1 Harassment & Personal Relationships Policy

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Policy

UW School of Oceanography is committed to maintaining a positive working, research and learning environment free of discrimination, harassment, intimidation and the perception thereof. All personnel, including crew, scientists, students, marine technicians, and anyone else involved, both shoreside and on board, are expected to support this goal. It is important that a professional atmosphere is maintained at all times through mutual respect for all your shipmates.

To this end, it is important to address the issues of appropriate personal relationships and harassment.

Personal Relationships

Nothing in this policy is meant to preclude professional personal working relationships on board.

Teamwork is key to the safe, successful completion of any cruise and the accomplishment of that enables our vessels to sail successfully. It is natural for people working in a shipboard environment to develop close working relationships.

While on board, ensure all of your personal relationships remain professional, and that any personal relationship you have does not, or cannot be perceived to, unduly influence yours, or the other individual's work or decision-making.

In other words, any personal relationship, whether it is golfing together or romantic in nature, that "trickles" into decisions in the workplace and shows favoritism or bias, is unacceptable. These types of close personal relationships can lead to an uncomfortable and/or awkward workplace environment. In extreme cases, a hostile workplace can result. In addition, they can jeopardize the success of cruises by creating unnecessary tension onboard and/or inappropriate decision-making.

Romantic relationships between ship's crew and science parties, including students, are not permitted aboard vessels.

Furthermore, because consensual relationships between students and instructors may interfere with the learning relationship, the Faculty Senate has adopted a policy that states:

No faculty member, teaching assistant, research assistant, department chair, dean, or other administrative officer should vote, make recommendations, or in any other way participate in the decision of any matter which may directly affect the employment, promotion, academic status, or evaluation of a student with whom they have or have had a familial, sexual, or romantic relationship (University Handbook, Volume Two, Part II, Chapter 24, Section 24-33, Footnote: Faculty/Student Relationships and Conflicts of Interest).

This point is highlighted here because of the importance of maintaining an atmosphere that is conducive to student learning and research when they go to sea onboard our research vessels. Similarly, no ship's crew member or marine technician shall engage in romantic relationships with students while on board.

Harassment including Sexual Harassment

Any harassment or relationship that interferes with, or is perceived to interfere with a safe, healthy working environment is unacceptable.

Harassment can be blatant or subtle, printed, verbal, electronic or physical. Examples of conduct that can constitute harassment are:

- Outright propositions/improper suggestions
- Racial or ethnic, sexist, lewd or obscene jokes, slurs, or cartoons
- Abuse, insults, insinuations, or jokes concerning LGBTQ+ identity
- Touching, including pats, hugs, squeezes, brushing against, putting arms around shoulders
- Threats or promises in regards to sexual behavior (ie, coercion, favors, quid pro quo)
- Acting, mocking, or sounds - whistling, suggestive sounds, obscene gestures
- Imbalance of attention, whether it be positive or negative, towards one individual based upon sex, gender, race, pregnancy status, or LGBTQ+ identity
- Assault, sexual or otherwise

Unfortunately, sexual harassment is an issue that may occur on ships given the close working environment of a ship during deployments to sea when people may feel lonely, overtired or homesick despite organizational and personal efforts to prevent and eliminate it. The close quarters on a ship demand utmost consideration of others at all times.

The University's policy defines "sexual harassment" to include:

1. *Unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature by a person who has authority over the recipient when:*
 - a. *Submission to such conduct is made either an implicit or explicit condition of the individual's employment, academic status, or ability to use University*

- facilities and services, or*
- b. Submission to or rejection of the conduct is used as the basis for a decision that affects tangible aspects of the individual's employment, academic status, or use of University facilities; or*
2. *Unwelcome and unsolicited language or conduct that is of a sexual nature or that is sufficiently severe, persistent, or pervasive that it could reasonably be expected to create an intimidating, hostile, or offensive working or learning environment, or has the purpose or effect of unreasonably interfering with an individual's academic or work performance*

Sexual harassment is illegal. UW employees including ship's crew, marine technicians, faculty, staff, and students who engage in sexual harassment will be subject to corrective or disciplinary action. Violations can lead to severe penalties, up to and including termination of employment or termination from educational programs, as well as possible personal liability.

Reporting

All are encouraged to prevent any harassment by early intervention if possible. For example, if someone does not know they are offensive, it should be pointed out to them immediately, at the "lowest reasonable level", such as by a trusted shipmate. Often, this solves the problem early.

Otherwise, on the vessel any violations to the harassment policy shall be reported to the Master, Chief Mate or Chief Scientist. In the event individuals are not comfortable reporting a harassment violation to any of them, they have the option of reporting to the Designated Person (DP), whose contact information is posted on board the ship and is in [section 3](#) of this manual. UW Employee Assistance Program (EAP) is also available for advice, counseling or reporting of an incident; UW EAP information can be found at the end of [section 2.2](#) in this manual.

Finally, as per 46USC14 it is mandatory that incidents be reported to the US Coast Guard Investigative Service by email at CGISTIPS@uscg.mil or by phone at (202) 372-2100. Further reporting and procedural information can be found in USCG MSIB 01-23.

Awareness

Each person on the vessel will be made aware of this policy. It shall be addressed during the vessel's Safety Briefing as is required by the [UNOLS Research Vessel Safety Standards](#).

References

- UW Executive Orders on Sexual Harassment
 - EO No. 8 Prohibiting Discrimination, Harassment, and Sexual Misconduct
 - <https://policy.uw.edu/directory/po/executive-orders/eo-81-prohibitin>

[g-discrimination-harassment-and-sexual-misconduct/](#)

- EO No. 54 Employee–Student Romantic Relationships and Conflicts of Interest
 - <https://policy.uw.edu/directory/po/executive-orders/eo-54-employee-student-romantic-relationships-and-conflicts-of-interest/>
 - [46USC10104\(e\), Safety Management System Sexual Assault/Sexual Harassment Policy Implementation](#)
 - [US Coast Guard MSIB 13-23 Coast Guard Policies to Address Sexual Assault and Sexual Harassment Prevention and Response on Vessels.](#)
 - [USCG MSIB 01-23 Reporting Sexual Misconduct on US Vessels](#)
 - [US Coast Guard Policy Letter 23-04 Guidance on Statutory Information Requirements Within Accommodation Spaces on Merchant Vessels.](#)
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SMM 2.2 Drug & Alcohol Policy

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To help ensure the safety and well being of faculty, staff, students, and the general public, UW Oceanography is committed to maintaining a shipboard environment that is free of illegal drugs and of drugs and alcohol that are used illegally. This includes the abuse and/or inappropriate use of prescription or over the counter drugs, and the possession of drug paraphernalia. Accordingly, the school prohibits consumption of alcoholic beverages on a school vessel. The school also prohibits the unlawful possession, use, distribution, or manufacture of alcohol or controlled substances (as defined in Chapter 69.50 RCW) on school vessels. Violation of the school's alcohol and drug prohibitions is cause for disciplinary or other appropriate action, up to and including termination.

Reference: These provisions are in accordance with the requirements of the federal Drug-Free Schools and Communities Act Amendments of 1989, and the Drug-Free Workplace Act of 1988 and the applicable regulations found in Title 33, 46 and 49 of the Code of Federal Regulations. Washington State laws concerning marijuana do not change or impact marijuana being considered an illegal drug as per Federal Law and UW policy.

Policy: UW Oceanography prohibits the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance in the workplace. As defined, the workplace includes any location where an employee or student is working and receiving funds. All personnel, crew, staff, faculty, scientists, technicians, students, guests, regardless of where they are from, are affected by this regulation and are expected to comply as a condition of continuing their affiliation with UW Oceanography.

Crewmembers, and members of the embarked scientific party are subject to drug and alcohol testing requirements found in Title 46 Code of Federal Regulation for reasonable cause and in the event of a "Serious Marine Incident" at the discretion of the Master or the Designated Person. Crewmembers, research vessel technicians, and the licensed marine operations staff are also subject to random drug testing, including testing for alcohol. Refer to SMM [Section 2.2.1](#) below for the Random Drug Testing Guidelines.

If an individual receives a positive drug test result or refuses to submit to requested drug testing, UW Oceanography shall, as soon as is practicable, remove that individual from their shipboard duties and place the member on involuntary unpaid leave or terminate his/her employment. However, UW Oceanography may, at its discretion, continue in employment status, any person whose performance is necessary for the preservation of life or property or the protection of the environment. UW Oceanography may, at its discretion, treat a positive alcohol test result or a refusal to submit to alcohol testing in the same manner as a positive drug test result or a refusal to submit to a drug test.

If that individual is a marine crewmember and holds a merchant mariner's credential, UW Oceanography must also report any positive drug test result or refusal to take a test to the USCG. A crewmember in this status faces license and/or document revocation under USCG procedures. Disciplinary action from UW Oceanography is also appropriate.

If the individual affected does not hold a merchant mariner's credential, there is no obligation to report the positive test results to the USCG except as part of a response to a request for records by the USCG. The exception is in the event of a Serious Marine Incident. Employees who have positive test results are nevertheless subject to appropriate UW Oceanography disciplinary action.

UW has an obligation to inform the appropriate funding agency in the event of an employee's conviction of a drug violation in the workplace. Such notification must be within ten days of the employee's conviction or within ten days of actual knowledge of such conviction.

Alcohol Specific Policy: No alcoholic beverages of any type may be brought aboard or consumed on UW Oceanography vessels at any time. Unopened and sealed containers of alcohol may be transported on vessels if under the control of the Master. All persons, including scientific staff from other institutions and visitors, are expected to abide by this regulation. No person may drink on duty or come on duty or watch under the influence of alcohol, at sea or in port.

By regulatory definition, a person with a blood alcohol content of 0.04 percent by volume is considered to be under the influence of alcohol. As guidance to the Master of the vessel, Title 33 Code of Regulations, part 95.045 sets forth the following for a crew member. The below extends to the scientific personnel performing duty, including on loading and offloading equipment in port.

- a) Shall not perform or attempt to perform any scheduled duties within four hours of consuming any alcohol;
- b) Shall not be intoxicated at any time on duty;
- c) Shall not consume any intoxicant while on watch or duty; and
- d) May consume a legal non-prescription or prescription drug provided the drug does not cause the individual to be intoxicated.

The Master has the legal responsibility for the safety of the vessel and all personnel on board. As such the Master has the administrative authority to enforce these rules. The Master is authorized to search any part of the vessel at any time for alcoholic beverages and to remove, impound, confiscate or destroy any unauthorized alcoholic beverages found.

All employees are reminded that they are representatives of the UW School of

Oceanography at all times they are assigned to the vessel. As such, they should manage themselves appropriately when in port.

The only exception to the above is if the Manager of Marine Operations and the Director of the UW School of Oceanography jointly agree to permit alcohol consumption aboard. Per UNOLS RVSS Section 6.3.1, an exception to the alcohol ban can be approved in writing by institutional management for consumption aboard while in port for special occasions. In these rare cases, a signed letter of approval will be sent to the Master with clear instructions regarding expectations and limitations. The Master, Manager of Marine Operations, or Director may rescind the approval letter at any time. Alcohol possession by individuals and permission for alcohol consumption underway are never permitted.

Employee Assistance Program (EAP): In recognition that any form of drug abuse is dangerous to the health and well being of all UW personnel, UW EAP offers a wide range of services that can help you manage through the different stages of life, develop a healthy lifestyle, create a quality work environment, and save time by providing easy access to trusted experts, including counselors, attorneys, financial advisors, and child and adult/elder care consultants.

Services are available nationwide for benefits-eligible UW faculty and staff, their dependents, and household members. In addition, faculty and staff may include in the counseling session anyone who may be involved in their issue, such as a friend or relative.

Call toll-free: 877-313-4455. Master's-level counselors are available to take your call 24/7. For financial, legal, and child and adult/elder care services you will be referred to the appropriate professional. More information may be found at:

<https://hr.uw.edu/worklife/employee-assistance-program/>

SMM 2.2.1 Random Drug Testing Guidelines

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Purpose

These guidelines describe how University of Washington Marine Operations (herein "UW MarOps") manages random drug testing for shoreside and shipboard personnel (herein "employees") subject to the random drug screening program, as governed by 46 CFR 16.230. The purpose of these guidelines is to clarify UW MarOps's approach to meeting regulatory requirements while minimizing disruption to employees whenever possible.

Background

UW MarOps contracts with Drug Free Business to manage its random drug testing program. At the start of each calendar quarter, Drug Free Business provides a list of employees randomly selected for testing. UW MarOps must complete all tests by the end of each quarter to remain in compliance with federal regulations. To avoid establishing predictable testing patterns, UW MarOps uses discretion when determining the timing of each test.

Scheduling and Notification

UW MarOps coordinates random drug testing through Quest Diagnostics or LabCorp. Tests may be scheduled:

- One to two weeks before or after an employee's assignment aboard the R/V *Thomas G. Thompson* or R/V *Rachel Carson*.
- During a hitch, if qualified specimen collection personnel (as defined by 49 CFR 40.33) are available and onboard, testing is feasible.
- At UW MarOps' discretion to meet regulatory requirements.

Employees will be notified directly by the Port Captain, Marine Operations Coordinator, or - if on a hitch - specimen collection personnel (typically the Captain or Chief Mate). Once notified, employees are expected to complete testing within one week. *Failure to report for testing is considered the same as a failed test and may result in disciplinary action, up to and including termination.*

Testing While On A Hitch: If an employee is selected for testing while on a hitch, the specimen collection personnel will notify the employee. When feasible, the collection will take place onboard. If onboard collection is not possible, the employee will be directed to a shoreside lab during a port call. In either case, the specimen collection personnel will provide all necessary forms and instructions.

Testing While Off A Hitch: If an employee is selected for testing while not on a hitch, they will be notified by the Port Captain or Marine Operations Coordinator. UW MarOps will work with the employee to schedule testing at a convenient location.

Deferrals: W MarOps may approve deferrals in rare cases, which are evaluated on a case-by-case basis.

- Routine travel or temporary absence from home does not automatically qualify as a deferral.
- Living more than one hour from a collection site due to permanent residence is also not considered a valid reason for deferral.

Reimbursement: UW MarOps will make every effort to prepay for testing. In cases where an employee must pay upfront, UW MarOps will reimburse the cost through the non-travel expense reimbursement process.

SMM 2.3 Berthing Areas Master Key Control

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UW Marine Operations recognizes the importance of creating and maintaining a safe and respectful working environment and eliminating sexual assault and sexual harassment from the maritime industry. In support of this goal, the Safer Seas Act mandates a Master Key Control program to prevent unauthorized access to secured spaces on a vessel.

Applicability of the Law

The delay in implementation is due to the initial questions regarding the applicability of this section of the law to oceanographic research vessels and correspondence between USCG headquarters and the UNOLS office on behalf of all the US Academic Research Fleet (ARF) operators to try to resolve this.

Regardless, in Summer 2024, it was decided that this is best practice for management of a US flagged research vessel and protection of all mariners and scientists at sea.

General Provisions

Per Title 46, USC § 3106, vessels must be equipped with a master key control system for physical, manual, or electronic keys or access systems, which provides controlled access to all copies of the vessel’s master key.

- Only crewmembers identified by position in the master key control system are allowed access and use of a master key.
- The list of crewmembers with master key access must be kept on the vessel. The list must also be maintained within the vessel owner’s records and documented in the vessel’s Safety Management System (SMS).
- The vessel must record in a logbook information on all access and use of the vessel’s master key, including dates and times of access, the room or location accessed, and the name and rank of the crew member who used the master key
- The list of persons with access to and use of the master key and the logbook with information on all access and use of the vessel’s master key must be made available upon request to any agent of the Federal Bureau of Investigation, any member of the Coast Guard, and any law enforcement officer performing official duties in the course and scope of an investigation.
- The Coast Guard advises that a “master key” generally refers to a single or multiple keys or electronic access device that enables access to multiple, if not all, secure compartments, rooms, or areas on the vessel, especially staterooms, bathrooms, changing rooms, and any other space that when locked by individual occupants, are intended to be inaccessible to others without a master key.

Background

In accordance with the Safer Seas Act, R/V *Thomas G. Thompson* implemented a Master Key Control program 1 December 2025. The vessel’s berthing areas were newly keyed and

a Master Key Control program was newly established.

Responsible Person

- The Chief Mate of the vessel will have overall responsibility for the Master Key Control program and the Captain will have secondary responsibility.
- The Chief Mate will maintain the State Room Inventory Log.
- Any new locks and keys added will be held in a secure key box in the Chief Mate's Cabin.
- Any and all use of the Master key for the berthing area will be logged in the Master Key Log.

References

- Title 46, United States Code (U.S.C.) § 3106 – Master key control system
- 46USC10104(e), Safety Management System Sexual Assault/Sexual Harassment Policy Implementation
- US Coast Guard [MSIB 13-23, Change 02](#) Coast Guard Policies to Address Sexual Assault and Sexual Harassment Prevention and Response on Vessels.
- US Coast Guard [Policy Letter 23-06](#) Guidance on Master Key Control Requirements on Merchant Vessels.
- US Coast Guard [Policy Letter 23-04](#) Guidance On Statutory Information Requirements Within Accommodation Spaces On Merchant Vessels

MASTER KEY LOG

[illegible]

SMM 2.4 Video & Audio Surveillance in Passageways leading to Berthing Areas

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UW Marine Operations recognizes the importance of creating and maintaining a safe and respectful working environment and eliminating sexual assault and sexual harassment from the maritime industry. In support of this goal, the Safer Seas Act mandates a video and audio surveillance program on the vessel. Continuous surveillance is crucial for deterring sexual assault and harassment incidents.

Applicability of the Law

The delay in implementation is due to the initial questions regarding the applicability of this section of the law to oceanographic research vessels and correspondence between USCG headquarters and the UNOLS office on behalf of all the US Academic Research Fleet (ARF) operators to try to resolve this.

Regardless, in Summer 2024, it was decided that compliance with these provisions is best practice for management of a US flagged research vessel and protection of all mariners and scientists at sea.

General Provisions

Per Title 46, USC § 4901, certain commercial vessels are required to establish a video surveillance system, retain all audio and visual records for at least one year, and provide training for responding to incidents of sexual assault or sexual harassment. Details of the requirements are below:

- Video and Audio Surveillance Equipment
 - Per subsection (c)(2), video and audio surveillance equipment must be placed in passageways into which doors from staterooms open. Such equipment must be placed in a location and position, or multiple locations and positions, in a manner that ensures visibility of every door in each such passageway. Accordingly, installation must allow for continuous monitoring of every door in each such passageway.
 - The Coast Guard advises that effective surveillance is not simply having a system in place but having sufficient quality of hardware to ensure intelligibility of information captured. Video capturing equipment should be of sufficient resolution, frame rate, and sensor and lens quality to identify persons and their actions under all ambient lighting conditions. Video cameras should also be installed so that no area requiring coverage is

obstructed from view. Where obstructions exist, additional cameras should be installed to ensure comprehensive coverage.

- Audio recording equipment should be of sufficient sample rate, bit depth, and microphone quality to ensure reasonable discernment of conversations and words spoken in all foreseeable ambient noise conditions and from anywhere within the areas requiring coverage . Where needed, owners should consider noise canceling microphone technology. This focus on quality and clarity of both video and audio surveillance is integral to effective implementation

- Notice of Video and Audio Surveillance.

- Per subsection (d), the owner of an applicable vessel “shall provide clear and conspicuous signs on board the vessel notifying the crew of the presence of video and audio surveillance equipment.”
- The Coast Guard advises that signage should be displayed in easily accessible areas of the required spaces and should be placed at eye level for optimal visibility. Signs should be of appropriate size to ensure clear visibility at a reasonable distance and be of durable material or enclosure to mitigate deterioration. Signage should be of legible font and appropriate font size that can be read at a reasonable distance in normal lighting conditions. Statements within the signage should be clear, concise, and easy for all expected viewers to understand.

- Access to Video and Audio Records.

- Per subsection (e), the owner of an applicable vessel “shall ensure that access to records of video and audio surveillance is not used as part of a labor action against a crew member or employment dispute unless used in a criminal or civil action.”

- Retention Requirements.

- Per subsection (f), the owner of an applicable vessel “shall retain all records of audio and video surveillance for not less than 1 year after the footage is obtained. Any video and audio surveillance found to be associated with an alleged incident should be preserved for not less than 5 years from the date of the alleged incident.”
- The Coast Guard advises that video and audio surveillance be continuous in operation. However, for retention purposes, technology may be used to limit data storage to only recordings that capture human activity, whether through sound, movement, or both. All records retained must contain both audio and video surveillance per subsection (f) whether retention is triggered through sound, movement, or both. All retained recordings should have accurate time synchronization, timestamping, and metadata to ensure all retained information can be accurately associated with the date, time,

and location of a particular recording. Retention may be kept via secure physical storage on board the vessel or office or via a cloud-based service if the statutory timeframes for retention are met.

- **Personnel Training.**

- Per subsection (g), the owner of an applicable vessel or employer of a seafarer “shall provide training for all individuals employed by the owner or employer for the purpose of responding to incidents of sexual assault or sexual harassment[.]”
- This training shall ensure individuals (A) “retain audio and visual records and other evidence in an objective manner; and (B) act impartially without influence from the company or others[.]” Training must also be provided “on applicable Federal, State, Tribal, and local laws and regulations regarding sexual assault and sexual harassment investigations and reporting requirements.”
- The Coast Guard advises that detailed records should be kept of all training sessions. These records should include specific information such as the date and location of the training, the topics covered, and personnel present for the training. Documenting this information is necessary to confirm compliance with the training requirements required by the Safer Seas Act.
- The company and vessel policies and procedures for conducting and documenting training must be included in the SMS.

Implementation Plan

In accordance with the Safer Seas Act, R/V *Thomas G. Thompson* will implement a Video and Audio Surveillance System in Passageways Leading to Berthing Areas with a target date of implementation of **1 January 2026**.

Per subsection (c)(1), the owner of an applicable vessel must install video and audio surveillance equipment aboard the vessel not later than December 23, 2024, or during the next scheduled drydock, whichever date is later. The next scheduled drydock for *TGT* is September through November 2025; the system is expected to be operational by 1 January 2026.

In support of this effort, the vessels of the US Academic Research Fleet (ARF) are contracting with Digigone to provide, install, and manage these systems. This contract is being managed by University of California - San Diego (UCSD) / Scripps Institute of Oceanography (SIO).

The UW currently requires all personnel to complete the Title IX Husky Prevention & Response Course (reference below) which covers the majority of the personnel

training topics listed in the Safer Seas Act. This training is documented on the Crew Familiarization and Qualification form ([SMM 6.1](#)). Supplemental training on the retention of evidence aboard, including the retention of audio and video records will be developed as the surveillance system is installed and procedures are established.

References

- Title 46, United States Code (U.S.C.) § 4901 – Surveillance requirements
- 46USC10104(e), Safety Management System Sexual Assault/Sexual Harassment Policy Implementation
- US Coast Guard [MSIB 13-23](#) Coast Guard Policies to Address Sexual Assault and Sexual Harassment Prevention and Response on Vessels.
- US Coast Guard [Policy Letter 23-05](#) Guidance on Surveillance Requirements for Certain Commercial Vessels that Do Not Carry Passengers
- University of Washington [Title IX Husky Prevention & Response Course](#)

SMM 3.0 Company Responsibilities and Authority

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Updated MRL Approved CJF

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The R/V *Thomas G. Thompson* is owned by the Office of Naval Research (ONR) and is operated by the University of Washington School of Oceanography, Marine Operations (MAROPS) under a Charter Party agreement. The R/V *Rachel Carson* is owned by the University of Washington. Both vessels are operated as part of the University National Oceanographic Laboratories System (UNOLS) Academic Research Fleet.

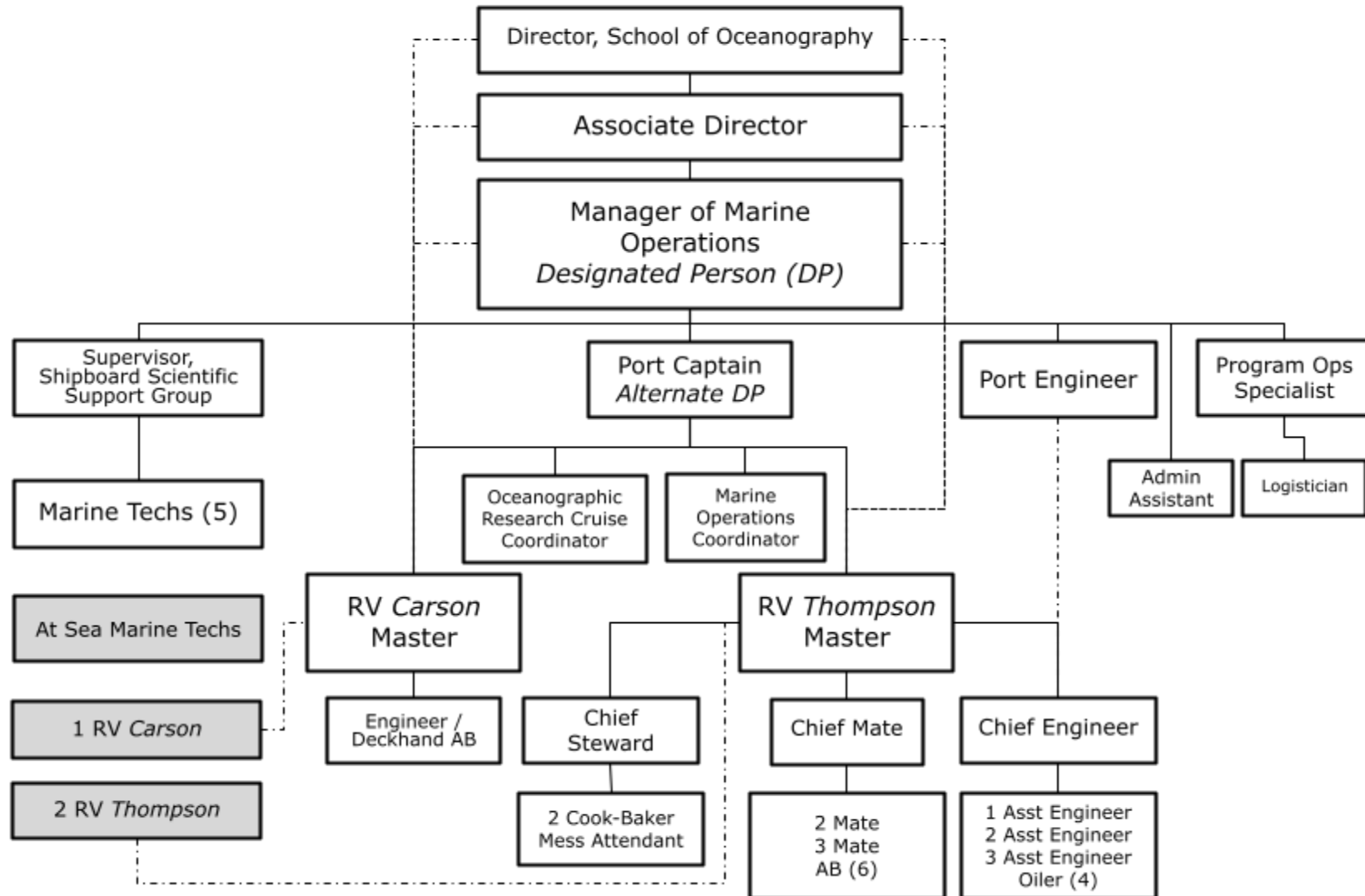
Organization:

1. The **Director of Oceanography** is in charge of all matters pertaining to the operation of the UW MAROPS vessels and may create policies. The **Associate Director** is the Management Representative. The principal duty of the Associate Director is to ensure resources are available and chair the **MarOps Safety Committee**.
2. The **Manager of Marine Operations** is the Designated Person in charge of day to day operations of UW MAROPS vessels and management. The Manager of Marine Operations issues procedures and creates policies in the SMS as well as tends to all administrative matters outside of the system. This Designated Person is a member of the MarOps Safety Committee and an internal auditor. The Designated Person is assisted by three managers.
3. The **Port Engineer** coordinates the technical and engineering operations of UW MAROPS vessels. This person is a member of the MarOps Safety Committee. This manager shall keep track of all repairs and maintenance.
4. The **Port Captain** coordinates the shipboard management, personnel, training and ISM matters. This person is a member of the MarOps Safety Committee and may make temporary procedures until approved by the Manager of Marine Operations. The Port Captain may act as Designated Person when necessary. This person coordinates the ISM system, including the auditing process and is an internal auditor.
5. The **Supervisor of Shipboard Science Support Group** (SSSG) manages the technical science aspects of the operations aboard UW MAROPS vessels and is a member of the MarOps Safety Committee. This person assists in creating procedures for the SSSG.

Purpose and Procedure:

- The MarOps Safety Committee is responsible to review the SMS, issue policies, help create new procedures, implement the audit process and ensure that the process operates and improves.
- The MarOps Safety Committee will ensure that adequate resources and shore-based support at UW is provided to enable the Designated Person and MAROPS staff to carry out their functions.
- The MarOps Safety Committee will meet at least annually

Marine Operations Hierarchy



SMM 4.0 Designated Person (DP)

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Roles, Responsibility and Authority:

- The Designated Person (DP) serves as the link between shore side support operations and the UW MAROPS vessels.
- The DP shall be accessible to crew and science, and respond to any safety and pollution concerns that have not already been reasonably addressed on board. This shall be posted on board.
- The DP is responsible for and shall ensure the safe and environmentally clean operation of UW MAROPS vessels.
- The DP shall be the first person notified of a shipboard emergency by shipboard personnel. In his absence, the individual assigned to act on his behalf shall be notified. In most instances, this will be the Port Engineer or the Port Captain.
- The DP shall ensure that adequate resources and shore-based support of the SMS are provided.
- The DP shall monitor the safety and pollution aspects of each ship operation through an internal and external audit program on board and on shore.
- The DP shall evaluate the effectiveness and degree of implementation of the SMS and implement continuous improvements.

SMS Position:	Designated Person, Primary
Name:	Gregory Higgins
Title:	Manager of Marine Operations
Address:	University of Washington School of Oceanography Box 357940 1503 NE Boat Street Seattle, Washington 98195-7940
Office Phone:	206 685-5672
Mobile:	206 225-0562
E-Mail:	ManagerMarOps@uw.edu
SMS Position:	Designated Person, Alternate
Name:	Claire Fine
Title:	Port Captain
Office Phone:	206 221-6920
Mobile:	206 786-8051
E-Mail:	portcaptain@uw.edu

SMM 5.0 Master's Responsibility, Authority, & Guidance

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Master Responsibilities:

- Overall responsibility for all vessel operations, safety, crew, marine technicians, scientists, vessel material readiness, and environmental and regulatory compliance.
- Oversee shipboard operations and coordinate with Principal Investigators, scientists, students, and marine technicians to support science missions.
- Create awareness of shipboard Safety and Environmental Policies to all persons.
- Conduct onboard drills and inspections as needed to ensure the safety of the ship in accordance with USCG, ISM (IMO), ABS, UW and port state requirements.
- Monitoring and reviewing the Safety Management System and reporting any deficiencies and suggestions for improvement to Marine Operations in the form of the annual Master's Review. This shall be documented in Sinex and sent to Marine Operations.
- Coordinate with vessel Department Heads to assess vessel's material condition and allocate personnel and material resources to maintain vessel in accordance with UW's and owner's requirements.
- Training of officers and crew; manage shipboard personnel including recognition, disciplinary action, and periodic evaluations in accordance with UW guidelines.
- The assignment of watches, work rotations, and "call-outs" as required for the safe and efficient operation of the vessel. This includes modification of or removal from duty based on performance.
- Effectively delegate responsibility to Dept. Heads, with appropriate oversight, while ensuring successful accomplishment of science objectives for each cruise as outlined in each set of "Sailing Orders" signed by the Manager of Marine Operations.
- Compile work requests for shore-side repairs and support by vendors or shipyards and recommend and implement improvements to vessel operations.
- Maintain currency with all applicable laws, regulations, treaties, CFRs, USCG-NVICS, etc., pertinent to basic duties listed above.
- The Master shall periodically review the [Master's Standing Orders](#) for the vessel and make changes as needed. After such changes are made, the Master shall instruct all hands on the change and inform the Port Captain and Manager of Marine Operations.
- Appropriately inform UW MarOps shoreside team of the vessel and all embarked personnel(s) status.

Master Authority:

The Manager of Marine Operations shall issue Sailing Orders to the Master at the commencement of each voyage. Included in the Sailing Orders shall be the following clear statement emphasizing the Master's authority:

"The Master is ultimately responsible for the safe operation of the vessel and implementation of the Safety and Environmental Policy as defined in the SMM section 2.0. The Master is empowered in all situations with overriding authority to act decisively and according to best

judgment to protect the vessel and other vessels or property from damage, and to prevent pollution and protect the environment. The Master may request assistance from any appropriate resource of the University of Washington in order to fulfill these responsibilities."

References: [Master's Standing Orders](#)

SMM 5.1 Master's Change of Command Report and Inventory Form

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Procedure

The departing master and relieving master will use this checklist as a reminder of information that needs passed; it is not all inclusive, but serves to cover the primary topics that normally need passed along.

Date: _____ Location: _____

- ☐ Relief notes and email turn-over file
- ☐ Vessel documents, expiration dates
- ☐ Safe combination
- ☐ Controlled substance inventory
- ☐ Ship's account summary, funds on board
- ☐ Forms: Discharges/CG-735/Customs Dec/Entry forms by country
- ☐ Review CASREP/OFI catalog
- ☐ Crew documentation, expiration dates, and BWMP yearly signatures.
- ☐ Crew changes, sign-on dates
- ☐ Sailing orders, voyage plan, IMO list
- ☐ Vessel schedule, sailing board time, ETA's
- ☐ Bunker schedule
- ☐ Stores
- ☐ Watch Bill
- ☐ STCW Work/Rest records signed for departing crew
- ☐ Science pax list, passport confirmation
- ☐ Port, agent contact information
- ☐ Port State notifications (96 hr NOA, 24 hr AMS, 24 hr CVTS, Ballast)
- ☐ Stability files, science loads, drafts, fuel & ballast status
- ☐ Hazmat, radiological inventory: aboard, to load, discharged
- ☐ Maintenance: Completed, in-progress, planned, and repair schedule
- ☐ Oil record book signed
- ☐ Garbage log signed
- ☐ Classified information
- ☐ Ship's keys, rental car keys
- ☐ Changes in SMM or other Mar Ops Procedures during this tenure
- ☐ Change of Command (COC) deck log entry, MarOps notification

Departing Master – print and sign

Relieving Master – print and sign

This form shall be documented in Sinex and a copy forwarded to the Port Captain.

SMM 5.2 Master's Pre-Arrival / Pre-Departure Checklist

Version 2021 August 14

Updated MBC Approved RAK

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Procedure

The Master must ensure the items listed have been addressed prior to arriving or departing from a port. Some items may not be applicable depending on the port of call. If an item is not applicable the Master must make note on the checklist.

Date: _____ Port Location: _____

- ☐ Arriving ☐ Departing
- ☐ Sailing Orders (Pre-Departure)
- ☐ Voyage Plan / Transit Plan
- ☐ Stability calculated
- ☐ Forms: Discharges / CG-735 / Entry Forms by Country / Port Clearance
- ☐ Propulsion, Steering, Navigation, and GMDSS Check Lists.
- ☐ Crew Documentation
- ☐ Security Level 1 2 3
- ☐ Vessel Schedule / Sailing Board Time / ETA's
- ☐ Watch Bill
- ☐ Crew change, sign-on dates
- ☐ Science List / Passport Confirmation
- ☐ Port / Agent Contact Information
- ☐ Port State Notifications (examples 96Hr NOA, 24 Hr CVTS)
- ☐ Ballast Water Reports
- ☐ Stability Files / Science Loads / Drafts / Fuel and Ballast Status
- ☐ Hazmat / Radiological Inventory
- ☐ Ship's Keys / Rental Car Keys

Master – print and sign

This form shall be documented in Sinex and a copy forwarded to the Port Captain.

SMM 6.0 Personnel Qualifications and Requirements

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Crew qualifications and requirements:

The Port Captain will maintain and track all USCG, STCW, UW and other training documents. These documents will be appropriately safeguarded since they contain personal private information. A "Welcome to the UW crew hiring process" email will be sent to new crew explaining the required qualifications to be hired. It will contain a list of all the requirements of USCG, STCW and UW. The Port Captain will also ensure all returning crew members are current with their required qualifications. All documents and communications will be in English.

The USCG requires all crew to be drug free and fit for duty. This, as well as maintaining all of the required documents, is a condition of initial as well as continued employment. The STCW expiration date on the USCG medical certificate is used to determine validation. UW MarOps will request copies of the crew member's most recent USCG physical, however the crew member is not required to provide it. This is just in case a mariner cannot communicate to first responders; the physical can be consulted for medical history, for example allergies.

It is the responsibility of new hires and temporary crew to obtain the necessary training to fill the positions they are seeking. The Port Captain will pay for training and MMC costs for permanent crew. The Port Captain may pay for certain temporary crew employment costs that are specifically required to work at UW, such as a pre-employment drug screening. Crew should clarify what is reimbursable before incurring any costs they expect to be paid for.

The Master's qualifications are found in the position description, and responsibilities and authority are summarized in SMM section 5.0. UW MarOps will also counsel and provide any new Master with a summary of their expectations.

Crew Information and Policies can be found at:

<http://www.ocean.washington.edu/story/RV+Crew+Information>

SMM 6.1 Crew Familiarization & Qualifications Form

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Non-editable internet version:

https://docs.google.com/document/d/1dfU_H6wqjHJ2dk9Fra2DsIFEDNLIX-fU4GQBzs6GKEc/preview?tab=t.0

Printable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 7.0.1 Science Operations

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Deck

- Deck Department personnel are routinely used to assist in the science operations aboard ship as assigned by the Master or Chief Mate as part of their ordinary duties.
- When ordered to do so, the deck department personnel will make themselves available to the qualified deck officer coordinating science activities. These activities may include the launch and recovery of boats to assist science, the operation and use of winches, the operation and use of ship's cranes, the assisting in launch and recovery of science equipment from the ship or small boat, and a myriad of other associated functions.
- The Deck Department members should participate in the pre-operation briefing, know who is in charge of the operation and be made aware of hazards associated with the task. If necessary, the Master may order a rehearsal or practice walk through if the crew is not familiar with the task.
- To prepare for a heavy lift or crane operations under way, the gear should be set with tag lines prior to loosening the securing apparatus. Sufficient personnel should be in place and all persons on deck ready before such a move is attempted. The bridge must be informed. Upon completion of the lift, the gear should be secured in place as directed by the deck officer.
- All Personnel must be directed to take exceptional care while Science operations are being conducted. Members of the Deck Department should assist in identifying hazards and securing areas during hazardous operations and enforcing the Proper Protective Equipment procedures, particularly the use of hard hats, float vests and safe footwear.
- Every member of the deck department and marine technicians aboard have the authority to call a "stop work". This action would bring an immediate halt to science operations and/or related machinery. This measure will be discussed during the pre-operations briefing. All crew should be familiar with how and when to call a "stop work". All participants will be instructed to say something if they see something unsafe.

Engine

- The Engineering Watch Officer shall stay in communication with the bridge during critical science operations and the Chief Engineer may assign additional personnel for maneuvering situations.
- The Engine Department shall monitor overboard discharges and adjust their operations as required to facilitate science.
- The Engineering Watch Officer shall communicate machinery failures to the bridge as soon as possible so that science operations are not imperiled.
- The Engineering Watch Officer shall ensure that adequate power is available for science operations. The bridge officer coordinates the lab, deck and engine requirements and the Engine Department closely monitors developments in the Engineering Spaces.
- Engine personnel should conduct frequent inspections of machinery used during science during before and after operations to ensure operational readiness.

SMM 7.0.2 Risk Assessment & Risk Management

Version 2025 Oct 30

Updated CJF Approved RAK

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Purpose and Responsibility

The purpose of risk assessment / risk management is to establish the procedures for identifying, assessing, and then reducing the risks for all operations on UW MAROPS ships. Although the Master is ultimately responsible for the safety of the ship and personnel, safe operations are everyone's responsibility. The risk assessment process is a tool to assist the Master and Chief Scientist in quantifying the risk.

What is "risk"? According to ISO 8402:1995 / BS / 4778 and MSC Circ 1023/MEPC Circ 392, risk is "A combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence." and "The combination of the frequency and the severity of the consequence."

IACS No 127 A Guide to Risk Assessment in Ship Operations provides guidance on the risk assessment process. A few highlights are added here: *A risk assessment is nothing more than a "snapshot". The organization, the technology, working practices, the regulatory environment and other factors are constantly changing, and subsequently arising hazards may not be included. Assessments must be reviewed regularly and in the light of experience; for example, an increase in the number of accidents or hazardous occurrences may indicate that previously implemented controls are no longer effective.*

Additional risk assessments will be needed for infrequent activities or those being undertaken for the first time. *The formal risk assessment exercise is only one of many contributions to risk management. Much more important are flexibility and responsiveness to a dynamic environment and its dangers. The organization must ensure that it is sensitive to the signals provided by internal audits, routine reporting, company and masters' reviews, accident reports, etc., and that it responds promptly and effectively.*

*It is important to remember the subjective nature of risk perception; for example, one person swinging 30m above the deck in a bosun's chair may have a very different view of the risks involved from that of another person in the same situation. This divergence in responses to risk arises from differences in experience, training and temperament, and it can be considerable. Who decides what is tolerable and what is acceptable? Because the judgements of the people engaged in an activity may not coincide with those of the assessors, **it is essential that operational staff be involved in the assessment process.** They have knowledge of the activities and experience in their conduct, and they have to live with the consequences of the decisions that are taken. Furthermore, different levels of experience and training mean that the hazards and risks associated with an activity can vary greatly with the people who carry it out, and conditions may be very different from those prevailing at the time of the assessment.*

Risk is not a constant, measurable, concrete entity. Quantitative assessments of risk must be understood as estimates that are made at particular moments and are subject to considerable degrees of uncertainty.

Procedure

There are several risk assessment techniques outlined in IACS No 127 A Guide to Risk Assessment in Ship Operations - these include (but are not limited to) checklists, qualitative risk assessments, and failure mode and effects analysis (FMEA). This procedure

documents two different risk assessment techniques - a simple quantitative risk assessment for repetitive operations and a qualitative risk assessment for infrequent or first time operations. Other risk assessment / risk management techniques may be proposed for specific operations and will be added to this procedure as needed.

An important component of risk assessment is that everyone involved in risky operations has the opportunity to express their concerns; all personnel are encouraged to contribute their input on their estimate of risk. It is incumbent upon the person leading the risk assessment to ensure all personnel's input is heard and discussed.

A Risk Assessment shall be completed before new or complex science evolutions that are undertaken or whenever UW MarOps, the Captain, Chief Mate, or Chief Scientist determines that one would be prudent. The various factors and how they are changing affect the safety of science operations. Factors, such as weather, equipment status, crew/science party skill, fatigue, and/or experience, need to be considered.

UW MarOps team will look ahead and decide which cruises will require a Risk Assessment

- Science evolutions that require a Risk Assessment will be identified during Cruise Planning meetings.
- All temporary equipment installations (deck generators, winches, etc) shall have a pre-installation risk assessment that includes securing arrangements, weather and environmental impacts, and other hazards.
- Additional Risk Assessments will be undertaken at other points before science evolutions as deemed necessary by UW MarOps, the Captain, Chief Mate, or Chief Scientist.

Risk Assessment Documentation:

- All pre-cruise Risk Assessments will be uploaded to the workflow in MFP
- Risk Assessments done on the vessel will be uploaded to SINEX

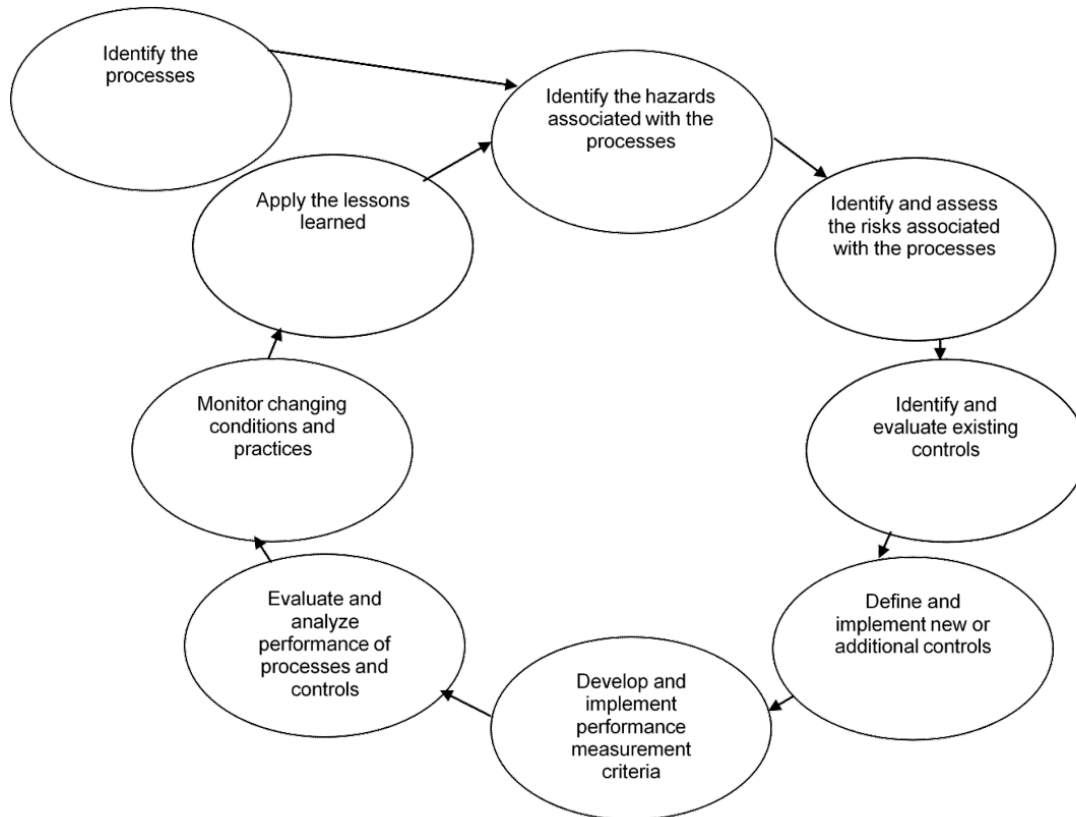
The consequences that UW MAROPS are concerned with are:

1. the health and safety of all those who are directly or indirectly involved in the activity, or who may be otherwise affected,
2. the marine environment,
3. the property of the Company and others.

This SMS procedure is focused on the following:

1. the identification of hazards,
2. the assessment of the risks associated with those hazards,
3. the application of controls to reduce the risks that are deemed intolerable,
4. the monitoring of the effectiveness of the controls.

The risk assessment process may be summarized by the flowchart below.



From IACS No 127 2012/Rev.1 2021

Three different risk assessment tools are outlined in the sections below. Each can be used for different evolutions or events. The Captain will direct which Risk Assessment Tool is used for which evolution. Each Risk Assessment will be conducted by a licensed officer (deck or engineering depending on the evolution) familiar with the technique with input from those involved in the evolution.

References

- [IACS Recommendation No 127 A Guide to Risk Assessment in Ship Operations](#)

SMM 7.0.2.1 Simplified Quantitative Risk Assessment

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A simple risk assessment technique for repetitive operations where the operations are well-defined but conditions change is the Simplified Quantitative Risk Assessment. This method is sometimes called a Green-Amber-Red (or GAR) method because of the color-coding used. Each of the six factors listed is assigned a score from 1 to 5 corresponding to the risk level from very low to very high. The total for all factors is summed up, and an overall score is then compared against the scale for green (low risk), amber (caution), and red (high risk). The lowest score for each factor is 1 and the highest is 5, so a minimum score is 6 and the maximum score is 30.

The GAR risk assessment shall be conducted by a licensed officer with experience using this technique.

Green - Amber - Red (GAR) Risk Assessment

To compute the overall level of risk for a given evolution or event, assign a number of 1 (or Very Low Risk) through 5 (for Very High Risk) to each of the six elements. Add the risk scores to come up with a Total Risk Score for each evolution.

Risk Factors	Risk Levels					Risk Score
	1	2	3	4	5	
	Very Low	Low	Medium	High	Very High	
Supervision: Qualifications and experience of supervisor or safety observer. System of supervision in place for operation.	Very Good	Good	Marginal	Poor	Very Poor	
Planning: Adequate time for planning, amount of information available, quality of data. Plan effectively communication to all participants.	Well planned	Good plan	Adequate	Poor / Rushed	Incomplete	
Team Selection: Experience, training and familiarity, safe manning levels	Very Good	Good	Marginal	Poor	Very Poor	

Team Fitness: Physical and mental fitness of participants, vessel crew, equipment operators. Work/rest hours, fatigue, previous operations.	Very Good	Good	Marginal	Poor	Very Poor	
Environment: Wind and sea state, temperature, weather forecast, vessel traffic, proximity to navigation hazards	Very Good	Good	Marginal	Poor	Very Poor	
Complexity: New or familiar, special equipment, team size, number of assets (boats, equipment, etc) involved. Time required	Simple	Standard	Complex	Very complex	Overly Complex	
GREEN	Sum: 6-14 = Low Risk: Proceed with operations, continue to monitor conditions					
AMBER	Sum: 15-23 = Medium Risk: Proceed with operations and vigilantly monitor conditions for deterioration. Review control measures.					
RED	Sum: 24-30 = High Risk: Postpone operations. Mitigate risks. If risks cannot be mitigated, seek higher level approval before proceeding.					

The mission risk can be visualized using the colors of a traffic light. If the total risk value falls in the GREEN ZONE (6-14), risk is rated as low. If the total risk value falls in the AMBER ZONE (15-23), risk is moderate and you should adopt procedures to reduce and minimize the risk. **If the total value falls in the RED ZONE (24-30), measures to reduce the risk should be implemented prior to starting the event or evolution, or stop the evolution until sufficient procedures have been put in place to reduce the risk to a more acceptable level, at least amber.**

The ability to assign a precise numerical value to hazards using the GAR Model is not the most important part of risk assessment. **What is critical to this step is team discussions leading to an understanding of the risks and how they will be managed.**

SMM 7.0.2.2 Generic Qualitative Risk Assessment

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This Qualitative Risk Assessment Form is designed to be more generic so it can be adapted to many different evolutions or events. The sections being evaluated are similar to the simplified quantitative risk assessment scoring, but numeric values are not assigned. Instead, after filling in the risks and mitigation measures, an overall qualitative risk level is assigned.

The form is intended to be self-explanatory, with items to consider listed in each of the five factors.

If the risk level assigned is high or very high, additional risk mitigation measures need to be implemented to bring the risk level down to as low of a risk as possible. If additional mitigation measures are not possible, the evolution should be delayed or canceled until risks are reduced.

SMM 7.0.2.2 Generic Qualitative Risk Assessment Form

Section 1 General		
DATE:	TIME:	LOCATION:
SUPERVISION:		
EVENT/EVOLUTION:		
Section 2 Management Factors		
TEAM SELECTION AND FITNESS: [Items to consider - Qualifications / Skill Level, Experience with Specific/Similar Events, Time Underway on Similar Events, Physical and Mental State of Personnel, Fatigue, Health, Attitude, and Alertness, Amount of Quality Rest, Familiarity with the Operation] Risk: Mitigation:		
PLANNING: [Items to consider - Is information correct, complete, and verified; Sufficient time available for Planning and Review; Quality of Planning Process and Preparation] Risk: Mitigation:		
Section 3 Operational Factors		
ENVIRONMENTAL FACTORS: [Items to consider - Weather, Sea State, and Wind (present & future), Visibility, Air and Water Temp, Navigational Hazards such as narrow channels, rocks, or ice; and effects of these factors on Crew, Facility, and Mission] Risk: Mitigation:		

OPERATIONAL FACTORS: [Items to consider - Boat/Vessel Traffic, Presence of HAZMATs, Complexity and Duration of Mission, Urgency of Event and Conflicting Priorities] Risk: Mitigation:									
OPERATIONAL LIMITATIONS: [Items to consider - Duration, Distance, Repetition, Personnel Endurance, Fuel, Limitation of Equipment, SWLI] Risk: Mitigation:									
Section 4 Assessment									
OVERALL QUALITATIVE ASSESSMENT OF RISK: <table style="width: 100%; border: none;"> <tr> <td style="width: 20%; text-align: center;">VERY LOW</td> <td style="width: 20%; text-align: center;">LOW</td> <td style="width: 20%; text-align: center;">MEDIUM</td> <td style="width: 20%; text-align: center;">HIGH</td> <td style="width: 20%; text-align: center;">VERY HIGH</td> </tr> </table> ARE EFFECTIVE RISK MITIGATION MEASURES IN PLACE? <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table> PROCEED WITH EVENT/EVOLUTION? <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table>	VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH	YES	NO	YES	NO
VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH					
YES	NO								
YES	NO								
Section 5 Sign Off									
Signature of Person completing Risk Assessment:									
Captain's sign off for anything with Medium Risk or above:									

This form shall be documented in Sinex.

SMM 7.0.2.3 Qualitative Risk Assessment (Hazard Analysis)

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Non-editable internet version:

https://docs.google.com/document/d/1DFnx1L4o4yzxYhX9tTWfMo_NllvCnmYqPuCHXFSFrrg/preview?tab=t.0

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

Viewable Google Sheet to use for actual Risk Assessments. Please copy this document into a new document to create an editable form to use for the individual Risk Assessment

<https://docs.google.com/spreadsheets/d/1u3VcL2M23XzP9YCgOefLxXPsciiLPRGJK8foNYCsTjw/edit?gid=0#gid=0>

SMM 7.0.4 In Port Watch

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Purpose

Establish the correct procedure for watch standing in port aboard UWMAROPS vessels.

Reference: See SMM 8.1.14, Security

Watch

- At the University pier, the Master will assign ship personnel for alongside security watch. At facilities with security and restricted access, the Watch will consist of one crew member.
- While away from the University pier, the Master shall acquire any information regarding the current security threats of the port; this would include possible stowaways or other security threats.
- At public or open facilities with uncontrolled access, the Watch will consist of one qualified crew member and at least one other person in order to maintain a gangway watch. They shall have some method to communicate with each other, such as UHF radio.
- There will always be a duty engineer on call while the vessel is in port on shore power without an engineering watch. This person is to be identified on the Duty Roster. In the Home Port, the assigned duty engineer will be available by phone to contact for alarms.
- There will be an on board engineering watch when the ship is on generator or any major machinery is running. The engineer watch may be the backup for the gangway watch when circumstances permit this.
- The watch officer shall observe the Standing Orders and any additional orders of a senior deck officer. These orders will give guidance to the watch in the proper observance of vessel security and safety.
- The watch shall ensure, at a minimum every 4 hours, the dock is also secure in addition to on board security:
 - o The fire lane is clear, and access to the ship.
 - o The mooring lines are OK, and if the *R/V Rachel Carson* are in port, their lines are OK.
 - o At UW, the east and west gates are closed. At other ports, any security there is vigilant, gates closed, and in order.
 - o The oil boom is secure, if any.
 - o If the boat is in the water, its lines, flooding, all secure.
- The watch officer shall ensure that a vigilant watch is kept and that personnel are relieved by qualified individuals.
- Up to date counter-terrorism and piracy instructions should be reviewed for the correct port and facility.

Documentation

- Standing Orders
- Port Orders
- Safety Bulletin Boards
- Duty Roster, Crew List

SMM 7.0.5 Vessel Preparations, Movements, and Security

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Procedure

- The Master shall receive the *Sailing Orders* and determine the best time to move the vessel in consultation with the UW MAROPS staff, local agents, port and conditions.
- The Master shall notify all personnel by posting the time and date of sailing on the Sail Board within 24 hours of sailing. The sail board shall be maintained at or near the gangway. Additional notifications may be made in the Mess Deck or Science Labs.
- The Department Heads shall check their readiness and do a personnel check. The Deck Duty Officer shall contact the Department Heads to ensure all personnel are aboard.
- The Deck Duty Officer shall note the time the Pilot, if embarked, reports aboard.
- The Bridge and Engineering Duty Officers shall conduct a pre-departure gear test and all discrepancies shall be noted and immediately passed to the Master's attention without delay.
- A complete stowaway search of all spaces shall be conducted as required. The Master shall assign spaces to be searched to the Department Heads. All quarters and lockers shall be available for search.
- The Deck Duty Officer shall ensure that the gangway is ready to be brought aboard and sufficient personnel are ready to let lines go.
- All telephone, data cables, shore power and grounding straps are to be disconnected and verified that they are clear prior to getting underway.
- During ship moves, the total attention of all personnel is required. Personal mobile phones, radios, or devices are not allowed to be present.
- The Deck Duty Officers shall establish communication with the Master and the Bridge and inform them when the deck is ready and the gangway is stowed.
- The Deck Duty Officers shall give distances and assist the Master while the ship proceeds away from the berth. The crew is then to stow lines, fenders and stand by as directed.
- The Deck Duty Officer on the bow shall be instructed to stand by the anchors until relieved or told to secure.
- When approaching port, the Master shall inform the Bridge Management Team of the intended operations in the *Night Orders*, including any calls to the pilot station, personnel callouts and engine testing.
- Personnel shall be called out in ample time to allow for preparations.
- When the ship is alongside, the gangway shall be secured and a net placed underneath. The brow may be utilized or the accommodation ladder as the freeboard permits. Personnel shall not be allowed to board or depart until the gangway is secured, and authorities have cleared the ship.
- Once the ship is berthed at the UW facility, the oil spill containment boom shall be extended around the ship.
- All lines are to be tight and secure, rat guards in place, if necessary, and chafing gear established once the ship is alongside.
- The gangway is to be secured in place and duty watch established. The ship's fire plan is to be made available at the gangway.

- Safety and security notices shall be posted on the Vessel General Information Bulletin Board.
- Appropriate deck and gangway lighting are to be provided during the period from sunset to sunrise.

Documentation

- Vessel General Information Bulletin Board
 - Night Orders
 - Sailing Orders
-

SMM 7.0.6 Inclement and Heavy Weather

Version 2024 February 22

Updated MRL Approved TBC

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Procedure

- The Master shall determine if there is threat of Inclement or Heavy Weather. This determination is subjective, but based upon experience, the nature of the operation and hazards involved. The Master is responsible for the safety of life, property and the protection of the environment. Science operations must be constantly evaluated against this charge.
- If weather and sea conditions could impact scientific operations, the Master will notify the Duty Personnel and Chief Scientist/or designee as soon as possible to plan a reduction in operations. Some operations may be ended well in advance of the impending weather forecast to be sure that the vessel is secure before the advance of adverse conditions.
- All vessel personnel will be notified by signs posted in all common spaces and will be directed to secure their workspaces.
- Hatches shall be secured.
- All hazardous tasks shall be aborted and rescheduled.
- All spaces shall be checked for loose gear. The gear adrift shall be secured properly to the deck with lashings.
- As the vessel is secured for Heavy Weather, movement about the ship will be restricted to only essential activities. No persons will be permitted on weather decks without permission from the bridge. Persons will have to be accompanied and the proper protective equipment and personal flotation devices must be utilized.
- The Master shall decide when the Inclement or Heavy Weather precautions are not required and when scientific operations resume either partially or completely.
- When hazardous sea or weather conditions are deemed to pose a hazard to the vessel or personnel, Heavy Weather Conditions shall be set aboard the ship.
- Heavy weather procedures may also be set while the vessel is in port. If such procedures are set while in port the master shall make every effort to secure the vessel while alongside the dock or at anchor. This may include:
 - o The addition of extra mooring lines or doubling up of lines.
 - o Maintaining engines on stand-by.
 - o Securing and removal of Potable Water, Sewage Lines, and Shore Power lines and cables.
 - o Securing any loose dunnage on the aft deck.
 - o Raising and securing the gangway.
- If at any point lightning is observed while the vessel is at the dock or at anchor, all deck operations shall stop and the crew and science party will clear the weather decks until the lightning has ceased.

Documentation

- [UNOLS Research Vessel Safety Standards](#)
- Master's Standing Orders

SMM 7.0.7 Spill Prevention and Storage

Version 2024 May 2

Updated TBC Approved RAK

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Procedure

- The Chief Mate and Chief Engineer shall be in charge of the Deck and Engineering Department's efforts to prevent spills of chemicals and hazardous materials under their control. Any HAZMAT required by the Steward will be coordinated through the Deck Department.
- The Chief Mate and Chief Engineer shall ensure that all hazardous materials are identified and properly stored in HAZMAT storage areas.
- The Chief Mate and Chief Engineer shall instruct personnel in the proper storage, inventory, use and handling of hazardous materials and waste. A spill can occur of liquids, solids or gasses.
- Deck and Engineering Department personnel should take precautions when loading and unloading materials that could cause environmental damage or hazards to personnel.
- Paints should be stored properly and minimum quantities carried to the scene of maintenance and replenished as required.
- Inventories of hazardous wastes to be disposed of are provided to shore personnel and disposal must be completed in accordance with local requirements and laws.
- Special attention shall be paid to the handling and storage of cleaning fluids, paints and hazardous liquids when rough seas, heavy rains, or other heavy weather conditions are expected.
- A properly trained person shall be present to watch for spill hazards when handling Particularly Hazardous Substances. (e.g. Formaldehyde)
<https://www.ehs.washington.edu/resource/particularly-hazardous-substances-655>

Hazmat Storage

- All paints and hazardous materials aboard shall be accompanied by a SDS and included in the Vessel's SDS file for each department (hard copy in binder or electronic).
- Storage guidelines in the SDS shall be followed.
- Paints, paint products and thinners shall be stored in the Paint Locker.
- Hazardous Materials shall be stored in the Hazardous Material Locker or clearly marked Hazmat cabinets.
- Partially used cleaning materials shall be returned to their storage and only minimum quantities for daily use are allowed to be stored outside of the assigned storage areas.
- Scientific Hazmats & Waste shall be managed in accordance with SMM 7.4.7.
- Hazardous waste disposal shall be managed in accordance with SMM 7.4.7.
- Hazardous waste shall be removed at the earliest opportunity, and will not normally be stored from cruise to cruise.

Documentation

- [OSHA](https://www.osha.gov/sites/default/files/publications/shib011819.pdf) (<https://www.osha.gov/sites/default/files/publications/shib011819.pdf>)
- [UNOLS Research Vessel Safety Standards](#)

SMM 7.0.7.1 Pollution

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Background

The University of Washington School of Oceanography contracts with Witt O'Briens to ensure the *R/V Thomas G Thompson* is compliant with State, Federal, and International pollution regulations. Through Witt O'Briens oversight, the *R/V Thomas G Thompson* maintains a USCG Non-Tank Vessel Response Plan (NTVRP) and a Shipboard Oil Pollution Emergency Plan (SOPEP). Both can be in the Master's Office and at <http://vesselpro.wittobriens.com>.

The ship's Oil Spill Response Organization (OSRO) is MSRC.

Procedure

The *R/V Thomas G. Thompson* will make every possible effort to ensure that both (1) solid waste and (2) liquid waste will not enter the environment. Solid waste is defined as metal, wood, cardboard, oily rags, and common trash. Whereas liquid waste can be defined as diesel fuel oil (DFO), lube or hydraulic oil, sewage, or any hazardous material in use by the vessel or science party.

Food waste may be dumped into the environment in accordance with MARPOL Annex V Regulations as such:

- Less than three nautical miles from land – No Dumping shall occur.
- 3-12 nautical miles from land – Food waste ground to less than 1 inch.
- Beyond 12 nautical miles from – unground food waste.

All solid waste will be treated as such:

<u>Garbage Separation Method</u>	<u>Disposal Method</u>
CLEAN MIXED PAPER - Bins in Public Spaces RECYCLE - Bins in Public and Berthing Spaces	Compact - Shore Recycle
GARBAGE - Bins in Public and Berthing Spaces GARBAGE - Bin in Galley and Scullery GARBAGE - Bin in Compactor Room PLASTIC - No separation from other garbage	Compact - Shore Disposal
FOOD/NO PLASTIC - Bin in Scullery	At Sea Disposal
OILY RAGS - Bin in Machine Shop and Paint Locker BUTTS - Bins aft of Staging Bay and 01 Stbd Deck SHARPS - Bin in ET Shop and Hospital AEROSOL CANS - Bin in ET Shop	Shore Disposal
BATTERIES - Bin in ET Shop SODA CANS - Bins in Scullery and Compactor Room GLASS - Bin in ET Shop and Compactor Room SCRAP METAL - Bin in Machine Shop CARDBOARD and WOOD - Compactor Room	Shore Recycle

new placard from 9/2022

The vessel will arrange to discharge solid waste during port stays as needed. A recycling service may be used for some items, however it should be understood that such recycling programs might not be available in every port.

In addition:

1. All personnel will be briefed on the garbage plan upon arrival to the vessel.
2. Permission from the Bridge is required for all discharge of food waste while at sea. The officer of the Watch shall make an entry into the Garbage Disposal Log.
3. The crew will make all efforts to secure science equipment prior to the vessel's departure to prevent the accidental discharge to the environment.
4. The Chief Mate will make periodic inventories of the spill response equipment and replace as needed.
5. No raw sewage will be pumped within 12 NM of land; the Officer of the Watch will notify the engineer of the watch prior to crossing this line. All local regulations will be observed concerning use of the MSD's system.

Specific Spill Response SMM Sections

In certain incidents, radioactive waste may need to be disposed of. This should be done in accordance with SMM 7.4.6 Radioactive Materials.

Regarding liquid waste, the vessel shall follow the procedure within SMM 7.0.7 Spill Prevention; SMM 7.2.6 Fueling, and SMM 7.2.8 Liquid Transfer Checklist.

In the event of a hazardous liquid spill, the crew shall follow the procedure in SMM 8.1.7 HAZMAT Spills.

Reference

NTVRP
SOPEP
SMM 7.0.7 Spill Prevention
SMM 7.2.6 Fueling
SMM 7.2.8 Liquid Transfer Checklist
SMM 7.4.6 Radioactive Materials
SMM 8.1.7 HAZMAT Spills

SMM 7.0.8 Cleaning and Hygiene Form

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Non-editable internet version:

https://docs.google.com/document/d/1zaWOElqWiLuzB-VwWxjIJ-3T3Bi35Vilu_aCBR7_7x4/preview?tab=t.0

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 7.0.9 Crew Work Hours and Rest Periods

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Purpose

To ensure the process for crew work hours and rest periods is documented and the crew adhere to STCW rest period requirements. The administration and accounting of pay is not subject to the Safety Management System.

Procedure

- As of 1 July 2026, the ISF WATCHKEEPER program will be used to record all STCW Work Rest Requirements.
- The Master, with the assistance of the department heads, will ensure each member of the crew's work schedule allows for sufficient rest as per STCW policy referenced below.
- Consideration of fatigue will be included in every risk assessment, and operations modified with different people, a slower pace, or some other mitigation to ensure the risk is at an acceptable level.
- All personnel are responsible for tracking their work hours, overtime, and rest hours. These hours shall be documented on WATCHKEEPER.
 - o In WATCHKEEPER, Department Heads will review members of their department hours on a weekly basis. Crew are required to enter hours on a daily basis and will monitor for non-conformities and if needed report to their Department Heads.
 - o If hours are exceeded, or are near to be exceeded, the Department Head will intervene and adjust overtime and watch schedules as needed. The Department Head will document this intervention in the comments section of the STCW form.
 - o Disembarking crew will submit their STCW forms to their Department Heads prior to leaving the vessel. The Master MUST review the STCW hours prior to leaving the vessel.
 - o On the last day of the month each crew member will print out and sign the Watchkeeper report before submitting it to their Department Head
- Department Heads shall review, sign, and submit all STCW Work/Rest forms for their respective department to the Master.
- The Master shall review, sign the Department Head forms, and scan all the forms to the shore side office.
- Originals shall be returned to the mariner.

STCW Requirements as per 46 CFR 15.1111 Work Hours and Rest Periods

(a) Every person assigned duty as officer in charge of a navigational or engineering watch, or duty as ratings forming part of a navigational or engineering watch, or designated safety, prevention of pollution, and security duties on board any vessel that operates beyond the [boundary line](#), as described in [part 7](#) of this chapter, must receive -

(1) A minimum of 10 hours of [rest](#) in any 24-hour period; and

(2) 77 hours of [rest](#) in any 7-day period.

(b) The hours of [rest](#) required under [paragraph \(a\)](#) of this section 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.

(c) The requirements of paragraph (a) and (b) of this section need not be maintained in the case of an emergency or drill or in other overriding operational conditions.

(d) The minimum period of [rest](#) required under [paragraph \(a\)](#) of this section may not be devoted to watchkeeping or other duties.

(e) Watchkeeping personnel remain subject to the work-hour limits in [46 U.S.C. 8104](#) and to the conditions under which crewmembers may be required to work.

(f) The [master](#) must post watch schedules where they are easily accessible. They must cover each affected person under [paragraph \(a\)](#) of this section, and must take into account the [rest](#) requirements of this section as well as port rotations and changes in the vessel's itinerary.

(g) Records of daily hours of [rest](#) must be maintained onboard the vessel. Each affected person under [paragraph \(a\)](#) of this section must receive a copy of the records pertaining to them, which will be endorsed by the [master](#) or by a person authorized by the [master](#) and by the seafarer.

(h) For every seafarer on call, such as when a machinery space is unattended, the seafarer must have an adequate compensatory [rest](#) period if the normal period of [rest](#) is disturbed by call-outs to work.

(i) The [master](#) of the vessel may suspend the schedule of hours of [rest](#) and require a seafarer to perform any hours of work necessary for the immediate safety of the [ship](#), persons onboard, or cargo, or for the purpose of giving assistance to other [ships](#) or persons in distress at sea. As soon as practicable after the situation has been restored, the [master](#) must ensure that any seafarer who has performed work in a scheduled [rest](#) period is provided with an adequate period of [rest](#).

(j) In exceptional circumstances, the [master](#) may authorize exceptions from the hours of [rest](#) required under paragraph (a) and (b) of this section provided that:

(1) The hours of [rest](#) provided for in [paragraph \(a\)\(1\)](#) of this section may be divided into no more than three periods, one of which must be at least 6 hours in [length](#), and neither of the other two periods are permitted to be less than one hour in [length](#).

(i) Exceptions to [paragraph \(a\)\(1\)](#) of this section must not extend beyond two 24-hour periods in any 7-day period; and,

(ii) The intervals between consecutive periods of **rest** must not exceed 14 hours.

(2) Exceptions to paragraphs (a)(2) and (b) of this section must not be less than 70 hours of **rest** in any 7-day period.

(3) Exceptions to **paragraph (a)(2)** of this section are not allowed for more than two consecutive weeks, and the intervals between two periods of exceptions to paragraph (a)(2) must not be less than twice the duration of the longer exception.

Reference

A link to the USCG Crew Rest Policy Letter may be found at:
<http://www.ocean.washington.edu/story/RV+Crew+Information>

Documentation

- Record of Hours and Rest



Jul 2026
IMO STCW 2010(+Manila)

Thomas G. Thompson
8814419
USA

Blank
Captain
NO



Jul 2026																								Periods of work are shaded										Hours of work in 24h period	Hours of rest in 24h period	Comments	NOT TO BE COMPLETED BY THE SEAFARER	
Date	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22														23	24
7/1/2026																										0.0	24.0		N/A	N/A								
7/2/2026																										0.0	24.0		N/A	N/A								
7/3/2026																										0.0	24.0		N/A	N/A								
7/4/2026																										0.0	24.0		N/A	N/A								
7/5/2026																										0.0	24.0		N/A	N/A								
7/6/2026																										0.0	24.0		N/A	N/A								
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7/29/2026																										0.0	24.0		N/A	168.0								
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SMM 7.0.10 Medical Care

Version 2025 Dec 18

Updated MRL Approved RAK

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Procedure

- The Master, Port Captain, and Manager of Marine Operations is to be informed about major injuries, illnesses or change in medical condition of any person aboard a UW vessel. This includes licensed officers, unlicensed crew, scientists, visitors or vendors. If in doubt, report the medical issue to the above mentioned.
- All crew aboard the ship while at sea are strongly encouraged to discuss any medical concerns with the Medical Officer. These communications are confidential, but essential in the event of an incident. The Port Captain has access to crew member information including emergency contact information via Workday.
- For science party members, there is a medical questionnaire in the Marine Facilities Planner (MFP).
- The Master shall assign the Medical Officer, typically the Chief Mate, to handle routine matters and inventory medical supplies. The Master is assumed to be the Medical Person-In-Charge (MedPIC) aboard the ship unless they delegate that task to an appropriately trained crewmember, also typically the Chief Mate.
- Permanent crew members who are MedPICs aboard the ship shall receive training no less than every five years.
- UW MAROPS shall provide a 24/7 shore-based medical advice contractor. The contractor is currently George Washington Maritime Medical.
- All communications with the medical advice contractor shall include the Master, Medical Officer if different from the Master, Port Captain, and Manager of Marine Operations.
- When the Master is notified of an illness or injury, the individual shall be checked in person by the Medical Person-in-Charge (MedPIC).
- The Master or MedPIC shall keep records of all medical attention given in the ship's *Medical Log*.
- The Master shall inform the shore side provider in the case of any illness or injury when the ship is at sea once an initial consultation indicates medical attention and professional medical advice is required.
- The Master shall take action to quarantine an individual if required or recommended.
- Ship personnel shall follow the instructions of the medical provider under the guidance of the Master and/or MedPIC.
- If a medical evacuation is required please go to SMM 8.1.13 Serious Injury/Illness/Death Procedure.
- Reporting to the UW Environmental Health and Safety Office:
 - If the injury or illness occurred to anyone aboard the ship a report must be filed utilizing the Online Accident Reporting System (OARS). This report will be generated by the shore-based staff of UW MAROPS with the Master's assistance and submitted online. The OARS report should be submitted within 24 hours.
 - Call EH&S immediately at (206) 543-7262 if the incident involves any of the following:
 - In-patient hospitalization or amputation
 - Fatality
- A determination shall be made if a OFI/CAR is warranted.

Controlled Substance Procedure

- The distribution of a controlled substance shall occur:
 - Under the direction of the vessel's shoreside medical provider or,
 - Controlled substances can only be administered through the instruction of a medical doctor.
- Prior to the distribution of a controlled substance, the Master or medical officer shall review any risk associated with the recommended medication. This shall include allergies, or side effects which could be detrimental to the patient. This information shall be communicated to the maritime medical provider.
- If the shoreside medical provider directs the distribution of a controlled substance, a written record shall include:
 - An email to the vessel listing the medication, quantity, dosage, and frequency.
 - An entry shall be made into the "Controlled Substance Log".
 - Notification to MAROPS, by email indicating the controlled substance has been distributed.
- The Master shall maintain the Controlled Substance Log. This log shall include the following:
 - Distribution of a controlled substance.
 - Monthly inventories of the controlled substances. This inventory shall be emailed to the Port Captain and the controlled substance vendor monthly.
 - Master's Transfer of Controlled Substances memo.
- When a controlled substance is issued, the Master shall have a witness to verify the correct medication, dosage, and amount is being administered.
- The witness shall sign the "Controlled Substance Log".
- After distribution, the patient shall be monitored for side effects. Any observed side effects shall be reported to the shoreside medical provider.

Documentation

- Science Party Medical Information in [MEP](#)
- Master's Transfer of Controlled Substance Memo
- Medical Provider Incident Forms and Instructions
- UW OARs Reporting
- Ship's Narcotic Inventory
- Crewmember Personal Data Form
- USCG Forms CG-2692 and CG-2692B
- OFI/CAR
- TGT Medical Questionnaire
- Ship's Medical Log
- Medical Provider Inventory
- Controlled Substance Log

SMM 7.0.10.1 Viral Outbreak Management Plan

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This plan is the successor to the COVID-19 Health and Safety Plan and incorporates recommendations for other viral outbreaks (flu, norovirus, RSV, etc.). The plan is informed by the Centers for Disease Control and Prevention (CDC), George Washington Maritime Medical Access (GWMMMA), and University National Oceanographic Laboratory System (UNOLS) recommendations and is to be used in conjunction with the following resources:

- R/V *Thomas G. Thompson* Safety Management Manual (SMM)
- GWMMMA medical guidance
- University of Washington Environmental Health and Safety (UW EH&S)
- Federal, state, and local health officials

Vaccination

All individuals sailing are encouraged to be up-to-date on routine immunizations, including influenza and COVID, and to consult a healthcare provider about other recommended vaccines. UW Marine Operations does not currently require vaccinations to sail; however, some ports of call may have their own vaccination requirements for entry.

Hygiene

All crew, marine technicians, and science party participants are reminded to practice good hygiene habits while preparing to join the vessel, traveling to the vessel, and while underway. This includes:

- Keeping your hands clean. Wash your hands frequently with soap and hot water for at least 20 seconds. If soap and water are not available, use at least 60% alcohol hand sanitizer gel.
- Sneezing or coughing into your elbow.
- Avoid touching your eyes, mouth or nose.

Pre-Embarkation

- Follow pertinent guidance for preventing the spread of viral illnesses by staying up-to-date with immunizations, practicing good hygiene, and taking steps to decrease exposure in the days leading up to embarkation (i.e. pre-travel viral testing, electing to wear a mask while traveling, increasing frequency of handwashing).
- Self-monitor for viral symptoms, reporting any persistent symptoms.
 - Crew members report symptoms to the UW Port Captain.
 - Marine technicians report symptoms to the Manager of the Shipboard Science Support Group (SSSG).
 - Science party members report symptoms to the Chief Scientist or Principal Investigator.

All reported pre-embarkation symptoms will be communicated to the UW Port Captain or Manager of Marine Operations.

- If symptoms warrant, test for viral infections such as COVID and influenza. Consult with a healthcare provider for recommendations. Report positive or negative results, see above.
- The science party should consider potential isolation needs due to viral illness. The ship's hospital will not be used for isolation. Consult with UW Marine Operations if a project is in a remote location for risk assessment.

Embarkation

- At the discretion of the UW Manager of Marine Operations, the UW Port Captain, the Captain, and the Medical Person In-Charge (MedPIC), a medical evaluation including viral testing may be required for all personnel arriving to the vessel. A medical evaluation may be implemented in response to local or global viral outbreaks, or if symptoms consistent with viral illness are reported or observed.
- If a viral illness is identified or suspected through medical evaluation, observation, or self-reporting, the Captain, the MedPIC, the UW Manager of Marine Operations, and the UW Port Captain, will coordinate with the affected individual(s) to develop a plan for care. Local medical guidance may be sought ashore, and consultation with GWMMA may also be initiated.
- The Captain, the MedPIC, the UW Manager of Marine Operations, the UW Port Captain, and the Chief Scientist will assess if the project may safely continue as planned or if modifications to operations, personnel responsibilities, or the cruise timeline are warranted.

Underway

- If a viral illness is identified or suspected while underway through medical evaluation, observation, or self-reporting, the Captain and the MedPIC, will coordinate with the affected individual(s) to develop a plan for care. It may be determined that the individual isolates for a set period. Consultation with GWMMA may be initiated at the discretion of the Captain or MedPIC.
- At the direction of the Captain and the MedPIC, working with GWMMA, measures to reduce close contact, such as encouraging meals outdoors or in staterooms, may be implemented.
- At the direction of the Chief Mate or Captain, high-touch areas including public heads, common spaces, mess deck, ladderwells, handrails, doorknobs and watchstanding stations will be disinfected daily. Hand sanitizer dispensers will be available throughout the vessel, including at the start of the food service line on the mess deck.
- Crew are reminded to use gloves when cleaning common spaces and emptying garbage to the dumpster.
- Masks will be made available and will be encouraged indoors in shared spaces.

- UW recommends and will provide KN-95 (or equivalent) masks.
- Masks should fit snugly against the sides of the face and completely cover the nose and mouth.
- The Captain, the MedPIC, the UW Manager of Marine Operations, the UW Port Captain, and the Chief Scientist will assess if the project may safely continue as planned, or if modifications to operations, personnel responsibilities, or the cruise timeline are warranted.

Symptoms of Viral Illness

Please be aware of the following symptoms and monitor for any that persist. Report any ongoing symptoms to appropriate personnel.

Respiratory Symptoms

- Cough
- Sore throat
- Congestion or runny nose
- Shortness of breath or difficulty breathing

Systemic Symptoms

- Fever (temperature of 100.4°F / 38°C or greater) or chills
- Fatigue
- Muscle or body aches
- Headache

Gastrointestinal (GI) Symptoms

- Nausea
- Vomiting
- Diarrhea
- Abdominal pain

Neurological and Sensory Symptoms

- New loss of taste or smell
- Dizziness (occasionally reported in viral illnesses)

Other Possible Symptoms

- Red or irritated eyes
- Skin rash (infrequent but associated with some viral infections such as measles, enteroviruses, or monkeypox)

SMM 7.0.11 Communications

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Purpose

To establish the procedures regarding vessel communications with the Marine Operations office for all personnel aboard UW MAROPS vessels and ashore.

Procedure

- **Daily Reports** - Every day while the vessels are away from the School's dock the Master and the DP shall follow this communications protocol:
 - Normally between 0800-1400 each day, the Master shall send a written narrative (Daily Report) to the DP via email outlining the vessel's present position, course and speed along with the weather and sea state conditions. Additionally, the Master shall provide a brief summary of the preceding 24 hours operations, anticipated activities of the day and any current or impending problems for engineering, ops or science. If the nature of the science cruise activities make the morning inconvenient, the Master may select a different time frame for each daily report.
 - Each vessel's Master shall send the Daily Report email to:
 - tgtops@u.washington.edu
 - rcops@u.washington.edu
 - Once the e-mail arrives at the School's server, the message will automatically be forwarded to the:
 - Manager, Marine Operations
 - Port Captain
 - Port Engineer
 - Administrative Assistant
 - Manager, Shipboard Scientific Support Group
 - Master of the vessel originating the message
 - The Master will know that the message was sent and received by the School's e-mail server successfully when they receive a copy of the message. This "confirmation message" should normally arrive back to the vessel no later than 1200 (Seattle time).
 - At 0000(vessel's LMT) the Officer of the watch of the R/V *Thomas G. Thompson* shall send a daily report (transmitted via Inmarsat C). This report shall include the following:
 - Date
 - Position
 - Course and Speed
 - Fuel Remaining Aboard
 - Wind
 - Air Temperature
 - Barometric Pressure
 - Sea State
 - Swell
 - Any Comments
 - The Master shall send the Midnight Report to:
 - tgtops@u.washington.edu

- The Master will know that the message was sent and received by the School's e-mail server successfully when they receive a copy of the message. This "confirmation message" should normally arrive back to the ship no later than within the next two hours.
- In the event the Master does not receive an e-mail copy of either one of the two reports or other acknowledgement by the DP, they shall attempt to contact the DP no later than 1700 (Seattle time) using one of the following methods:
 - Master's or ship's mobile phone
 - Iridium satellite phone
 - Inmarsat B satellite phone (Thompson only)
 - VHF band 156-162 MHz (when <30 nm from shore) public coast station (i.e. marine operator)
 - Single sideband radiotelephone HF high seas band 2-27.5 MHz (when >30nm from shore) public coast station (i.e. marine operator) for direct voice communication or to pass verbal messages)
- In the event that the DP does not receive the Daily Report, Noon Report or telephone call from the Master by 1800 (Seattle time) they shall attempt to contact the ship using the listed Emergency Contacts in SMM 8.0.1 for each vessel.
- Several other methods are available to the DP to determine the vessel's position:
 - Thompson Procedure Only:
 - Send an Iridium Tracking System (ITS) request via e-mail to the vessel's SSAS control unit. (Thompson procedure only)
 - Address the e-mail to:
 - 881621444025@msg.iridium.com
 - Leave the subject line blank.
 - Type only the following in the body of the message:
 - ITSREQ,<password>
 - Ex: ITSREQ,SHIPOPS
 - The password shall be provided by the Company Security Officer
 - Open the sailwx.info website and view the vessel's position based on data input to the World Meteorological Organization's Volunteering Observing Ship program: (Thompson procedure only)
 - <http://www.sailwx.info/shiptrack/researchships.phtml>
 - Thompson and Carson Procedure
 - Open a live AIS website and view the vessel's position based on the transmitted AIS data:
 - www.shinemicro.com
 - www.aislive.com
 - If the DP has not had any communication with the Master by 2100 (Seattle time) and has not been able to determine the vessel's position through the methods outline above they shall immediately notify the School's Director and Associate Director and, if determined appropriate, contact the US Coast Guard's Pacific Search and Rescue Coordinator Center in Alameda, California for assistance. (510) 437-3700
- **Safety Management System Messages** – E-mail is the primary form of Safety Management System messages. Fax and telephone is to be followed up in e-mail as soon as possible. Official correspondence shall be separated from private or administrative messages.

- The Master and members of the Safety Management Committee shall establish a file for:
 - Each voyage, and
 - Opportunity for Improvement messages
- A copy of all voyage correspondence to the office shall be forwarded to the Master before the voyage commences.
- The Master shall send all official correspondence to the UWMAROPS common email address.
- In order to create an audit chain, it is essential to make the Master the point of contact for all shipboard members of the Safety Management System. All e-mail messages from the vessel relating to administrative or Safety Management System issues shall be forwarded by the Master. UW MAROPS will not act on messages not forwarded through the Master.
- Messages shall be sent to the common address and the subject line shall be standardized. Messages sent and received shall be stored electronically by the Master, the DP and the Port Captain.
- The subject lines are to call attention to the various members of the Safety Management System. General administrative (OT, travel, staff and benefit questions, etc), personal and medical e-mail messages will be kept separately.

Documentation

- Master's Daily Report
 - Ship's Midnight Report
-

SMM 7.0.12 Cell Phone and Computer Policy

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Background

In recent years, there has been an increasing number of maritime casualties that have been attributed to the use of cell phones distracting watch standers. When used appropriately smartphones can be a very useful tool. However, when used inappropriately they can become a dangerous distraction.

This policy is meant to establish requirements for using non-bridge equipment devices aboard the R/V Thomas G. Thompson. This policy pertains to members of the crew and science party who are working on the bridge.

Policy

- Personal phone calls on a cell/smart phone or any other electronic device is strictly prohibited by any crewmember who is standing a watch, or conducting work that has been assigned to them by their Department Head.
- Use of social media or texting on a cell/smart phone or any other electronic device is strictly prohibited by any crewmember or science party member who is standing a watch, or conducting work that has been assigned to them by their Department Head.
- Phone calls and texting pertaining to vessel operations may be permitted while a crewmember is on duty, however these phone calls should be kept to a minimum.
- At no time should a watch stander, or day worker, in either the deck or the engine department be using a cell/smart phone or any other electronic device to watch videos, look at pictures, or read articles.
- Cell/smart phones or electronic devices may be used to listen to audio recordings while on watch or day working, as long the content or volume do not interfere with their duties.
- Members of the science party who are engaged with science operations on deck shall not use a cell/smart phone or any other electronic device for phone calls, texting, posting, or responding to social media. Cell/smart phones may be used for operational purposes only.
- Crewmembers or members of the science party who are not engaged in watch standing, day work, or science operations shall refrain from making phone calls, texting, or using social media in areas of the ship where there are ensuing operations.
- If a crewmember does need to make a personal call while on watch, they should contact the Master or Chief Engineer for relief.

SMM 7.0.13 Sailing Short Key Personnel

Version 1 November 2021

Updated MBC Approved RAK

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Background

The *R/V Thompson*'s manning requirements are regulated by the United States Coast Guard (USCG). The Certificate of Inspection (COI), provided by the USCG, dictates the required positions (billets), number of personnel in each position, and specific training requirements. The *Thompson* must meet these manning requirements in order to get underway. Each position on the COI is considered "key personnel".

The *R/V Thompson*'s COI requires the following 17 positions are filled while underway:

1 Master	1 Chief Mate	1 Second Mate	1 Third Mate
1 Chief Engineer	1 First Engineer	1 Second Engineer	1 Third Engineer
4 Able Seafarer	2 Ordinary Seafarer	3 Oilers	

Of the above crew, 4 must have Lifeboatperson and 4 must be GMDSS Operators

The *Thompson* may also carry an additional 5 crew members within its complement. Typically, the vessel also employs a Chief Steward, Second Cook, Mess Attendant, and a fourth Oiler.

Procedure for sailing short key personnel

- When the vessel is short of key personnel, all efforts must be made to find a qualified replacement.
- If a qualified replacement cannot be found, a crew member who is certified to sail one level below the vacant position (ie, sailing a Second Assistant Engineer as a First Assistant Engineer) may be placed in that position; however approval must be sought from the local OCMI through written request.
- If the Master or Port Captain is unable to find appropriate credentialed personnel to crew the vessel, the vessel may proceed on the voyage, having determined by the Master and Chief Engineer (if the vacant position is in the Engineering Department) the vessel is sufficiently crewed for the voyage.
- When deciding if the vessel is sufficiently crewed for the voyage, consideration will be given to the duration, remoteness, and complexity of the science mission and the experience of the other crew members within the department (deck, engineering, etc) that is sailing short.
- The vessel will not sail short of key personnel when on international voyages.
- The Manager of Marine Operations (Designated Person) must be notified of all situations when the vessel sails short; the authority to determine if the vessel is sufficiently crewed remains with the Master.
- A report of sailing short must be filed with the local OCMI in the area in which the vessel is operating, or the OCMI within whose jurisdiction the voyage is completed. The report must explain the cause of each deficiency and be submitted within 12 hours after arrival at the next port. This report should be sent via email and must include the

ship's COI and, if relevant, the credentials of the crew member sailing in the position higher than they are qualified.

- The actions of the Master or Port Captain in such instances are subject to review. A civil penalty may be assessed against the Master or Port Captain for failure to submit the report.

Documentation: Certificate of Inspection

References:

[46 CFR 15.275](#) Sailing Short

[46 U.S.C. 8101\(e\)](#) Complement of Inspected Vessels

SMM 7.1.1 Deck Duty Assignment

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Procedure

- The Master shall ensure that the Deck officers carry out their specific and assigned duties. The Deck officers shall follow procedures, assist in improving them and complete all SMM checklists and documentation. All duties or other assignments are made at the Master's discretion.
- The Chief Mate should divide the deck department into three watch sections with a mate, an experienced helmsperson, winch operator and RFPNW endorsed, and another AB or OS. In restricted waters determined by the Master, the Mate on watch shall have two persons assigned. The third person on each watch will, at the discretion of the Master, become part of a day working crew and assigned work according to the maintenance plan.
- The Chief Mate shall track and lead the department maintenance, maintaining department files, and submitting standardized maintenance reports. This officer is assigned navigation and deck watches. The Chief Mate shall receive all reports from other Deck Department personnel members including overtime, training, safety and medical inventories. The Chief Mate is also in charge of all Deck Department inventory and requisitions, utilizing standardized systems.
- The Second Mate is the Navigation Officer and shall take care of all navigation equipment, publications, charts and communications paperwork. This officer is assigned navigation and deck watches. The navigation equipment shall be monitored for proper working conditions and problems reported. The charts and publications should be current and corrected for the operational area as directed. Charts and publications shall be verified and updated when the voyage plan is completed. The Second Mate is the primary person in charge of providing background navigational support, such as the input of waypoints, etc.
- The Third Mate is the Safety and Orientation Officer. The Third Officer shall make up the Station Bill with Emergency Assignments, and post it near the mess deck and on each vessel deck. Oncoming crew members shall be made aware of their duties and responsibilities to prevent accidents, prepare for emergencies and respond to them. This information shall be provided to them in their Vessel Familiarization briefing. During each operational phase, every crew member should know who is in charge, their specific duty, the hazards involved and what to do in an emergency. The Third Mate stands for navigation and port watches.
- There are various duties that fall outside of the specific tasks assigned. These various duties include:
 - o GMDSS Operator and Maintainer
 - o Medical Person in Charge
 - o Person with Pilotage
- All members of the deck department must know what their duties are for various evolutions and who is in charge of a particular operation.
- The Master, Chief Officer and Duty Officer shall make duty assignments based on experience, skill and training levels while conducting operations.
- Each person in the deck department shall have routine assignments as part of watch duties, science operations, vessel cleaning and maintenance.

- These duty assignments are not permanent and may be changed as required by the Master, Chief Officer or Duty Officer in order to safely carry out the tasks assigned.

Documentation

Voyage Plan

SMM 7.1.2 Bridge Watch Turnover

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Updated CJP Approved RAK

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Procedure

- The Master is in charge of the safe navigation of the vessel and shall, in accordance with section 5.0, periodically review the standing orders for the vessel.
- The Master may write Night Orders for the night and morning watches. These orders may consist of (1) Navigation precautions, (2) Science Operations, (3) Weather Precautions, (4) Call out procedures, and (5) General communications. The watch officer shall review and sign the Night Orders. The signed Night Orders will be kept for no less than 60 days after signing.
- The Watch officers shall review and sign the Master's Standing orders.
- The Master assigns the Second Officer the task of supporting the Bridge Watch teams. The Second Officer shall maintain all bridge records, charts and publications, Deck Logbooks, GMDSS logbooks, Master Books and Voyage Plan. The Second Officer, when given the Pre-Voyage Plan information, shall review the needs of the science party and ensure that the proper charts and publications are available for the mission. A Voyage Plan including a list of waypoints, courses and operational details shall be made for the Master's approval for use of the Bridge Team. Any checklists used during the voyage shall also be included. The Master shall verify the completeness of the Voyage Plan and will ensure that the Second Officer utilizes the form "*Voyage Plan*" as the planning document template. All charts and publications will be verified to be updated for each "*Voyage Plan*".
- The underway bridge team shall consist of at least one duty Watch officer and one unlicensed personnel. The Duty officer is in charge of effectively managing the activity of this team with guidance from the Master.
- Communication is important to a ship's safety. The Duty Officer shall ensure that the communications equipment for inter-ship and intra-ship operations are working effectively.
- During operations, the Watch officer shall monitor the bridge team and keep the vessel in safe operating condition.
- The navigation bridge is a busy place and the Watch Officer should ensure that the team is not distracted or fatigued.
- The Watch Officer shall be empowered to call for additional personnel as the operational details and conditions warrant, with guidance from the Master.
- The Master may impose additional restrictions and requirements for the Bridge Team.
- The Watch Officer shall make appropriate logbook entries in the various bridge logs.

Documentation

- Form 7.1.3 Voyage Plan
- Standing Orders
- Night Orders

The change of the Watch shall be orderly with complete exchange of information between Duty Officers. The watches shall ensure that the oncoming Bridge Team is completely informed of:

- The status of science operations, including the plan for their watch, when to contact the duty RV Tech and/or the Chief Scientist, as well as the overall plan.
 - The vessel position, tide, current and hazards to navigation
 - Current and predicted vessel traffic and VTS requirements
 - The intended track and upcoming operations
 - Standing Orders, upcoming drills
 - Machinery Condition, Equipment Status
 - Navigation Equipment Status, Radar settings, Lighting
 - Current and Forecasted Weather
 - External Communication requirements, Signal Flags, GMDSS, Expected phone calls, faxes etc.
 - Internal Communication requirements, Computer settings, Handheld radio channels, lab telephone requirements, etc.
 - Personnel needs, wakeup calls
 - Any other information which is necessary for the safe operation and navigation of the vessel
-

SMM 7.1.2.1 Bridge Pre Departure Checklist

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Bridge Pre Departure Checklist

Port: _____ Date & Time Completed: _____

Watch Officer/ Signature: _____

- ☐ **STBD RADAR:** Energized, heading align, heading input: CMPS. Set range. Verify speed input: GPS. Mode: NU, RM. Vectors: TM.
- ☐ **Port RADAR:** Energized, heading align, heading input: CPMS. Set range. Verify speed input: GPS. Mode: NU, RM. Vectors: TM.
- ☐ **ECDIS #1:** Position verified, departure route loaded, user map (if applicable) loaded, appropriate layers enabled, course vector set, alarm setting verified.
- ☐ **ECDIS #2:** Position verified, departure route loaded, user map (if applicable) loaded, appropriate layers enabled, course vector set, alarm setting verified.
- ☐ **GPS #1:** Verify operation.
- ☐ **GPS #2:** Verify operation.
- ☐ **Gyro System:** Verify operation. Check repeaters on centerline, port/stbd bridge wings.
- ☐ **D.P. System:** Verify in standby mode, heading input, position inputs, rate of turn, thruster conning display.
- ☐ **Auto Pilot:** Verify heading, speed, normal settings and work profile.
- ☐ **Doppler Speed Log:** Verify operation, repeater on.
- ☐ **Echo Sounder:** Scale, gain, alarm setting, display mode (night/day), repeater on.
- ☐ **A.I.S.:** Confirm operation, set destination, Nav status, ETA to destination, P.O.B., draft.
- ☐ **Navigation Lights:** Verify operation, set appropriate lights
- ☐ **Whistle:** Verify operation on: overhead, BCC, PBW, SBW.
- ☐ **General Alarm:** Verify operation.
- ☐ **Public Address System:** Verify operation.
- ☐ **GMDSS:** Complete GMDSS Pre Departure form.
- ☐ **VHFs:** VHF #1, 2, 3: Set to appropriate channels.
- ☐ **Anchors Cleared:** Anchors clear.
- ☐ **Pilot Card:** Pilot card information filled out.
- ☐ **Stern Thruster Rotation:** Take control of stern drives. Start on port, rotate at 90° increments thru 360° CW and CCW. Confirm with engineer. Repeat on stbd drive.
- ☐ **Stern Propulsion:** Oppose thrusters, 'bump' RPMs to approx. 20 RPMs at same time.
- ☐ **Bow Thruster:** Take control on BCC. Rotate at 90° increments thru 360°, CW and CCW. Confirm with engineer. Place on continuous rotation and test RPMs. Let rotate 360°.
- ☐ **EOT:** Test port/stbd bells in sync, going up then down. Confirm with engineer.
- ☐ **ECR Gyro:** Confirm Gyro heading with ECR.
- ☐ **ECR Comms:** Test on phone, sound powered phone, and UHF.
- ☐ **Sync Clocks:** Confirm time and test complete with ECR.
- ☐ **Wing Stations:** *Not part of ECR gear test* Confirm thruster operation on wing stations.

Deficiencies: _____

SMM 7.1.2.2 Bridge Pre Arrival Checklist

Version 2018 July 29

Updated MBC Approved RAK

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Bridge Pre Arrival Checklist

Port: _____ Date & Time Completed: _____

Watch Officer/ Signature: _____

- ☐ **STBD RADAR:** Energized, heading align, heading input: CMPS. Set range. Verify speed input: GPS. Mode: NU, RM. Vectors: TM.
- ☐ **Port RADAR:** Energized, heading align, heading input: CPMS. Set range. Verify speed input: GPS. Mode: NU, RM. Vectors: TM.
- ☐ **ECDIS #1:** Position verified, arrival route loaded, user map (if applicable) loaded, appropriate layers enabled, course vector set, alarm setting verified.
- ☐ **ECDIS #2:** Position verified, arrival route loaded, user map (if applicable) loaded, appropriate layers enabled, course vector set, alarm setting verified.
- ☐ **GPS #1:** Verify operation.
- ☐ **GPS #2:** Verify operation.
- ☐ **Gyro System:** Verify operation. Check repeaters on centerline, port/stbd bridge wings.
- ☐ **D.P. System:** Verify in standby mode, heading input, position inputs, rate of turn, thruster conning display.
- ☐ **Auto Pilot:** Verify heading, speed, normal settings and work profile.
- ☐ **Doppler Speed Log:** Verify operation, repeater on.
- ☐ **Echo Sounder:** Scale, gain, alarm setting, display mode (night/day), repeater on.
- ☐ **A.I.S.:** Confirm Nav status and operation.
- ☐ **Navigation Lights:** Verify operation, set appropriate lights
- ☐ **Whistle:** Verify operation on: overhead, BCC, PBW, SBW.
- ☐ **General Alarm:** Verify operation.
- ☐ **Public Address System:** Verify operation.
- ☐ **VHFs:** VHF #1, 2, 3: Set to appropriate channels.
- ☐ **Anchors Cleared:** Anchors clear.
- ☐ **Pilot Card:** Pilot card information filled out.
- ☐ **Stern Thruster Rotation:** Take control of stern drives. Start on port, rotate at 90⁰ increments thru 360⁰, CW and CCW. Confirm with the engineer. Repeat on stbd drive.
- ☐ **Stern Propulsion:** Test RPMs at appropriate speed.
- ☐ **Bow Thruster:** Take control on BCC. Rotate at 90⁰ increments thru 360⁰, CW and CCW. Confirm with engineer. Place on continuous rotation and test RPMs. Let rotate 360⁰.
- ☐ **EOT:** Test port/stbd bells in sync, going up then down. Confirm with the engineer.
- ☐ **ECR Gyro:** Confirm Gyro heading with ECR.
- ☐ **ECR Comms:** Test on phone, sound powered phone, and UHF.
- ☐ **Sync Clocks:** Confirm time and test complete with ECR.

Deficiencies: _____

SMM 7.1.3 Voyage Plan Form

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Non-editable internet version:

https://docs.google.com/document/d/1U4w_kuy-Sj3GCxgJNCzewCLI1owFP3_zUB9V-IFQ_NU/preview?tab=t.0

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 7.1.4 Working Aloft Checklist

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It is the responsibility of the person going aloft to ensure that all checklist items have been completed and then cleared with the Watch Mate, Marine Technician, and the Duty Engineer, as applicable BEFORE GOING ALOFT. Before approving an aloft activity, the Watch Mate will determine if the presence of traffic, the prevailing visibility and the weather permit this to be accomplished safely. If there is any doubt, the aloft activity will be deferred.

Due to the locations of various antennas on the 05 (Fly Bridge) level, working on the 05 level will be considered going aloft. Climbing PPE shall not be required when working on the Fly Bridge when inside the handrails.

If going aloft on the foremast, after mast or A-frame the Watch Mate shall be notified and a spotter utilized prior to the start and on completion, but the below form does not need to be filled out. All PPE as listed below is still required.

While the vessel is in shipyard or dry dock, this form shall not be used, but all policies associated with the shipyard or dry dock shall be followed.

START DATE: _____ **START TIME:** _____

NAME OF PERSON(S) WORKING ALOFT: _____

PURPOSE OF GOING ALOFT: _____

Aloft Checklist

- ☐ Notify Duty Engineer not to start generators while person is aloft.
- ☐ Marine Technician to secure Wave Radar, FX, FBB and CERTUS systems.
- ☐ Marine Technicians to secure any temporary science antennas that may be transmitting.
- ☐ Watch Mate to tag out GMDSS radios.
- ☐ Watch Mate to put radars in standby
- ☐ If traffic permits, Tag Out VHF Radios (as above).
- ☐ Notify Watch Mate, Duty Engineer, and Marine Technicians when finished.

If going above the 05 (Fly Bridge) level, complete the above tasks plus the following:

- ☐ Marine Technician to secure the SEA LINK system.
- ☐ Use PPE (helmet, safety glasses, safety shoes, safety harness)
- ☐ Assistant to wear hard-hat, safety shoes, and safety glasses.
- ☐ Tools secured to climber or tool bucket.
- ☐ Master's approval and signature

PRINTED NAME(S) AND SIGNATURES:

PERSON(S) WORKING ALOFT: _____

WATCH MATE: _____

MASTER (IF GOING ABOVE 05): _____

COMPLETION DATE _____ **COMPLETION TIME** _____

This completed checklist is to be entered into Sinex

SMM 7.1.5 Boat Operations and Qualifications

Version 2020 August 5

Updated MBC Approved RAK

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Procedure

- The Master must approve all boat operations, and determine the suitability of the crew for the conditions. They also ensure the crew is qualified.
- At the Master's discretion for a unique boat operation, new operators, or in rough weather, a risk assessment shall be completed.
- Science operations may have to end temporarily for launch and recovery.
- The Duty Deck Officer must be informed of any boat operations so the vessel can be in the best position in relation to the current conditions for launch and recovery.
- All personnel in boat operations must have their names logged in the Deck Log.
- Personnel aboard the boat must don a life vest and helmet prior to loading.
- Extreme care shall be taken during launch, recovery and operation of the boat and each deck department member shall understand their duties in each phase.
- The safety of the personnel in the boat, and the operational integrity of the boat are of the utmost importance.
- The boat operator, while underway, is in command and responsible for the embarked personnel and safe operation of the boat. All persons in the boat shall follow the Boat Operator's instructions.
- The boat must be loaded in accordance with its capacity and the prevailing conditions.
- Sufficient personnel must prepare the boat for launch.
- The Boat Operator must ensure that the boat is operationally ready for launch or recovery, including what the mission is and a communications check. The Master shall ensure that a qualified deck officer is present to direct the launch and recovery operations.
- The Boat Operator shall:
 1. Confer with the Deck Duty Officer and the science party.
 2. Establish communications with the Bridge, Science Lab or Deck.
 3. Ensure proper equipment for recovery of gear and personnel is available and operate the boat within safe operating parameters.
 4. Check with the Bridge before each launch and recovery.
 5. Properly secure and stow boat after each use.

Deck

- Deck Department personnel shall be required to assist in the maintenance of the boat's hull, equipment and davit arrangements.

Engineering

- The vessel's small boat's machinery and handling equipment is to be maintained by the Engineering Department.
- Engineering department may be called on to operate and or ride in the small boats and must be familiar with the propulsion and the machinery.

SMM 7.1.6 Rescue Boat Procedure

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The Third Mate must ensure the following items are conducted/inspected prior to using the Rescue Boat.

Rescue Boat (Jet Drive)

- ☐ Check the boat condition looking for any cracks, check pontoon pressure.
 - ☐ Bilges clear, boat plug, Fuel and Oil
 - ☐ Basic Tools and flashlight.
 - ☐ Flares, sound producing device, fire extinguishers.
 - ☐ Boat Hook and Sea Anchor.
 - ☐ At least one PFD per person and a throwable device.
 - ☐ Mission details, number of crew and science members.
 - ☐ Radio, back-up communication plan that may include cell phone numbers.
 - ☐ Passenger/Crew briefing regarding safety, launch and recovery procedures.
-

SMM 7.1.7 Workboat Procedure

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The Third Mate must ensure the following items are conducted/inspected prior to using the Workboat.

Workboat (Outboard Motor)

- ☐ Check the boat condition looking for any cracks, check pontoon pressure.
 - ☐ Bilges clear, boat plug, Fuel and Oil
 - ☐ Basic Tools and flashlight.
 - ☐ Flares, sound producing device, fire extinguisher.
 - ☐ Boat hook, Anchor (including line), and Sea Anchor.
 - ☐ At least one PFD per person and a throwable device.
 - ☐ Mission details, number of crew and science members.
 - ☐ Radio, back-up communication plan that may include cell phone numbers.
 - ☐ Passenger/Crew briefing regarding safety, launch and recovery procedures.
-

SMM 7.1.8 Crane Operations and Qualifications

Version 2024 October 3

Updated MRL Approved RAK

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In Port

- Qualified Deck Officer to evaluate the task
- Ensure capacity and reach of the crane is within safe limits
- Identify hazards present and secure the working area
- Duty Engineer to ensure that sufficient electrical power is available
- Assign Qualified Crane Operator
- Ensure proper rigging gear is available and used correctly.

At Sea

- Master must authorize crane operation while underway
- Qualified Deck Officer to evaluate the task
- Ensure capacity and reach of the crane is within safe limits
- Identify hazards present and secure the working area
- Duty Engineer to ensure that sufficient electrical power is available
- Assign Qualified Crane Operator
- Ensure proper rigging gear is available and used correctly
- Keep the vessel at optimal course and speed
- Make sure the crane is properly stowed and secured following operation

Per UNOLS RVSS, each crane operator must demonstrate competency annually; therefore this form must be completed every 12 months

Qualification Process

The Master or Chief Mate will oversee the qualifications and sign off crewmembers.

CM Initials

- _____ Demonstrate the startup and shut down procedures. Know where to check for leaks
- _____ Demonstrate the ability to follow all standard hand signals
- _____ Demonstrate how to communicate with the on deck rigger by radio
- _____ Describe how to read the capacity chart
- _____ Describe what "two block" is, and how to prevent it
- _____ Crew member shall operate the crane under instruction both in port and underway
- _____ Demonstrate understanding of Crane Smart monitoring system
- _____ Demonstrate understanding of wire path when the starboard crane is used in conjunction with the trawl winch

I have received training on the crane and understand how to safely operate it.

Crewmember printed name, signature, and date: _____

Chief Mate printed name, signature, and date: _____

Master printed name, signature, and date: _____

Upon completion enter into Sinex.

SMM 7.1.9 Winch Operations and Qualification

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Procedure

Watch officer to determine the suitability of the task and ensure that a Qualified Winch Operator is on duty. The winch operator shall:

- Ensure the proper winch is selected, adequate power is available, and the wire is correctly fairlead.
- Ensure that adequate communications are established between the bridge, the winch operator, science lab and or deck. The bridge and the science party should discuss the parameters of the deployment including the desired vessel movement.
- Sufficient personnel are present for the deployment and or recovery.
- All parties are in agreement prior to operating winch.
- Continuously monitor the winch and the wire.

Per UNOLS RVSS, each winch operator must demonstrate competency annually; therefore this form must be completed every 12 months

Qualification Process

The Chief Mate will normally oversee the qualifications and sign off crew members. The Master may also assign another qualified officer as needed.

CM (or designee) Initials

- _____ Demonstrate the start up and shut down procedures. Know how to change cameras and shift winch control.
- _____ Demonstrate the ability to follow all standard hand signals.
- _____ Demonstrate how to communicate with the on deck technician via the squawk box and radio.
- _____ Describe what a rat's nest is, how to prevent it, and what to do if you get one.
- _____ Operate each winch under instruction if practical, but operate at least one winch.
- _____ Demonstrate understanding of tension monitoring system
- _____ Demonstrate understanding of wire path

I have received training on the following winches and understand how to safely operate them:

- ☐ DESH 5 0.332" Winches
- ☐ DESH 9/11 Trawl (9/16" or 0.680") Winch

Crewmember printed name, signature, and date: _____

Chief Mate (or designee) printed name, signature, and date: _____

Master printed name, signature, and date: _____

Upon completion enter into Sinex.

SMM 7.2.1 Engineering Duty Assignment

Version 2025 June 5

Updated MRL Approved RAK

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Procedure

- The engine department is normally divided into three watch sections consisting of one licensed engineer and one unlicensed assistant. Additional engine department personnel shall participate in engine department cleaning and maintenance.
- The Chief Engineer shall ensure that the engineering officers carry out their specific and assigned duties. The Engineering officers shall follow procedures, assist in improving them and complete all SMS checklists and documentation. All duties or other assignments are made at the Master's and Chief Engineer's discretion.
- The Chief Engineer shall track and lead the department maintenance, maintaining department files and submitting maintenance reports. This officer is not usually assigned a watch.
- The Chief Engineer is responsible to the Master for carrying out the stability and ballast plan, the safe storage of fuel and tracking fuel consumption, maintaining the vessel's machinery in accordance with manufacturers' and regulatory specifications and the administrative duties for his or her department.
- The Chief Engineer shall receive all reports from other Engineering Department and keep the Engineering Log and Oil Record Book.
- The Chief Engineer shall review the Ballast Water Management Plan quarterly to ensure all signatures and training are up to date.
- The Chief Engineer shall lead his department in the Safety Management program and assist with writing procedures for the safe operation, testing, and maintenance of machinery.
- The First Assistant Engineer is the Chief Engineer's primary assistant. The First Assistant stands a watch. The First Assistant is the person the Chief Engineer assigns to maintain the machinery aboard the vessel and assist in the Planned Maintenance Program. The First Assistant normally sets the watch schedule, and directs the watch standers and any day workers with the daily assigned tasks, worklists and priorities, including any special orders from the Chief Engineer.
- The Second Assistant Engineer is assigned to a watch rotation. The Second may have other duties assigned by the First Assistant or Chief Engineer, including maintenance assignments. The Second is normally the fueling officer.
- The Third Assistant Engineer is assigned to a watch rotation and they may have other duties assigned by the First Assistant or Chief Engineer. The Third normally oversees the water making system.
- In restricted waters determined by the Master, the Chief Engineer may direct additional engine department personnel to assist while maneuvering.
- There may be various duties that fall outside the specific tasks assigned in the Engine Officer and Unlicensed duties procedures at which time the Chief Engineer will delegate the task.

Documentation

- Department Watchlist
- Deck Log
- Engineering Logbook
- Oil Record Book
- Ballast Water Management log

SMM 7.2.2 Engine Watch Turnover

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Procedure

- The Master is in charge of the safe navigation of the ship and, if necessary, shall direct the Chief Engineer to write *Standing Orders*.
- All members of the Engineering Department shall review and sign the Chief Engineer's *Standing Orders*. The Standing Orders are found in the Chief Engineer's office.
- The Engineering Watch Officers shall make accurate entries in the *Engineering Logbook* and provide the Safety Management System information to be entered into other logbooks, correspondence, and Sinex.
- The Engineering Watch Management Team shall consist of the Engineering Watch Officer and one unlicensed engineering person. The officer is in charge of effectively managing all personnel on their watch, with guidance from the Chief Engineer.
- Communications are an important part of the Management Team. The officer shall communicate any requirements to other members of the watch, the Engineering Department and/or the Bridge Management Team.
- During operations, the Engineering Watch Officer shall monitor the ship's machinery and keep the ship's power, propulsion and support systems operating safely.
- The Engineering Watch Officer shall know what the planned science operations are and inform the bridge of any maintenance or other activities that have the potential of interfering with the planned science operations. This includes any overboard discharges.
- Unique hazards are associated with shipboard engineering spaces and the Engineering Watch Officer shall ensure that the team is neither distracted nor fatigued. Unescorted visitors are not permitted in engineering or steering spaces without permission from an Engineering Watch Officer.
- The Engineering Watch Officer shall be empowered to call for additional personnel as the operational details and conditions warrant, with guidance from the Chief Engineer.
- The Master or Chief Engineer may impose additional restrictions and requirements for the Engineering Watch Management Team.
- The Engineering Watch Officer shall make appropriate logbook entries in the Engine Logbook.

Documentation

- Chief Engineer's 2018 *Standing Orders*
 - *Engine Logbook*
-

SMM 7.2.2.1 Pre Departure Engineering Checklist

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Non-editable internet version:

<https://docs.google.com/document/d/1EZefuIp6jUgE6suSfeuQgMvD0caYYxn6eDszjtv313U/preview?tab=t.0>

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 7.2.2.2 Pre Arrival Engineering Checklist

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<https://docs.google.com/document/d/1O-v7tZk7v7Sf0hQHmyZul9Eok-zGcQtJuSTD09Jv8UM/preview?tab=t.0>

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 7.2.3 Hot Work Form

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Any hot work task, regardless of whether being conducted for or by the deck, engine, steward or science department, shall be thoroughly evaluated. This hot work task sheet must be completed prior to the commencement of any hot work. Prior to the commencement of each new science mission where the likelihood of hot work or the use of open flames by science personnel or crew will take place, hot work procedures must be covered.

CE Initials below

Date: _____

- _____ The Master has identified all hazards.
- _____ Ship personnel have been informed on the Vessel Safety Bulletin Board of any intended hot work.
- _____ Involved personnel shall conduct a safety briefing before the task.
- _____ All fire hazards have been clearly identified.
- _____ The Bridge has been notified and the smoke detectors of the affected areas have been temporarily disabled.
- _____ Proper protective equipment has been supplied to the personnel involved.
- _____ If in port, the Master has obtained the permission of the local authorities before hot work commences.
- _____ The space will be monitored for the entire time that personnel are in the space.
- _____ Sufficient fresh air will be provided to the space and exhaust vented.
- _____ Sufficient lighting will be provided and portable lights will be kept on personnel in case of failure
- _____ Hot work site is clear of combustibles or combustibles are protected.
- _____ Deck (floors) are kept clean.
- _____ No exposed combustibles are located on the opposite side of bulkheads, partitions, walls, overheads, ceilings, or decks.
- _____ Only qualified personnel will engage in hot work. The Chief Engineer shall determine if a person is qualified. At least one safety observer will be assigned as fire watch with communication with personnel performing the hot work and the Bridge for the entire time that the hot work is being conducted. **Fire watches may need to be in adjacent compartments.**
- _____ Hot work equipment is in satisfactory operating condition and in good repair.
- _____ Fire extinguishers, fire hoses and smothering devices are operable and available.

Hot Work Personnel's Printed/typed name

Hot Work Personnel's Signature

Chief Engineer's Printed/typed name

Chief Engineer's Signature

Master's Printed/typed name

Master's Signature

This form shall be documented in Sinex.

SMM 7.2.4 Enclosed Space Entry Form

Version 2024 February 22

Updated MRL Approved TBC

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Definition

Enclosed space means a space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit, (examples are, but not limited to, tanks, vessels, silos, storage bins, hoppers, vaults, and pits); and

Is not designed for continuous employee occupancy. Permit required enclosed space means an enclosed space that has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere; or
2. Contains a material that has the potential for engulfing an entrant; or
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.

Prior to entering an Enclosed Space the following Enclosed Space form shall be completed.

Task: _____

Please put a checkmark next to each action after completed

- ☐ The Master or his Designee has been notified of plans to enter the enclosed space and has identified all hazards
- ☐ Involved personnel have conducted a safety briefing prior to entry
- ☐ A safety person shall be briefed and assigned to the entrance of the space while the space is occupied
- ☐ Proper protective equipment necessary for the task is to be used
- ☐ Power sources to the space have been identified and locked out as necessary
- ☐ The space has been opened and properly ventilated prior to and during entry
- ☐ If the space to be entered has contained hydrocarbons, that space shall be certified as "safe for entry" by a Certified Gas Chemist or by the Chief Engineer, who must be shipyard certified
- ☐ Sufficient lighting and portable lighting for each person entering shall be provided
- ☐ Before entering, remotely test the space with the four gas monitor. The results should be as follows

☐ O₂-20.9% CO-0% LEL -0% H₂S -0% **If readings are anything other than this, no one is to enter the space and the Master is to be informed.**

- ☐ The monitor shall be carried at all times while in the enclosed space
- ☐ Notify both Deck and Engineering Watch Officers when entering the space
- ☐ Upon completion, remove all equipment from the space, secure hatch, and notify both Deck and Engineering Watch Officers

Space was tested (date, time) _____

It is safe to enter for _____ hours. (typically 12-24 hours)

Enclosed Space Entry Personnel's printed/typed name	Enclosed Space Entry Personnel's signature
Chief Engineer's printed/typed name	Chief Engineer's Signature
Master's printed/typed name	Master's Signature

This form shall be documented in Sinex.

SMM 7.2.5 Lockout/Tagout Checklist

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Non-editable internet version:

https://docs.google.com/document/d/1kC41D2Ycjuctn_n1reLSjFAlt_5NferDZsNsPPe0QLU/preview?tab=t.0

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 7.2.6 Fueling

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Procedure

- The Master shall designate the Chief Engineer as Person In Charge of fueling operations in writing via Master's Authorization to Fuel.
- The Master shall email the Master's Authorization to Fuel to the Port Engineer, Port Captain, and Manager of Marine Operations. The Master shall maintain a file of the Masters Authorization to Fuel
- In the case of an emergency, the entire Deck and Engineering Departments, and if determined by the Master the Steward Department, will assist in the needed response. The Chief Mate will be in charge of the cleanup efforts on deck and areas surrounding the vessel, until relieved by proper authorities.
- Master shall review and approve the Chief Engineer's Fueling Plan. Final Fuel Plan shall be entered into Sinex.
- In accordance with 33CFR156.150, the Declaration of Inspection shall be completed, reviewed by all parties involved in fueling, and then signed by the Chief Engineer and fuel provider/facility. If the fuel provider/facility does not have a Declaration of Inspection, the ship shall provide one.
- The Deck Duty and Engineering officers should be familiar with the Fueling Plan and brief the unlicensed personnel on his/her watch. The unlicensed personnel shall be assigned duties to assist fueling and prevent pollution.
- Maximum Fuel Transfer Rate shall not exceed that listed on the Fuel Plan.
- Close attention should be paid to watch the hose connection and all fuel tank vents.
- The gangway is restricted and personnel embarking or disembarking are aware of the fueling.
- The unlicensed engine personnel should be aware of their required initial tasks in an emergency and the location of the spill equipment.
- Ensure other deck operations are not interfering with the fueling operation.
- The Duty Deck Officer shall ensure that the oncoming watch officer and crew is aware of the status of the operation.
- The Duty Deck Officer shall inform the two unlicensed deck personnel of their required initial tasks in an emergency and the location of the spill equipment.
- The Duty Deck Officer shall maintain communication with the deck unlicensed personnel during the fueling operation.
- The Engineering Department shall maintain communications during the operation at all times. Shut down shall occur if there is any doubt as to the current status of the fueling, personnel or risk of pollution.
- The Second Assistant Engineer will record fuel taken aboard in the *Oil Record Book* immediately after fueling.
- The Engineering Department shall be familiar with the contents of the SOPEP and participate in drills.

Documentation

- Vessel Fueling Plan
- SOPEP
- Fueling Plan
- Oil Record Book
- 33CFR156.150 Declaration of Inspection

R/V Thomas G Thompson				Fueling Plan						MAX FILL RATE: 35,000 gal/hour				
DATE:		LOCATION:								START:		STOP:		
Supplier:								PRODUCT: ULSD						
Fill Seq	Tank	Sound 95%	Gals 95%	Start Time	Start Reading	Start Gallons	Balance Due	Stop Time	Stop Reading	Stop Gallons	Amount Received	95% Dose F10	Dose To Add	Dosing Date
	1 Stbd	16' 9"	29,424								0			
	1 Port	16' 9"	29,577								0			
	2 Cent	16' 9"	26,557								0			
	3 Stbd	8' 1"	19,909								0			
	3 Port	8' 4"	19,998								0			
	4 Cent	6' 7"	22,121								0			
	5 Stbd	7' 2"	29,018								0			
	5 Port	7' 2"	28,948								0			
	6 Cent	8' 2"	14,416								0			
	7 Stbd	14' 0"	18,280								0			
	7 Port	14' 0"	18,280								0			
	8 Cent	10' 10"	21,178								0			
	St Day	7' 7"	1,892								0			
	Pt Day	7' 7"	1,892								0			
TOTAL: all tanks 95%			281,490	Total @ START		0		TOTAL @ STOP:		0		0.0		
NOTES:										Received:	0			
16 oz = 1 pint US; 8 pints = 1 gallon US; 1 gal = 3.79 L														
F-10 doses at 3.2 oz:100 gal or 1:4000 for initial treatment														
F-10 doses at 6.4 oz:100 gal or 1:2000 for contaminated fuel														
Entries into the Oil Record Book shall be made immediately after bunker operation are completed, no exception!														
(MARPOL 73/78, Annex I, Chapter II, Regulation 20 (4) page 2 of Oil Record Book For Ships)														

SMM 7.2.6.1 Fuel Oil Transfer Assignments

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Fuel Oil Transfer Assignments

Port/Location: _____ Date: _____

<u>Position:</u>	<u>Assignment</u>	<u>Print & Sign</u>
Chief Eng	PIC; at Deck Manifold	_____
1st Asst Eng	Roving Relief; Ballasting	_____
2nd Asst Eng	Operate Fuel Manifold	_____
3rd Asst Eng	Oversee soundings	_____
Oiler	Sound tanks	_____
Oiler	Sound tanks	_____
Oiler	Sound tanks	_____
Oiler	Sound tanks	_____
Master		_____
Deck officer	Deck Watch	_____
Duty AB	Monitor Vent/Ovflows	_____
Duty AB	Monitor Vent/Ovflows	_____

Chief Engineer Signature

Master Signature

SMM 7.2.6.2 Pre-Bunkering Operations Checklist

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Location: _____

Date: _____

Preparations Ahead of Bunker Ops Day:

- ☐ ER radios charged and ready / VHF charged and ready
- ☐ Bunkering phone system operational and tested
- ☐ Fuel tanks soundings verified and fill quantities planned for
- ☐ Tanks dosed with tank tonic as needed
- ☐ Fuel tank filling plan to keep vessel trim proper
- ☐ Scuppers/vent basins plugged, booms in place
- ☐ Sounding equipment inspected, prepared, and laid out
- ☐ Oil pads, rags, tools, tie wraps on hand at fuel manifold
- ☐ Bunker hose supporting line ready (from 01 deck stbd side, bulwarks on port side)
- ☐ F/O riser valve tested on stbd or port side, unused side confirmed closed/secure
- ☐ Pads and sorbent sausage on hand for deck rover emergency use
- ☐ De-ballasting plan with Captain is required

Day of Bunkering - Attention Items:

- ☐ Pre-bunker meeting held with all personnel involved
 - ☐ No smoking sign posted
 - ☐ Allow no oil to go over the vessel side
 - ☐ Fuel plan/deck vent locations provided
 - ☐ Response plan material locations: bow, winch room, 02 deck, vestibule
 - ☐ Deck rover air horn usage
 - ☐ Bravo Flag/Red light on
 - ☐ Pre-transfer calculations and paperwork printed/ready
 - ☐ Open fuel quick-closing (air op) valves to tanks being filled
 - ☐ Valve alignment re-checked prior to start by CE or 1AE
 - ☐ Stbd side ER supply and hazmat locker fans secured for transfer ops
 - ☐ Maintain vessel trim level or down by the stern
-

SMM 7.2.6.3 Internal Fuel Transfer Checklist

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Location: _____

Date: _____

Before Transfer Begins:

- ☐ Transfer plan completed by the 2nd Assistant Engineer, reviewed by 1st AE, and approved by CE. The Master is the final authority to order and approve fuel transfer
- ☐ Dedicated transfer team selected and assigned from crew
- ☐ Qualified crew assigned transfer duties, including deck rover watch if needed. Relief watchstanders assigned duties as applicable
- ☐ Training session conducted as needed for crew members with transfer duties
- ☐ Piping diagrams and checklists posted and provided as needed
- ☐ Procedures for watch change discussed, if applicable
- ☐ Valve and vent systems aligned and checked by 1st AE or CE (at least 2 people)
- ☐ Emergency shutdown and response procedures discussed
- ☐ Transfer and level alarms tested
- ☐ Fixed Intercom ON and volume set and tested at all stations
- ☐ Radio frequency agreed and tested
- ☐ Tank levels checked, re-checked, and recorded for startup
- ☐ Pollution prevention equipment in place (scupper plugs, booms, buckets, pads, etc)
- ☐ Other departments notified of transfer ops
- ☐ Fuel Oil Transfer Assignments form signed by all participants

During Transfer:

- ☐ Changes to tank and valve alignment verified and approved by PIC
- ☐ Transfer started at low flow rate until confirmation of alignment
- ☐ Flow rates, pressures, and tank levels monitored and checked against plan
- ☐ Periodic communication checks made between personnel
- ☐ Flow rate slowed when topping off tank
- ☐ Transfer completion noted

After Transfer Ends:

- ☐ All scupper plugs that were installed to be removed
- ☐ Valves and vents for transfer system set as required
- ☐ Soundings final check and logged in Oil Record Book. Levels compared with transfer plan. Verify no liquid movement between tanks
- ☐ All departments notified, transfer operations completed

SMM 7.2.7 Diving Operations Form

Version 2018 July 29

Updated MBC Approved RAK

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Diving Operation Checklist for Hull Repair and Inspections

Task _____ **Date:** _____

Dive Leader, Ship's Captain, Lead RV Tech if on board, and Chief Engineer shall brief the dive plan.

Lock Out items:

- ☐ Ship's sea suction in use and its location will be identified to Diver. Unneeded pumps and sea suctions will be secured.
- ☐ Steering will be locked out:
 - ☐ Port
 - ☐ Starboard
 - ☐ Bow Thruster
- ☐ Propulsion will be locked out:
 - ☐ Port SCR and set shaft brake
 - ☐ Starboard SCR and set shaft brake
 - ☐ Bow Thruster SCR
- ☐ Instruments and equipment:
 - ☐ Sonars
 - ☐ Depth Sounder
 - ☐ Other Underwater Science equipment if installed as required
- ☐ Vessel security and adjacent area clearance:
 - ☐ Diver Down Flag will be hoisted
 - ☐ Announcement will be broadcast on PA and Marine Radio if in congested area of operations
- ☐ Dive attendant and safety equipment will be readied and available (usually provided by dive team)
- ☐ Crane or other operations with loads over the side prohibited during dive

Diving Personnel's Printed/typed name

Diving Personnel's Signature

Chief Engineer's Printed/typed name

Chief Engineer's Signature

Master's Printed/typed name

Master's Signature

This form shall be documented in Sinex.

SMM 7.2.8 Liquid Transfer Checklist

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Applicability: This procedure shall apply to all fluid transfers to the vessel using a pressurized hose connected to fill a tank through a sounding tube or deck riser, except for fuel bunkering which is covered by existing procedures.

The Chief Engineer may designate the Engineering Officers as qualified to oversee filling the Potable Water tanks from the 01 Deck Riser without further reference to this procedure.

Procedure:

- The Chief Engineer shall be the person in charge of the transfer operation
- The Master or Mate on watch shall be notified of the operation prior to commencing
- Verify soundings and sufficient room in tank immediately prior to the transfer
- The connection to the tank sounding tube or riser shall be verified as correct by at least two licensed engineers.
- The Chief or First Assistant Engineer shall verify the connection and valve line up is correct before the transfer begins.
- Two to three people may be needed to enable a rapid shutdown. One to operate the pump or shutoff valve for the hose being used, one to watch the overflow vent, one to monitor the tank level by TLI or soundings.

Tank_____ Fluid Type_____ Tank Capacity_____ Amount in Tank_____ gal.
Planned Transfer Amount_____gal.

Before Transfer Checklist

- ☐ Notify Mate on watch or Master of operation
- ☐ Verify the tank has sufficient room for intended transfer amount
- ☐ Connection verified by two licensed engineers,
- ☐ Connection and valve line up verified by C/E or 1AE before beginning
- ☐ Install the containment drain plug in the overflow containment of the destination tank.
- ☐ Place oil spill sausages around the containment when transferring into an oil storage tank i.e., Lube Oil, Hydraulic Oil or Gear Oil from the Aft Hold.
- ☐ Agree on radio frequency to use, or use of squawk boxes when possible.

During Transfer

- ☐ Maintain communication and monitor progress of the transfer.

After Transfer Checklist

- ☐ Notify Mate on watch or Master of completion
- ☐ Obtain final soundings when applicable
- ☐ Remove the containment drain plug in the overflow containment of the destination tank and re-stow sausages and transfer equipment.

Records

This form shall be signed by the Chief Engineer and scanned and stored in Sinex upon completion.

SMM 7.3.1 Steward Department Duties

Version 2018 December 27

Updated MBC Approved RAK

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Procedure

- The Master designates the Chief Steward as the department head of the Steward Department. The Chief Steward is responsible to assign qualified persons for the steward department operations.
- The Chief Steward is responsible for the establishment of menus and food safety management aboard the vessel.
- The cleaning, inventory, and storage of the ship's laundry is assigned to the Steward Department.

Inventory

- The Steward department conducts the inventory of provisions, submits requisitions, inspects and receives ship's food, and linen.
- The Chief Steward shall use the computerized inventory and purchasing programs provided. Upon receipt of pre-cruise information, the Master shall inform the Chief Steward of expected personnel for a cruise. The current inventory should be assessed for this load factor and a requisition should be created and forwarded ashore. Supplemental port orders may be used to replenish major stores received in the home port.
- Once received, the stores should be checked against the requisition and for freshness and stored at the correct temperature.

Duties

- The Chief Steward will set up the work schedule for him/herself, the Second Cook, and the Mess Attendant to cover all meal preparation and clean up. The Chief Steward shall make a list of routine additional duties assigned to each person in the department. These additional duties shall include the cleaning of all steward department assigned spaces, the maintenance of all equipment and maintenance of sanitary conditions in storage and galley spaces; including cooking utensils, stoves, dishwashers, dishes and cutlery are all part of the equipment in the galley.
- The Steward will also assign cleaning and maintenance duties according to the maintenance plan, and participate in the Safety Management System of the Steward Department and the ship. These spaces should be cleaned and inspected on a schedule. The Master may assign other duties as needed.
- The Chief Steward will ensure there are sufficient snacks available for both crew and science party that were not able to make the regular meals due to operations. This may vary in scope from cruise to cruise, but normally sandwich materials, cereals, snacks and other leftovers are sufficient. They will also ensure any leftovers or other food left out is appropriately packaged, stored, and disposed of when it is overdue.

Maintenance

- The Chief Steward is responsible to report non-urgent malfunctioning or broken equipment to the First Assistant Engineer in Steward Department areas. Urgent malfunctioning or broken equipment is reported to the Chief Engineer
- The Chief Steward is responsible to assist the Engineer in tracking maintenance in that department.

Documentation

Steward Department Roster

Procedures in Section 10

SMM 7.4.1 Cruise Planning & Marine Facilities Planner

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Cruise Planning

"R/V Thomas G Thompson Planning" web posting

https://www.ocean.washington.edu/story/TGT_Planning discusses the timeline for planning a research cruise aboard the ship. There are documents available for download on this page including a berthing plan, deck profile, and current respiratory virus prevention protocols. Also linked from this page is the University-National Oceanographic Laboratory System (UNOLS) Marine Facilities Planner (MFP) (<https://mfp.us/login>). All planning is conducted through this platform.

Procedure

- Ship time requests (Ship and Marine Equipment - SME) shall be submitted through the MFP.
- Upon ship time assignment to a UW vessel, and schedule publishing, the MFP workflow for the cruise becomes active and accessible to the planning team including MarOps, shipboard personnel, SSSG, Principal Investigator, and assigned Chief Scientist.
- The Oceanographic Research Cruise Coordinator shall schedule an initial cruise planning meeting at least six months prior to departure with the Principal Investigator or Chief Scientist, and the Marine Operations Team. During this meeting, the details for the cruise shall be discussed, including schedule updates and permitting information, research clearances, radioactive materials, mobilization logistics, and general science cruise plan.
- The PI, Chief Scientist, and other designated science party leads shall complete all sections of the MFP workflow which asks for detailed information about their cruise mobilization and how the science party intends to utilize the science systems on board the vessel. Location planning with operational areas, stations, etc. shall also be completed. The MFP workflow also includes a participant portal for all members of the science party to be registered and provide pertinent information to the ship.
- The cruise planning process should assess all operations for compliance with the Research Vessel Safety Standards (RVSS) and other applicable standards.
- If written operational procedures are not in place to deal with the intended planned operations, or the current procedures are not adequate, they need to be revised prior to the voyage.
- If further cruise planning is necessary, additional meetings will be scheduled. The Oceanographic Research Cruise Coordinator will facilitate scheduling meeting(s).
- The completed cruise plan shall be attached to the sailing orders.

Documentation

- [UNOLS Research Vessel Safety Standards](#)
 - Marine Facilities Planner
-

SMM 7.4.2 Science Cruise Preparation and On Board Science Meetings

Version 2024 February 22

Updated MRL Approved TBC

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Cruise Preparation

Crew, Science, Marine Technicians, and other participants, shall read the "Participant Information" web posting found at

https://www.ocean.washington.edu/story/Participant_Information

This article defines the role of persons in charge of science operations as well as various safety and security information. As it mentions, the Master has absolute authority on board all UW MAROPS vessels and works closely with the Chief Scientist and Lead Marine Technician.

Procedure

- The Master, Lead Marine Technician, and Chief Scientist shall muster the entire science party prior to the commencement of the voyage and conduct a safety meeting and orientation.
- The Master oversees the meeting. The Chief Mate, Third Mate, Chief Steward, and Lead Marine Technician will conduct the meeting.
 - The Chief Mate will cover vessel policies (including the use of Personal Protective Equipment), medical procedures, deck operations, and UW policies.
 - The Third Mate will cover Fire and Emergency Muster Stations and Signals, Emergency Escape Breathing Apparatus, Survival Suits, and Life Jackets.
 - The Chief Steward will cover Galley procedures, and special dietary requirements.
 - The Lead Marine Technician will discuss Laboratory and Computer policies.
- The science team shall be made aware of the SMM and how to access it and reference materials.
- The entire Science Party will review and physically walk escape routes from their respective berthing space to the Main Deck and Muster Stations.
- Each science team member shall be made aware of their specific duties under the SMS and the location of safety equipment aboard.
- The science team is to be instructed in the use of survival craft and their duties in an emergency.
- Prior to the initial deck operation, the Chief Scientist, Master, Chief Mate, Marine Technicians,, deck crew, and any member of the science party involved will meet to discuss the deck evolution. Every member involved in the deck evolution will be able to voice any concerns and those concerns must be addressed prior to commencing the evolution.
- Prior to operations that require heightened awareness or more challenging procedures, other than previously mentioned, a science safety meeting shall be held with the Master, Chief Scientist, and key personnel to discuss the safety of operations. A science safety meeting shall also occur if there are significant changes to operations. When appropriate an at risk assessment shall be filled out. Risk Management and GAR information is available in [SMM 7.0.2](#).

- The Master shall meet with the Chief Scientist daily during the course of a voyage; at this meeting, any issue regarding operations shall be discussed. If needed, the Chief Scientist may have other scientists, or operational leads present.

Documentation

- [UNOLS Research Vessel Safety Standards](#)
- [Science Safety Meeting Attendance Sheet](#)

The orientation attendance list shall be documented in Sinex.

SMM 7.4.3 Over the Side Operations

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Procedure For All Over the Side Operations

Conducting science operations over the side can involve serious hazards to personnel, equipment, and the vessel. Great care must be taken to ensure that any operation over the side, whether using the hydro-boom, A-frame, crane or other gear, is conducted carefully to manage risk.

- Prior to the first operation or a new team of personnel, a safety meeting must take place to outline the requirements of the operation. This meeting will address the risks and staffing requirements and sequence of the evolution.
- Prior to each operation, the Deck Officer or Marine Technician must inspect the task, the equipment involved and ensure that the necessary communications with the bridge, winches, engine room and labs is established. The Bridge should be notified before ANY object is put in the water at ANY time to prevent fouling of propulsion equipment. The bridge may also need to contact the Engine department to secure overboard discharges. It is advisable to have the bow thruster ready for use since the propulsion may be deactivated. A brief reminder to all persons about the timing, dangers and evolution is required before each sequence.
- The Master shall decide who will be in charge of various aspects of the operation. There will always be a Deck Officer or Marine Technician present to communicate with the bridge and act as a safety monitor. The technical details of deployment may be coordinated by a member of the science team.
- The operation must be within the safe limits of the equipment involved including the hydro boom, cranes and/or A-Frame.
- Hazards identified in the Safety Meeting and Checklist must be identified and addressed. All personnel involved must be aware of these hazards and the working area secured. Special hazards like extreme climate and sea conditions may require additional safety measures and equipment.
- A qualified winch operator, qualified crane operator, or hydro-boom operator must be present.
- Proper procedures for the use of the cranes or winches should be consulted.
- All persons on deck must wear the necessary Personnel Protective Equipment at all times.
- The on scene Deck Officer or Marine Technician shall ensure that all equipment is correctly rigged and that sufficient tag lines are used for any movement of gear.
- The Bridge must be contacted before any over the side operation is conducted to ensure the vessel is at the safest speed and on the best heading. If necessary, the Deck Officer or Marine Technician will notify the bridge to secure or resume propulsion, depending on the type of operation. After deployment, the Deck Officer, Marine Technician, or Crew Member shall monitor and report to the bridge any hazards or excessive wire angle.
- The equipment is to be deployed as planned in the safety meeting. Significant departures from the agreed procedure may require a brief stoppage in the operation so that any new hazards can be addressed.
- Deploy equipment in accordance with the vendor's technical standards and manufacturer's instructions.

- Any reusable equipment being deployed should have a method to affix tag lines and consideration should be made as to how best to retrieve the object before deployment.
- If the deployment is a timed activity, or waiting to deploy at a specific location, a Marine Technician or member of the science party is in charge of giving distances to the deck and bridge. It must be clear during the safety briefing who will perform this function. The bridge is responsible for notifying the deck when on station at the correct location for deployment "on station". It must be clear during the briefing who will perform this function, it could be a Marine Technician or member of the science party.
 - During recovery, the equipment should have sufficient tag lines in place before the object leaves the water/air interface. The object should not be lifted out of the water until all parties have taken slack out of their lines and the deck is ready to receive the equipment. Proper care should be taken to have securing equipment ready.
 - Once an object is out of the water, the bridge should be informed so that the propulsion can be reactivated.
 - If significant problems occur during an operation, the Master may call another Safety Meeting to address the procedure and make temporary changes before subsequent operations.

ROV/AUV and Other Special Equipment Use

- The Chief Scientist shall disclose the proposed use of any ROV or AUV for science operations.
- The specific characteristics of the vehicle must be disclosed including the size of the vehicle and handling gear, the size, weight and nature of all shipped components, the proposed deck layout, the number of people needed to safely handle the equipment as specified by the operator, the full information of the operating institution as well as any limiting factors, the unique use of such gear and related apparatus, the hazards associated with the particular vehicle and every known safety operating manual or checklist for the particular vehicle.
- The vehicle must have a Lead Technician or Chief Submersible Pilot assigned to the operation.
- The Chief Scientist is responsible to supply sufficient personnel for the complete operation, launch and recovery of the vehicle. The ship's crew may provide support at the Master's discretion.
- The Master, Chief Scientist and Lead Technician shall have a meeting prior to any operation to discuss the hazards of the operation and to assess the risks to personnel, the vehicle or the vessel.
- The operation shall be coordinated in accordance with over the side or over the stern procedures and any special procedures provided by the Lead Technician for that vehicle. These procedures need to be discussed in detail prior to the first evolution. Prior to each evolution, a quick refresher and briefing should be given to all persons involved.
- The Master, Chief Scientist and Lead Technician shall each, on their own, have the ability to cancel or terminate operations for any reason. The Master shall have the final decision making responsibility in any event.
- The Chief Scientist shall assign members of the Science Party to be trained in the launch and recovery of any vehicle, associated equipment or science gear.
- The deck shall be made ready for all operations and the bridge notified in advance so that sufficient personnel is available.

- Vessels nearby should be alerted to the operation and proper day shapes and navigation lights displayed.
- The vehicle launch sequence is to be logged in the Deck Logbook
- After each operation, a brief critique should be made of the handling proficiency by the Lead Technician and continual improvement sought in the procedure.

Documentation

- [UNOLS Research Vessel Safety Standards](#)
 - [MFP](#) Cruise Plan
-

SMM 7.4.5 Science Equipment & Cargo

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Loading Cargo

- During pre-cruise planning, the Chief Scientist is responsible for supplying the particulars of any equipment to be loaded aboard, including weights and dimensions. Throughout the planning process information shall be archived within the Marine Facilities Planner (MFP). It is the responsibility of the Master and Marine Technicians to monitor the MFP prior to a cruise. Additional logistics for the loading and unloading of equipment shall be arranged by the MAROPS staff.
- A detailed inventory of science equipment including a description, weights, dimensions, quantity, and proposed shipboard location shall be documented in the MFP workflow section "Science Cargo and Samples." Large winches, containers and science equipment meant for exterior decks shall be included in the MFP workflow section "Deck and Lab Plan". The Chief Scientist is responsible for accuracy of all science equipment manifests, inventories, and deck plans.
- Inaccurate manifests may cause serious delays in loading or offloading equipment due to weight and/or Customs restrictions.
- Any hazardous materials shall follow the procedure in SMM Section 7.4.7
- The loading and securing of cargo on deck and in the cargo holds is the responsibility of the Chief Mate. The proper stowage and securing of science equipment in the laboratories is the responsibility of the Chief Scientist with the assistance from the Lead Marine Technician.

Unloading Cargo

- At the final completion of science operations, the Master and Chief Mate shall consult with the Chief Scientist about the transit, weather conditions, and the securing of science cargo.
- Proper marking and manifesting of science equipment is the responsibility of the Chief Scientist.
- Equipment not in active use on deck or in the cargo hold must be kept secured while the ship is operating at sea to prevent injuries in the event of sudden vessel movement.
- Cargo loading dollies, forklifts, and handcarts must be properly used along with proper lifting techniques to prevent injuries.
- Unless prior arrangements were made with the MAROPS staff, all scientific equipment will be offloaded immediately after the cruise.

Documentation

- [UNOLS Research Vessel Safety Standards](#)
 - [MFP](#) Workflow
-

SMM 7.4.6 Hazardous Materials

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Definition

Hazardous materials are defined as those materials listed in the USC 49 CFR ([eCFR 49 Subtitle-B/CH-I/Subch.-A 105.5](#)).

Procedure

- The Chief Scientist shall disclose the intention of using hazardous materials in the Marine Facilities Planner (MFP) under Hazmats & Waste. This disclosure shall include any and all hazardous materials that may be brought aboard in the first port, in another port or at sea from a recovered instrument. This disclosure must also include the materials from cooperating principal investigators and participating technical groups for the entire voyage. This information must be manifested and include the Safety Data Sheet (SDS) for each material.
- The disclosure of lithium batteries must also be entered into the Hazmats & Waste section of the MFP. It is the responsibility of the Chief Scientist to provide a list of all lithium batteries to be brought aboard, including identification of type, size and any special handling instructions ([UNOLS RVSS](#))
- Upon receiving this disclosure, the Manager of Marine Operations and Supervisor of the SSSG ,shall provide the information to the Master via MFP. The Lead RV technician for the cruise will also be informed of the presence of lithium batteries and assist with the management of this hazmat.
- The Chief Scientist is in charge of the removal of all science hazardous materials and associated waste. The Lead RV technician shall ensure it is removed immediately after the cruise unless advance arrangements were made.
- [Spill Prevention and Storage section 7.0.7](#) discusses proper HAZMAT storage procedures.

Documentation

- [UNOLS Research Vessel Safety Standards](#)
 - [MFP](#)
 - Hazardous Material Manifest
 - SDS sheets
-

SMM 7.4.6.1 Lithium Batteries

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Lithium Batteries Storage

Lithium batteries are a unique hazard aboard ships due to their highly reactive nature. All practices should be in accordance with RVSS Section 9.4.1 (linked below).

- Lithium batteries brought aboard by a science party or supporting groups must be handled carefully during loading, unloading and use to prevent battery damage.
- All lithium batteries shall be stored in dry, cool locations and situated to prevent impact damage.
- If batteries are damaged or show signs of excessive use such as bulging, remove them from service, place in a fire resistant container with sand or other extinguishing agent, and dispose in accordance with local, state, and federal regulations.

Documentation

- [OSHA](https://www.osha.gov/sites/default/files/publications/shib011819.pdf) (https://www.osha.gov/sites/default/files/publications/shib011819.pdf)
- [UNOLS Research Vessel Safety Standards](https://www.unols.org/document/research-vessel-safety-standards-rvss) (https://www.unols.org/document/research-vessel-safety-standards-rvss)

SMM 7.4.6.2 Radioactive Materials

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Procedure

- The Chief Scientist / Principal Investigator shall disclose the intention of using radioactive materials in the MFP, at least 180 days before the cruise.
- Upon receiving this disclosure, the Manager of Marine Operations and Supervisor of the Shipboard Science Support Group will refer the Chief Scientist to the University of Washington's EHS Radiation Safety Officer (RSO) on campus.
- The UW EHS department will review the application and approve, limit or cancel any use of radioactive materials aboard a UW vessel.
- The approved application along with the Nuclear Regulatory Commission (NRC) license for this material shall be provided to the MAROPS office. MAROPS will then distribute to the Master of the Vessel, the Chief Scientist, and the Lead Marine Technician via MFP
- During the Voyage, the Master and Chief Scientist shall take all measures to ensure that radioactive materials are handled according to UW guidelines and keep the ship in a "clean" state. Monitoring by the permittee must be conducted during the voyage and after use as prescribed.
- Only persons approved by the UW EHS office may handle the radioactive materials and a spill plan must be in place for cleanup. The Use and Spill Plans will be available in the radioactive section of MFP for the cruise. If a spill occurs, the UW EHS office shall be contacted immediately by the Master or Marine Technicians.
- Radioactive material usage shall be limited to the isotope vans exclusively. Because using these materials at sea poses problems not found in shore laboratories and the labs are shared with future users, operators and scientists have a particular obligation to assure the most careful precautions are in place to protect personnel, property and scientific integrity.
- All radioactive material (solid and liquid) is to be stored and disposed of in accordance with the NRC license and as agreed to by UW EHS. No radioactive material shall be disposed of over the side except in emergency situations for the safety of the vessel.
- Careless practices by a Chief Scientist as documented by the Master, Lead Marine Technician or UW EHS officials may result in the denial of future radioisotope work aboard UW vessels.
- Proper documentation by the science party of all radioactive materials handling must be completed and submitted to UW EHS.
- Any radioactive materials incidents should be reported by the Master as an OFI and a CAR will be completed.
- The UW EHS and RVSS Section 10 shall be followed. The MAROPS staff and SSSG shall approve any proposed deviations in advance in consultation with the UW RSO.
- The Chief Scientist or NRC Permittee is in charge of and responsible for the removal of radioactive materials.
- Swab testing will be done in accordance with RVSS 10.3.2.
- See SMM 7.4.1 for more information.

Documentation

- [University of Washington Environmental Health and Safety Radiation Safety Manual](#)
 - [UNOLS Research Vessel Safety Standards](#)
 - [MFP](#)
 - [SMM 7.4.1](#)
-

SMM 7.4.6.3 Explosives

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Procedure

- 1.1.** The Chief Scientist shall disclose the intention of using explosives in the MFP and at the initial pre-cruise meeting. This disclosure shall include any and all explosives that may be brought aboard in the first port, in another port or at sea. This disclosure must also include explosives from cooperating principle investigators and participating technical groups for the entire voyage.
- 1.2.** Unless otherwise directed by the UW MAROPS Manager of Marine Operations, the Chief Scientist must provide the below listed information before eight weeks prior to loading any explosives onto UW MAROPS vessels.
 - 1.2.1.** The name of the **EXPLOSIVES CONTROL OFFICER:** The responsibilities of the Explosives Officer shall include working contact with local authorities and with the local USCG office; supervision of the Chief Scientist's institution's Explosive Shooters; custody of explosive handling and shooting equipment; purchasing explosives; vendor contacts; maintenance of operations; technical files; knowledge of local, state, and federal explosives regulations; and safety. The Explosives Officer should go to sea and shoot explosives as part of his/her duties.
 - 1.2.2.** The name of the **EXPLOSIVE SHOOTERS:** Shooting of explosives shall only be done by those thoroughly qualified. Personnel assigned to this task should be trained formally outside the institution involved. As an example, the Basic Underwater Demolitions School, Naval Amphibious Base Coronado, San Diego, CA 92155 has provided training to civilian oceanographers and marine technicians in the use and safe handling of explosives, including class work and practical application.
 - 1.2.3.** Assurance there will be coordination with authorities where the explosives will be loaded and used. Since USCG rules dealing with explosives are stringent and strictly enforced, the local USCG Captain of the Port should be contacted at least eight weeks prior to the cruise departure date. In addition, Fish and Game Departments, local and state law enforcement agencies, the fire department etc., should be contacted for information on possible restrictions, truck routing, spot assistance and inspections, etc. The use of explosives, sonic emitters, or towed devices (as well as instrumentation moorings) present special hazards to submarine operations and navigation.

The National Imagery and Mapping Agency (NIMA) Navigation Safety Desk has agreed to disseminate information concerning underwater hazards as part of the Notice to Mariner system. See Chapter 9 of the *UNOLS RVSS* for details on reporting these hazards.

- 1.2.4.** Detailed written plan with the following minimum information:
 - 1.2.4.1.** the name of the institution or organization with expertise in explosives that has reviewed and approved the plan,
 - 1.2.4.2.** loading details,
 - 1.2.4.3.** portable magazine storage construction details as required by 49 CFR 196-10-20.

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prevent slippage of the lashings. Shoring and dunnage may be used as necessary to further facilitate the security of the stowage.

- 1.4.6.** Stowage area shall be selected so as to provide for safe access to all internal spaces and to all parts of the deck required to be used in navigation and working of the vessel. Stowage shall not be on or under the bridge, or navigating deck, or within a distance, in a horizontal plane, of 25 feet of an operating or embarkation point of any lifeboat or raft.
- 1.5. Onboard Inspection:**
 - 1.5.1.** The Chief Scientist and the Master, or his designee, shall inspect the storage area daily. Discrepancies shall immediately be reported to the Master, as applicable.
 - 1.5.2.** Magazine inspection results and corrective action, when taken, shall be noted in the ship's log daily. Maximum and minimum temperatures for the previous 24-hour period shall be recorded in the ship's log along with general magazine condition and corrective action taken when necessary.
 - 1.5.3.** If the magazine chest or van has a sprinkler system the controls must be checked monthly and recorded in the ship's log.
- 1.6. Signage –** The Chief Scientist shall be required to post safety precautions at the storage area for their explosives. Details of this requirement can be found in 46 CFR 196-10-35
- 1.7. Operating Procedures:**
 - 1.7.1.** The Master shall, with the assistance of the Chief Scientist, prepare, sign, and prominently post in conspicuous locations, operating procedures, plans, and safety precautions for all operations involving the use of explosives.
 - 1.7.2.** The operating procedures shall include and set forth the special duties and stations of appropriate qualified persons for various operations involving the use of explosives. Assignment of such persons shall be commensurate with their experience and training.
 - 1.7.3.** A copy of the operating procedures, plans and safety precautions and all subsequent changes or revisions shall be forwarded to the UW MAROPS office for subsequent submission to the Officer in Charge, Marine Inspection, issuing the certificate of inspection for review.
- 1.8. Access to the magazine(s) shall be limited to:**
 - 1.8.1. Chief Scientist's designated qualified personnel:**
 - 1.8.1.1.** Explosive Control Officers
 - 1.8.1.2.** Explosive Shooters
 - 1.8.2.** Persons who can document 3 months on board ship training in the use of explosives. This shall not be construed as prohibiting access to the Master or others designated by the Master.

Documentation

- [UNOLS Research Vessel Safety Standards](#)
 - 46 CFR and 49 CFR
 - Chief Scientist [MFP](#)
 - Chief Scientist Explosives Plan
 - Master's Explosives Plan
-

SMM 7.4.7 Research Diving Operations Procedure

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- The Chief Scientist shall disclose the intention of research diving in the MFP. This disclosure shall include all related details of the proposed activities.
- The dive plan shall include: diving credentials, detailed operational plans, emergency plans including accident management and emergency evacuation protocols, a list of needed medical supplies, a specified quantity of medical grade oxygen with a positive pressure demand delivery system and required diving support equipment (i.e., small boats, dive compressors, and tank racks).
- This disclosure shall also include the materials from cooperating principal investigators and participating technical groups for the entire voyage.
- Upon receiving this disclosure, the Oceanographic Research Cruise Coordinator shall ensure the information is received and reviewed by the Master. All research diving operations will be governed by American Academy for Underwater Science (AAUS) diving standards and UNOLS RVSS.
- The Chief Scientist will be referred to the University Diving Safety Officer for further instructions. All recommendations and procedures established by the University of Washington apply to the UW vessels and participants must comply with the standards required by the UW EHS.
- The UW EHS will require a dive plan to be pre-approved by the University prior to the voyage. The dive plan will then be submitted to the Manager of Marine Operations who will make additional determinations and may reject the proposal if necessary for safety considerations.
- An On-Board Diving Supervisor will be proposed by the Principal Investigator and approved by the UW Diving Safety Officer.
- The Master will receive the dive plan and has the final authority over all dive operations on a day-to-day basis.
- The Master has responsibility for the safety of all activities aboard, including diving. The Master must ensure that appropriate safety procedures are in place for conducting research diving from the vessel or its small boats. If small boats are part of the diving operation, clear means of communication must be established via radio, satellite, or other methods.
- Other “in-the-water” research activities such as small boat operations or snorkeling must be treated similarly to diving operations. A statement of the qualifications and physical ability to undertake the planned operations and a plan of operations detailing safety precautions shall be provided and approved by the ship operator.
- Use SMM 7.2.7 Diving Operations Form when diving in close proximity to the vessel.
- For more information on the cruise planning process, see SMM section 7.4.1.

Documentation

- AAUS
- [UNOLS Research Vessel Safety Standards](#): Section 11.0
- [MFP](#)
- UW EHS Research Diving Manual
<https://www.ehs.washington.edu/system/files/resources/divingsafetymanualuw.pdf>

SMM 7.5 Cybersecurity

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Background:

Information technology (IT) encompasses all technology used to handle information, including hardware, software, and networks. Operational technology (OT) is the hardware and software that monitors and controls physical processes, devices, and infrastructure in industrial settings like manufacturing, energy, and transportation. Cybersecurity (CS) is the practice of protecting digital systems, networks, and data from cyberattacks and unauthorized access. The operation of the vessel relies on secure informational and operational technologies, requiring a coherent and actionable cybersecurity plan.

Policy:

- In accordance with responsibility matrices derived from IMO MSC.FAL.1 circ 3, cybersecurity policymaking and enforcement responsibility and authority are the province of the Master of the vessel, subject to oversight by the Manager of Marine Operations. Policies will be written, amended, discarded, or refactored by these *Designated Persons (DPs)* on the basis of recommendations by designated selected technical staff.
- A subset of the Shipboard Science Support Group (SSSG) designated as a cybersecurity advisory team is responsible for routine maintenance of IT and OT supporting systems and ongoing best effort cybersecurity threat assessment. SSSG personnel shall act as underway first-point-of-contact for cybersecurity events, and in the event of a cybersecurity incident, shall act as first-responders and conduct appropriate triage and escalation, as they deem appropriate.
- *Operational configurations* are managed on a day-to-day basis by SSSG, with adjustments, changes, design modifications, and time-sensitive mitigations to be carried out principally at the discretion of the cybersecurity advisory team.
- The cybersecurity advisory team maintains a formal Cybersecurity Risk Management Plan (CRMP), developed and maintained in coordination with the best practices of the U.S. Academic Research Fleet (ARF) Cyberinfrastructure / Cybersecurity Working Group (CIWG) and the ARF Chief Information Security Officer (CISO).
- Said training equips personnel to operate systems relevant to their job functions in a manner that minimizes exposure to cybersecurity risk, both to ship systems and to themselves.

Procedures:

- TGT CREW Cybersecurity Awareness Training is required for all crew members.

- This training is accessible via the crew information section of the vessel intranet site, and review shall be prompted at time of crewmember onboarding.
- The Crew Member's department head will sign off that the training has been completed on the crew familiarization form.
 - Department heads will have access to the list of crew members who have completed this training.
 - Existing crew members will be prompted to complete the training upon returning to the vessel.
 - Any incidents, events or concerns should be raised with the onboard SSSG team members.

Documentation

- Cyber Risk Management Plan – R/V *Thomas G. Thompson*
 - *Available by request from SSSG*
-

SMM 7.6 SCBA Cylinder Refilling Checklist

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Purpose:

The purpose of this policy is to ensure the safety of people involved in SCBA compressor operations, along with the guidelines for refilling Self-Contained Breathing Apparatuses (SCBAs). Proper procedures are to be put in place to ensure the safety of crew onboard, in regard to breathing compressed gasses.

Safety:

There is always danger when working with any equipment under pressure, especially while running the compressor and filling bottles. Ear and eye PPE must be worn while filling cylinders or while the compressor is running. Caution should be used while operating or handling cylinder, valves, and pressure gauges due to the potential failure of parts under high-pressure. Heat will be generated while filling SCBA cylinders, so filling cylinders slowly is essential to allow a slow rate of heat to build and higher rate of heat to dissipate. A cylinder should never be over-pressurized.

Onboard the Thompson, we use "low-pressure" SCBA cylinders, which should not be filled higher than 2250 psi. The RIX SA-6 Compressor will automatically turn off after reaching 2250 psi, but care and attention should be paid while filling cylinders to ensure cylinders are not over-pressurized. Moisture and water should be drained from the Moisture Separator before and after cylinder filling operations, along with every 15 minutes if conducting continuous cylinder filling operations. If operating in extremely humid environments, moisture should be drained more often from the system. Due to the environment we are operating in, SCBA cylinders must always be secured to ensure they will not roll or shift during the filling process. The compressor should receive adequate ventilation to ensure proper airflow to the compressor. There will be no smoking allowed on the deck Aft of the SCBA compressor while the compressor is running. Signs shall be posted when cylinder filling operations are in progress.

Shoreside laboratory testing and analysis of air samples is essential in determining if unsafe levels of harmful vapors and particulates are inside the compressed air. Unsafe cylinder filling and maintenance practices can lead to the breathing of harmful hydrocarbons, water vapors, oil, carbon monoxide, taste, odor, and particulates when compressing breathable air. Quarterly air samples must be sent into a shoreside laboratory for testing and analysis. This is to ensure the compressed air is within allowed limits and is in compliance with NFPA 1989,2019 Ed. If the analysis is not within allowable limits, the compressor will be secured until it can be retested.

The Compressor has the capacity to fill two SCBA cylinders simultaneously. Filling multiple cylinders at the same time should only occur with proper personnel support.

The Compressed Air Certification Program document shall be posted at the compressor location.

A log shall be maintained with the date, start and finish time of compressor usage, number of cylinders filled, and the names of the crewmembers involved.

Procedure for filling SCBA Cylinders:

It is recommended that at least two people are involved with compressor operations. The below should be repeated for every cylinder being filled.

- ❑ Check installation and compressor for safety issues and any apparent defects.
- ❑ Ensure that air intake is from clean outside air.
- ❑ Check that the PSI switch (located on the back, left side of the compressor) is set to 2250psi.
- ❑ Secure SCBA cylinder at the designated location between the compressor and locker.
- ❑ Post "Compressor in Operation" and "No Smoking" signs outside the door leading to the passageway.
- ❑ Energize the knife switch breaker on the forward bulkhead above the compressor.
- ❑ Make sure the compressor is depressurized by opening the two moisture separator drains located low and facing aft.
- ❑ Reclose drains prior to start up.

There are two separate filler whips/hoses. Each hose has two isolation valves and a yoke that connects to the SCBA. Isolation valves and yokes are color coordinated based on the hose they are connected to.

- ❑ Check both bleed screw valves on filler yokes AND both of the fill whip isolation valves are closed on both hoses.
- ❑ Connect SCBA Cylinder to the filler yoke firmly (hand-tight).
- ❑ Open the Cylinder valve slowly. This will pressurize the hose to the whip isolation valve.
- ❑ Open both whip isolation valves slowly to equalize pressure to the entire system.

At this point, all of the gauges (SCBA Cylinder, yoke, and compressor) should have the same psi. If not, review the above steps. If you hear air escaping, check that all the connections are tight.

- ❑ Push start button and record time.

It may take a few minutes for the compressor to build up pressure and start to fill the cylinder. If all gauges are not rising in unison after three minutes, STOP the compressor and review above steps.

- ❑ Fill the SCBA cylinder to 2250 psi. The compressor should automatically stop at 2250psi, but crew should monitor and, if necessary, press the STOP button to avoid overpressurizing.
- ❑ Once the compressor has come to a complete stop, close SCBA cylinder valve.

- ❑ Close both whip isolation valves.
- ❑ Open yoke bleed screw valve to depressurize the whip. At this point the yoke psi gauge should read zero.
- ❑ With the yoke bleed screw valve still open, slowly open the isolation valve on the hose nearest the yoke connection and bleed the pressure. DO NOT open/bleed the isolation valve on the hose that is nearest the compressor.
- ❑ Close the yoke bleed screw valve and the isolation valve that was opened and disconnect the SCBA cylinder
- ❑ Slowly open the moisture drains on the compressor. Take care not to open too fast, as the drain top will come off with the pressure. If the air is hot/humid, put a rag under where the moisture will drain.

At no point in time do you open/bleed the pressure from the isolation valve that is nearest the compressor unit. The unit will depressurize over time.

SMM 7.7 Helicopter Operations

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The *R/V Thomas G Thompson* does not have a helicopter landing pad, therefore any kind of helicopter operations on or around the vessel must be conducted with the helicopter active in the air. If conditions permit, a helicopter crewmember (rescue swimmer) will be lowered to the deck to direct the operations from the ship and provide communications with the helicopter.

Procedure:

- Inform all hands of the planned helicopter operations and conduct a risk assessment.
- Conduct a brief with all involved in the operations before operations begin and assign roles and responsibilities.
- Communicate with the helicopter operator (USCG, US Navy, Rescue Coordination Center, or other operator) to agree on rendezvous location, provide ship's drawings, and determine the preferred location on the ship for the helicopter operations.
- The vessel should be ready to provide on scene weather information, (wind speed direction and swell height etc)
- Prepare the agreed upon location for operations. The 02 deck forward of the vans is the suggested location for any medical evacuation by helicopter. This deck creates the most clearance for a helicopter between the foremast and mainmast. The helicopter crew will determine the safest location to conduct the lift and instruct the ship.
- Ensure all movable objects are out of the way.
- Establish additional lighting if needed.
- Lay out two fire hoses – one setup for AFFF; have dry fire extinguishers on hand and ready. Dress out a fire team and have them on standby during the operation.
- Establish communications with the pilot on an assigned VHF channel. The following information should be relayed to the pilot:
 - Airdraft overall: 97' at vessel draft of 14'9"
 - Distance between the 02 deck and the top of the mast: 68' [Top of dome on main mast is 111'-9" ABL, 02 level is 43'-9" ABL]
 - Current course and speed and desired course and speed during the operation.
 - All procedures must be agreed upon between the helicopter pilot and Master.
- Due to risk of shock, all items being lowered - including just a hook or a lowered rescue swimmer - must touch the deck to discharge before anyone touches it.
- Someone should tend the rescue line to ensure it does not get caught on the ship;
- NEVER connect the hoist line to the ship or tie off the Hoist Static Discharge cable.
- Review the hand signals for hoisting in the USCG Helicopter Swimmer Manual
- After completion of the helicopter operations, make all log entries and conduct a debrief of the operations and discuss/document opportunities for improvement.

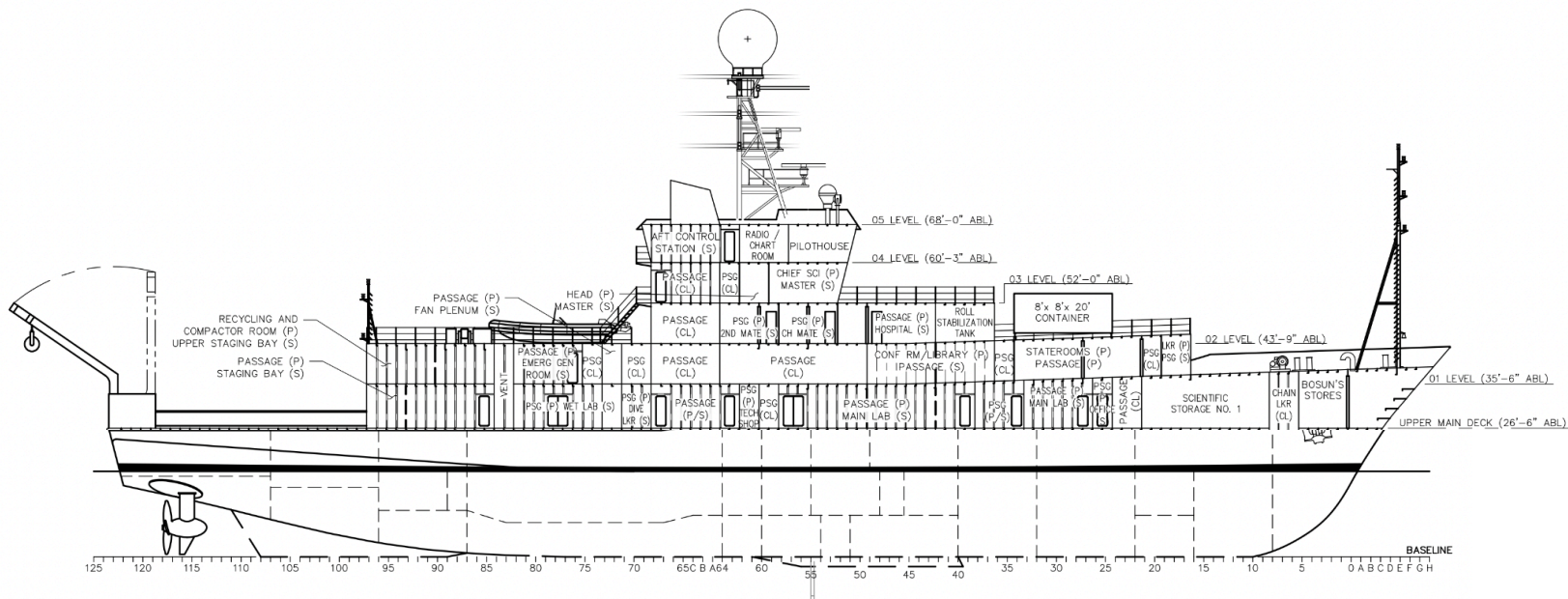
References:

[USCG Helicopter Rescue Swimmer Manual](#)

IAMSAR (International Aviation and Maritime Search and Rescue Manual

VESSEL PARTICULARS:

LOA	273'-2"
LBP	252'-8"
BREADTH, MOLDED	52'-6"
DEPTH AT SIDE, MOLDED	26'-6"
LOAD LINE DRAFT, MOLDED	17'-0"
LOAD LINE DRAFT, EXTREME	19'-3/4"
LOAD LINE DISPLACEMENT	3,528 LONG TONS
MIDSHIPS LOCATION	FR 62 (126.5' AFT OF FP)
FRAME SPACING	2'-0"
MAXIMUM MOLDED DRAFT	17'-0"
LIGHTSHIP DISPLACEMENT	2,185.3 LONG TONS
LIGHTSHIP LCG	133.12 FEET AFT OF FP (8.62 FEET AFT OF MIDSHIPS)
LIGHTSHIP VCG	24.04 FEET ABOVE BASELINE
VESSEL HEIGHT (ABV BASELINE)	111'-9"
AIR DRAFT (@14'-9" DRAFT)	97'-0"



OUTBOARD PROFILE 

SMM 8.0.1 Emergency Contacts

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RACHEL CARSON	
Mobile, Master	206-790-4079
Fleet Broadband Voice	011-870-773-154-816
Captain Brian Bare	253-905-4158 Mobile (Personal)
THOMAS G. THOMPSON	
Mobile, Master	206-409-4046
Mobile, Chief Engineer	206-419-5703
Ship's Computer Lab	206-616-9807
FX Voice, aka IMS	929-481-5822
Fleet Broadband	+87-077-391-2385
InmarSat-C e-mails	436905235@c12.stratosmobile.net
Iridium SSAS	188-162-144-4025
E-mail, Master	captainrvtgt@uw.edu
E-mail, Chief Engineer	engineerrvtgt@uw.edu
OTHER	
Classification Society – American Bureau of Shipping (Seattle)	206-762-6200 Office
The Glostén Associates <i>Chad Caron</i>	206-812-5692 Office 206-499-2882 Mobile info@glosten.com cscaron@glosten.com
Medical Advisory System – Maritime Medical Access	202-715-4219, 202-741-2936, 202-715-4121 202-741-2214 Fax GWMMA@gwmaritime.com , (non-emergent only)
USCG National Response Center	800-424-8802; NRC@uscg.mil https://nrc.uscg.mil
USCG Sector Seattle	206-217-6200 Sector Seattle 206-217-6001 24 hour response Puget Sound SecSeaDispatch@uscg.mil
USCG RCC Pacific RCC Seattle	Tel: 510-437-3701 Fax: 510-437-3017 Tel: 206-220-7001
UW	
Hall Health Clinic	206-685-1011
Police	206-543-0507 (Emergency) 206-685-8973 (non-Emergency)
UW Safe Campus	206-685-7233 safecampus@uw.edu https://www.washington.edu/safecampus/

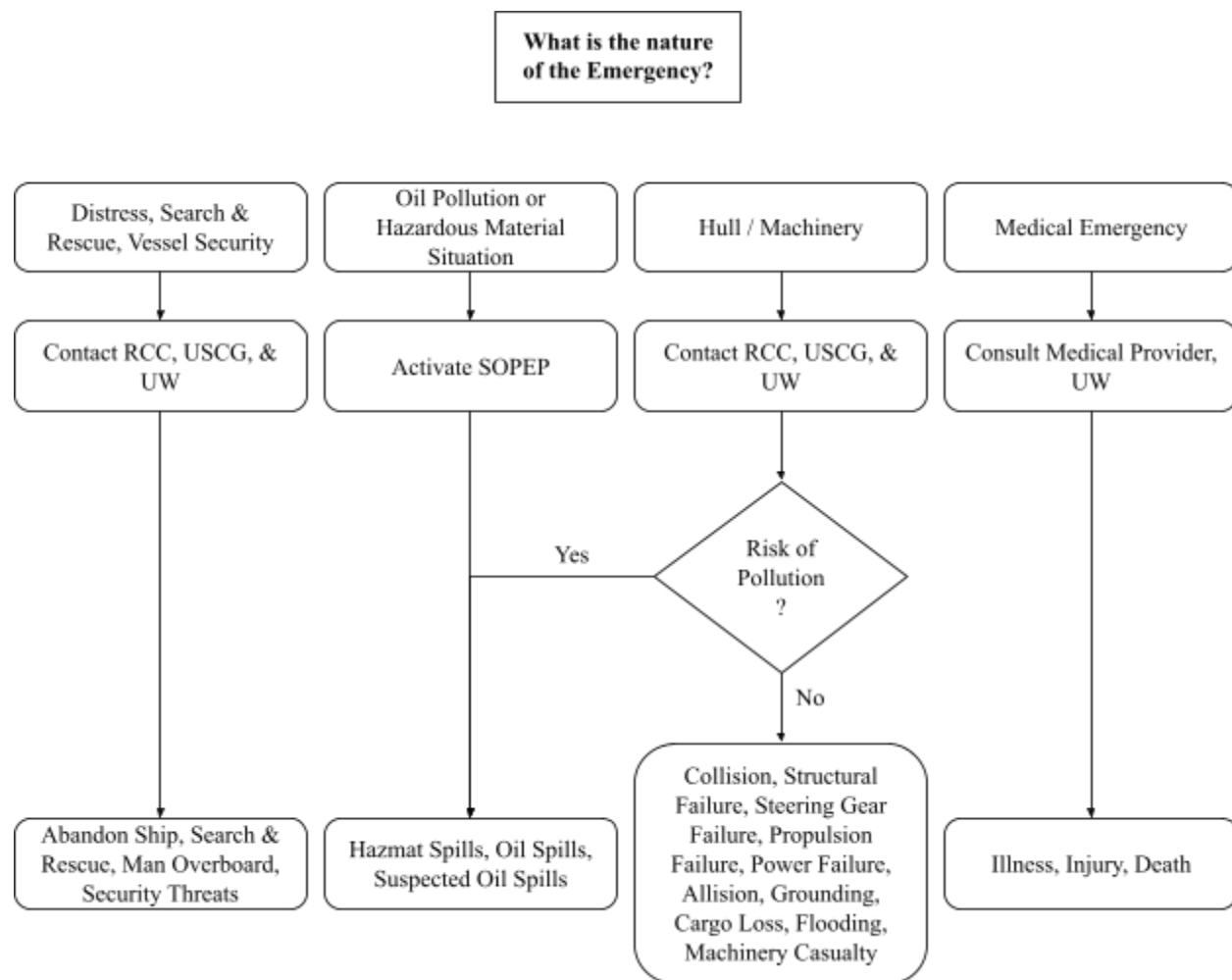
Interim Dean – College of the Environment (Dr. Joel Thornton)	206-499-1979 C 206-221-0907 O 206-221-0908 O	envdean@uw.edu
Associate Dean, Administration (Stephanie Harrington)	206-543-0878 O 206-200-4760 C	stephah@uw.edu
UW News & Info Spokesperson (Victor Balta)	206-543-2580 O 206-890-2712 C	balta@uw.edu
Asst. Director of UW News & Info (Sarah McQuate)	206-543-2580 O	smcquate@uw.edu
Director – School of Ocean (Dr. Hilairy Hartnett)	206-543-0191 O	hartnett@uw.edu
Associate Director for Ship Ops (Dr. Rick Keil)	206-616-1783 O	rickkeil@uw.edu
Administrator – School of Ocean (Monica Cohn)	206-616-3559 O	nannerl@uw.edu
Manager of Marine Operations Designated Person (Gregory Higgins)	206-225-0562 C 206-685-5672 O	ManagerMarOps@uw.edu
Port Engineer – School of Ocean (Georg Schroeder)	206-823-5947 C	porteng@uw.edu
Port Captain – School of Ocean (Claire Fine)	206-221 6920 O 206-786-8051 C	portcaptain@uw.edu
Manager of SSSG – School of Ocean (Brandi Murphy)	206-746-8091 C	managersssg@uw.edu
Admin Asst – School of Ocean (vacant)		maropsadmin@uw.edu
UW Compliance & Risk Services Asst Dir of Claims Services (Lisa Wiese)	206-616-7510 O	lkwiese@uw.edu
UW Risk Services - Insurance Coordinator (Kristina Bahr)	206-543-3419 O	kmbahr@uw.edu
Attorney (Tom Waller)	206-905-3227 206-905-3232	tgwaller@bmjlaw.com
SeaWest Adjustment Company (Michael London)	206-628-0551 O 206-300-8077 C	london@seawestadjustment.com

SMM 8.0.2 Emergency General Instructions

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Procedure

- Any person aboard who determines that an emergency might exist is called upon to notify the bridge and sound the alarm.
- When determining which type of emergency exists and what procedure to follow, the duty officer must evaluate the risk to the ship, the persons aboard and the environment.
- If the structural integrity of the hull or the vessel's stability is in jeopardy, the Master must also assume that the risk or probability of oil pollution is high. In addition to responding to the specific threat, the Master should activate the Oil Pollution response as established in the SOPEP.
- To determine the correct procedures to follow, the Emergency Flowchart will guide the officers in the emergency response.
- Drills and training may be secured during Dry Dock/ Maintenance Periods, or any other non-operation period where the vessel may not be at full crew.



SMM 8.0.3 Emergency Preparation Index

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R/V THOMAS G THOMPSON STATION BILL			
as of January 10, 2024			
POSITION	FIRE & EMERGENCY	ABANDON SHIP	PERSON OVERBOARD
	A SOUNDING OF THE SHIPS WHISTLE AND GENERAL ALARM FOR A PERIOD OF NO LESS THAN 10 SECONDS	A SOUNDING OF MORE THAN SIX SHORT BLASTS FOLLOWED BY ONE PROLONGED BLAST OF THE SHIP'S WHISTLE AND GENERAL ALARM	A SOUNDING OF 3 PROLONGED BLASTS OF THE SHIP'S WHISTLE AND GENERAL ALARM
MASTER	OFFICER IN COMMAND	OIC, BRING UHF CH 1, VHF CH 19A, 4th LIFE RAFT-PIC	OFFICER IN COMMAND
CHIEF MATE	RAPID RESPONSE TEAM SCENE LEADER ON DECK, BRING UHF CH 1, ASSIST CHIEF ENGINEER FOR E/R FIRE	SCENE LEADER ON DECK, BRING UHF CH 1, PIC LIFE RAFT DEPLOYMENT, 3rd LIFE RAFT-PIC	SCENE LEADER ON DECK, BRING UHF CH 1
2ND MATE	BRIDGE - MATE ON WATCH, GMDSS OPERATOR, VERIFY ALL WTD'S/ FIRE DOORS CLOSED	BRING EPIRB, SART, SCR, LIFE RAFT LOADING OIC, 2nd LIFE RAFT-PIC	BRIDGE - MATE ON WATCH
3RD MATE	A-TEAM LEADER. BRING UHF CHANNEL 1, ASSIST A-TEAM NOZZLEPERSON TO DON GEAR	RESCUE BOAT COXSWAIN RESCUE BOAT LAUNCH OIC, BRING UHF CH 1, VHF CH 19A, 2nd LIFE RAFT	RESCUE BOAT COXSWAIN, RESCUE BOAT OIC, BRING UHF CH 1, VHF CH 19A
CHIEF ENGINEER	ENGINE ROOM - OIC, SCENE LEADER FOR ENGINE ROOM	ENGINE ROOM - OIC, BRING UHF CH 1, 3rd LIFE RAFT	ENGINE ROOM - OIC
1ST ASSISTANT ENGINEER	ENGINE ROOM - ASSIST CHIEF ENGINEER, CLOSE WTD'S 64 & 87	BRING UHF CH 1, LIFE RAFT LOADING OIC 1st LIFE RAFT-PIC	ENGINE ROOM - ASSIST CHIEF ENGINEER
2ND ASSISTANT ENGINEER	B-TEAM LEADER. BRING UHF CHANNEL 1, ASSIST B-TEAM NOZZLEPERSON TO DON GEAR, DISPATCH DC EQUIP	RESCUE BOAT CREW ENG - SECONDARY, BRING UHF CH 1, 2nd LIFE RAFT	RESCUE BOAT CREW ENG - SECONDARY
3RD ASSISTANT ENGINEER	RAPID RESPONSE TEAM ASSIST CHIEF MATE, BRING FIRE EXTINGUISHER, VALVE TENDER FOR A-TEAM	RESCUE BOAT CREW ENG - PRIMARY 1st LIFE RAFT	RESCUE BOAT CREW ENG - PRIMARY
ABLE BODIED SEAFARER WATCH (12-4)	RAPID RESPONSE TEAM ASSIST CHIEF MATE, BRING FIRE EXTINGUISHER, VALVE TENDER FOR B-TEAM	LOWER RESCUE BOAT (ASSIST WITH GRIPES), DEPLOY LIFE RAFTS, 4th LIFE RAFT	LOWER RESCUE BOAT
2ND COOK	RAPID RESPONSE TEAM CLOSE WATER TIGHT DOOR AT BKHD 107 & 96, ASSIST MUSTER OF SCIENCE PARTY, READY MISSING PERSONS SEARCH TEAM	ASSIST MUSTER OF SCIENCE PARTY, ASSIST LIFE RAFT EMBARKATION MUSTER, 2nd LIFE RAFT	ASSIST MUSTER OF SCIENCE PARTY, READY MISSING PERSONS SEARCH TEAM
ABLE BODIED SEAFARER WATCH (8-12)	A-TEAM DON FIRESUIT AND SCBA, NOZZLEPERSON	RIG TRANSFER LINE (FWD END) - DEPLOY LIFE RAFTS, 4th LIFE RAFT	BRIDGE HELMSPERSON
ABLE BODIED SEAFARER DAY (8-12)	A-TEAM DON FIRESUIT AND SCBA, HOSE TENDER	ASSIST RIGGING TRANSFER LINE - DEPLOY LIFE RAFTS 4th LIFE RAFT	ASSIST 3RD MATE (ASSIST WITH GRIPES)
OILER WATCH (12-4)	A-TEAM DON FIRESUIT AND SCBA, HOSE TENDER	RIG TRANSFER LINE (AFT END), 4th LIFE RAFT	ASSIST 3RD MATE
ABLE BODIED SEAFARER DAY (12-4)	A-TEAM ASSIST AB HOSE TENDER TO DON GEAR, PROVIDE EQUIP AS DIRECTED BY 3/M	RIG BOARDING LADDER, 1st LIFE RAFT	ASSIST CHIEF MATE
OILER (Day)	A-TEAM ASSIST OILER HOSE TENDER TO DON GEAR, PROVIDE EQUIP. AS DIRECTED BY 3/M	RIG BOARDING LADDER, 2nd LIFE RAFT	BRIDGE LOOKOUT
ABLE BODIED SEAFARER WATCH (4-8)	B-TEAM DON FIRESUIT AND SCBA, NOZZLEPERSON	RELEASE RESCUE BOAT GRIPES AND POWER CORD, 3rd LIFE RAFT	RELEASE BOAT GRIPES, UNPLUG BOAT POWER
OILER WATCH (4-8)	B-TEAM DON FIRESUIT AND SCBA, HOSE TENDER	RIG BOARDING LADDER, 3rd LIFE RAFT	ASSIST CHIEF MATE
ABLE BODIED SEAFARER DAY (4-8)	B-TEAM DON FIRESUIT AND SCBA, HOSE TENDER	RESCUE BOAT CREW, 2nd LIFE RAFT	RESCUE BOAT CREW
CH STWD	B-TEAM ASSIST AB HOSE TENDER TO DON GEAR, SECURE GALLEY CLOSURES	LIFE RAFT LOADING OIC, BRING UHF CH 1, RIG TRANSFER LINE (MAIN DECK), 1st LIFE RAFT	BRIDGE LOOKOUT
OILER WATCH	B-TEAM ASSIST OILER HOSE TENDER TO DON GEAR, PROVIDE	DEPLOY LIFE RAFTS, 1st LIFE RAFT	BRIDGE LOOKOUT

(8-12)	EQUIP AS DIRECTED BY 2ND A/E		
MESS ATT	ASSIST CH STWD WITH GALLEY CLOSURES, BRIDGE MESSENGER	BRING MEDICAL GO-BAG TO RESCUE BOAT, 3rd LIFE RAFT	BRIDGE - MESSENGER (BRING BACKBOARD AND BLANKETS TO RESCUE BOAT)
LEAD MARTECH	MUSTER SCIENCE PARTY, BRING UHF CH 1	MUSTER SCIENCE PARTY, KEEP MUSTER AT LIFERAFT EMBARKATION, BRING UHF CH 1, 1st LIFE RAFT	MUSTER SCIENCE PARTY, BRING UHF CH 1
MARTECH	MUSTER SCIENCE PARTY	MUSTER SCIENCE PARTY, KEEP MUSTER AT LIFE RAFT EMBARKATION, 3rd LIFE RAFT	MUSTER SCIENCE PARTY
SCIENCE PARTY	MUSTER IN MAIN LAB	MUSTER IN MAIN LAB, SCI 1-10 EMBARK 1st LIFE RAFT, SCI 11-21 EMBARK 2nd LIFERAFT, SCI 22-32 EMBARK 3rd LIFE RAFT, SCI 33-38 EMBARK 4th LIFE RAFT	MUSTER IN MAIN LAB
MASTER:		Date:	

SMM 8.0.4 Emergency Assistance

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As per [international treaty, customary law, and 46 U.S.C. 2304](#), a vessel is required to render assistance at sea. Specifically, the master or individual in charge of a vessel must render assistance to any individual found at sea in danger of being lost, as long as the master or individual in charge can do so without serious danger to their vessel or personnel on board. R/V *Thomas G. Thompson* will render assistance when requested to do so.

Vessel on fire requiring assistance:

- The *Thompson* should be positioned upwind of the vessel in distress. The Master will determine how close the ship can get to the burning vessel.
- If possible, the crew should use the ship's fire hoses to fight the fire on the vessel in distress. Set up straight/smooth bore nozzles (fire monitors) mounted to the rail in order to increase the duration of firefighting assistance.
- At no time should the *Thompson* crew board the burning vessel.
- In the case of a power outage/pump failure, if safe to do so, the *Thompson* should send the burning vessel an hose to connect to their international shore connection. In addition, the Master could consider passing over a portable fire pump by small boat in open ocean if sea state permits.

Towing another vessel:

- R/V *Thomas G. Thompson* is not setup to tow another vessel; therefore, towing another vessel should only be considered *in extremis* if the other vessel is in danger of going aground.
- Request the vessel's Emergency Towing Manual. If one does not exist, the masters of both vessels will determine the best way to tow the vessel in distress.
- Consider use of the line throwing device/pyrotechnic in order to pass a messenger line.

Sinking Vessel:

- The *Thompson* should stay at a safe distance from a sinking vessel. All actions should be taken to assist survivors and bring them aboard.
- If conditions permit, launch the FRB to marshall liferafts and/or recover survivors.

Managing Survivors

- The Master shall evaluate the situation and determine the best means for transferring survivors.
- Prepare for and provide medical care as required.
- Collect the names and nationalities of each survivor
 - The names of each person should be communicated to the Rescue Coordination Center (RCC), Search & Rescue (SAR) team, or local port state authority

The Designated Person Ashore shall be notified as soon as possible in any emergency scenario.

References:

R/V *Thompson* Emergency Towing Manual

IAMSAR (International Aviation and Maritime Search and Rescue Manual)

SMM 8.1.1 Fire Checklist

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- ☐ Any vessel person determining that a fire may be occurring on board shall sound the alarm and send word to the bridge (or duty officer if in port) about the location, class and size.
- ☐ The person sounding the alarm shall make every effort to make a first response with a fire extinguisher if possible and appropriate. The person should calmly assist the evacuation of persons away from the affected area while closing all doors, staying low and keeping an eye towards the seat of the fire while backing away.
- ☐ The bridge shall sound the general alarm and make announcements over the intercom with the reported location, class and size of the fire. All shipboard operations not essential to vessel navigation and safety must end immediately. Persons throughout the vessel must secure their space and report to their emergency station as instructed and trained, closing all doors as they move.
- ☐ The emergency squads are to be activated according to the station bill. The initial response group will investigate the fire and confirm the situation to the Master by radio with a recommendation on the response necessary. The initial fire investigation will make an additional attempt to contain the fire and prepare for the full response by fire teams.
- ☐ The Master must assess the situation and take command. A complete understanding of fuel sources, hazards to personnel, and risks to the environment must quickly be made and a plan developed to attack the fire.
- ☐ The Engine Room will secure power and ventilation systems to prevent the spread of the fire.
- ☐ The Fire Teams will be mustering and suiting up to attack the fire, while other personnel will be securing vents and providing support.
- ☐ The Response Team will be dispatched to the scene where the Chief Officer will take control and lead the firefighting effort as the On Scene Leader.
- ☐ Other personnel will be in the Support Team and they may be called in addition to provide a second hose or support the firefighting efforts.
- ☐ The Command Team will be on the Bridge and in the Engine Room securing critical systems, providing emergency communications and monitoring the response, with the Master in charge of the emergency.
- ☐ The Science Party will be mustered and may be called upon to support search and rescue efforts in the vessel structure.
- ☐ If the fire is in the Machinery Spaces, the First Assistant Engineer shall be responsible for leading the fire fighting efforts.
- ☐ If the fire is in the Machinery Spaces, the Master shall make the determination to use a fixed system if all efforts to contain the fire have failed. If the Master is not present, the Chief Engineer, Chief Officer or First Assistant in that order will make the

determination. The space shall be evacuated and secured prior to using any fixed extinguishing system.

- ☐ If the fire is out of control or the decision to regroup is made, the second team shall back out of the space with protection provided by the Attack Team.
- ☐ The Attack team may be stationed to continue containing the fire and protection hoses while other efforts to attack the fire or abandon ship are made.
- ☐ If the fire is contained, the scene must be evaluated for the extent of the damage. A hose and extinguisher team must be ready for a reflash and overhaul commenced immediately. Excess firewater must be pumped off of the vessel.
- ☐ The Master must evaluate the damage to the vessel and its resulting effect on ship's stability. The risk of pollution must be evaluated and the SOPEP activated if necessary.
- ☐ A follow up communication must be made to neighboring vessels or shore support as directed.
- ☐ A continual fire watch will be maintained, and the overhaul of all combustible materials must be thorough.
- ☐ Fire often travels throughout unknown corridors, so a complete vessel search for damage and heat must be conducted.

Documentation

- Ship Fire and Emergency Plan
 - Station Bill
 - Emergency Flowchart
 - SOPEP
 - Drill documented in Sinex
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SMM 8.1.2 Collision and Allision Checklist

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The Mate on Watch shall observe the International and Inland Rules to prevent all collisions while operating UW vessels. Total and continual vigilance is necessary to maintain control of the vessel while maintaining awareness of other vessels. Officers are to use every means possible of maneuvering the vessel to either avoid or to mitigate the severity of a collision. The Mate Watch shall understand the limits of the electronic tools on the bridge, and never overly rely on them alone.

Hitting a solid object is a severe risk to the ship's structural integrity and stability. Generally this type of accident will occur at very low speeds and a puncture is the greatest immediate threat. However, severe damage to the hull and its structural integrity can occur and must be treated as an emergency.

If it is too late to completely avoid a collision or allision, officers are instructed to:

- ☐ Reduce or eliminate relative speed, and to position the vessel for a side to side impact if possible and keep below waterline damage to a minimum. The officer should be aware of critical areas below the waterline and make every attempt to reduce the risk to persons and machinery in these extreme circumstances.
- ☐ Any vessel person determining that a collision may occur shall sound the alarm and send word to the bridge (or duty officer if in port) about the other vessel's relative position to the ship, a description and possible impact area. They should assist the evacuation of persons away from the affected area while closing all doors. All persons should move away and above the expected impact area.
- ☐ The bridge shall sound the general alarm and make announcements over the intercom. All shipboard operations not essential to vessel navigation and safety must end immediately.
- ☐ The ship's watertight doors shall be secured.
- ☐ Persons throughout the vessel must secure their spaces and report to their emergency stations as instructed and trained, closing all doors as they move.
- ☐ The emergency squads should be activated according to the station bill. The initial response group will investigate the damage and confirm the situation to the Master by radio with a recommendation on the response necessary. The initial investigation will make an additional attempt to contain the damage and prepare for the full response by emergency teams.
- ☐ The Master must assess the situation and take command. A complete understanding of fuel sources, hazards to personnel, and risks to the environment must be quickly assessed and a plan developed to deal with any damage, flooding, loss of stability, and/or release of oil.
- ☐ The additional risk of other hazards must be assessed like fire and flooding emergencies and addressed as necessary according to the emergency flowchart. If the risk of oil pollution is present the SOPEP must be activated.

- ☐ If at all possible, the ship's movement should be minimized. The ship shall deploy anchors and mooring lines to the shore to keep the vessel stationary.
- ☐ Free Communication of water in and out at the waterline must be reduced if possible.
- ☐ Stability should be assessed when taking any action.
- ☐ Emergency communications should be initiated.
- ☐ An OFI/CAR should be generated after the incident is over.
- ☐ The ship should make arrangements for temporary repairs before moving to make permanent adjustments.
- ☐ A hull surveyor, the naval architects and authorities should be consulted. The Master has authority to engage any of these sources of assistance as may be required.

Documentation

- Ship Fire and Emergency Plan
 - Station Bill
 - Emergency Flowchart
 - SOPEP
 - Drill documented in Sinex
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SMM 8.1.3 Structural Failure Checklist

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Structural failure has many causes including fire, external forces, fatigue and decay. If Structural failure is detected either by inspection or as the result of another casualty, immediate action must be taken to mitigate the risk to the ship and personnel.

- ☐ The Master shall initiate an investigation with senior officers to survey the damage. Ship's plans and Damage Stability Plan should be consulted and emergency communications initiated.
- ☐ The ship's watertight doors shall be secured.
- ☐ Ballasting and movement of fuel should only be done once it is determined that such action will not adversely affect the ship's integrity and stability.
- ☐ If the damage is at or near the waterline, a serious risk of flooding may be imminent and all personnel should be brought above decks until the situation is resolved.
- ☐ Dewatering pumps should be readied.
- ☐ Make announcements over the intercom. All shipboard operations not essential to vessel navigation and safety must end immediately. Persons throughout the vessel must secure their spaces and report to their emergency station as instructed and trained, closing all doors as they move.
- ☐ The emergency squads should be activated according to the station bill. The initial response group will investigate the damage and confirm the situation to the Master by radio with a recommendation on the response necessary. The initial investigation will make an additional attempt to contain the damage and prepare for the full response by emergency teams.
- ☐ The Master must assess the situation and take command. A complete understanding of fuel sources, hazards to personnel, and risks to the environment must be quickly assessed and a plan developed to deal with the situation. The Command team will initiate emergency communications.
- ☐ The additional risk of other hazards must be assessed like fire, flooding, or changes to stability and addressed as necessary according to the emergency flowchart. If it is a possibility that oil pollution may be present then the SOPEP must be activated.
- ☐ Communications with authorities and the shore emergency management team must be established.
- ☐ A plan must be developed to make temporary repairs to augment the emergency measures already taken until the ship can be towed or make a safe harbor.

Documentation

- Ship Fire and Emergency Plan
- Station Bill
- Emergency Flowchart
- SOPEP
- Drill documented in Sinex

SMM 8.1.4 Steering Gear Failure Checklist

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Steering gear failures often lead to other maritime failures and early action must be taken to mitigate this hazard.

- ☐ Immediately notify the Master when navigation equipment or propulsion is not working properly. When operating in congested or pilotage waters, the Master may elect to crew the emergency steering station.
- ☐ The Mate on Watch must take immediate action when it is determined that a steering gear failure has occurred. The failure should be announced over the intercom to alert members of the Bridge Team and Engineering staff to assist. Off duty and available members of the deck department should report to the bridge.
- ☐ The Master must assess the situation and take command. A complete assessment of steering system failure modes, hazards to personnel, and risks to the environment must be quickly made and a plan developed to respond to the situation and initiate emergency communications as required.
- ☐ The Master may dispatch a team to ready the anchors and standby to lower them.
- ☐ The current ship's navigation status should be considered, along with traffic, depths, currents, hazards, and visibility. Science operations in progress could be immediately impacted.
- ☐ The Mate on Watch must notify the Engineer on Watch and inform him/her that there is a possible steering gear failure. The after steering station should be crewed by a qualified engineering staff member and a qualified helmsperson as soon as possible.
- ☐ Using other propulsion gear like the bow thruster to compensate may be an effective temporary measure.
- ☐ The additional risk of other hazards must be assessed. Communications with authorities and the shore emergency management team must be established and an OFI/CAR generated after the incident is over.
- ☐ The ship should proceed to a safe place where repairs can be conducted, if unable to do so underway, and arrangements for towing may have to be made by the Master.
- ☐ The actual cause of the steering failure should be determined to avoid future occurrences.
- ☐ The Mate on Watch should be reminded of any new limitations placed on the steering capability until full control is restored.

Documentation

- Emergency Flowchart
 - Drill documented in Sinex
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SMM 8.1.5 Propulsion and Electrical Failure Checklist

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Propulsion and electrical failures can lead to other maritime failures and prompt action must be taken to mitigate this hazard.

- ☐ The Mate on Watch must operate the ship within the safe parameters established by the Standing Orders and immediately notify the Master when navigation equipment or propulsion is not working properly. When operating in congested or pilotage waters, the Master may elect to crew the emergency steering station.
- ☐ The Mate on Watch must take immediate action when it is determined that a propulsion failure has occurred. The failure should be announced over the intercom to alert members of the Bridge Team and Engineering staff to assist. Off duty and available members of the deck department should report to the bridge.
- ☐ The Master must assess the situation and take command. A complete assessment of failure modes, hazards to personnel, and risks to the environment must be made quickly and a plan developed to respond to the situation. Initiate emergency communications.
- ☐ The Master may dispatch a team to ready the anchors and standby to lower them.
- ☐ The current ship's navigation status should be considered, along with traffic, hazards, visibility and other hazards. Science operations in progress could be immediately impacted.
- ☐ The Mate on Watch must notify the Engineer on Watch and inform him/her that there is a possible propulsion failure. The after steering should be crewed by a qualified engineering staff member and a qualified helmsperson as soon as possible.
- ☐ Using other propulsion gear like the bow thruster to compensate may be an effective temporary measure.
- ☐ The additional risk of other hazards must be assessed. Communications with authorities and the shore emergency management team must be established and an OFI/CAR generated after the incident is over.
- ☐ The ship should proceed to a safe place where repairs can be conducted if unable to do so underway, and arrangements for towing may have to be made by the Master.
- ☐ The actual cause of the electrical and/or propulsion failure should be determined to avoid future reoccurrences.
- ☐ The Mate on Watch should be reminded of any limitations placed on the maneuvering characteristics until full propulsion is restored.
- ☐ There are many sources of alternate power aboard the ship, and the emergency diesel generator and batteries should provide minimal power to critical systems, but total power loss must be assumed if the emergency diesel generator fails to pick up the load.
- ☐ Communication with surrounding vessels by radio is essential as well as displaying the correct lights and day-shapes. Every effort should be directed towards the prompt re-powering of these essential appliances.

Documentation

- Emergency Flowchart
 - Drill documented in Sinex
 - TGT Emergency Towing Manual
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SMM 8.1.6 Grounding Checklist

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Contacting a solid object under the waterline is a severe risk to the ship's structural integrity and stability. Grounding poses an immediate threat to life, property and the environment. If grounding occurs:

- ☐ Reduce or eliminate speed. The ship shall deploy anchors and mooring lines to the shore to keep the vessel stationary. The officer should be aware of critical areas below the waterline and make every attempt to reduce the risk to persons and machinery in these circumstances. Stability should be assessed with respect to all actions that are undertaken.
- ☐ The ship's watertight doors shall be secured.
- ☐ The bridge shall sound the general alarm and make announcements over the intercom. All shipboard operations not essential to vessel navigation and safety must end immediately. Persons throughout the vessel must secure their space and report to their emergency station as instructed and trained, closing all doors as they move.
- ☐ The emergency squads should be activated according to the station bill. The initial response group will investigate the damage and confirm the situation to the Master by radio with a recommendation on the response necessary. The initial investigation will make an additional attempt to contain any damage and prepare for the full response by emergency teams.
- ☐ The Master must assess the situation and take command. A complete assessment of the grounding, hazards to personnel, and risks to the environment must be made quickly and a plan developed to resolve the situation. Soundings should be taken throughout and around the ship.
- ☐ The additional risk of other hazards must be assessed like fire and flooding and addressed as necessary according to the emergency flowchart. If the risk of oil pollution is present the SOPEP must be activated.
- ☐ Taking on ballast may be required if the vessel cannot be re-floated immediately and swell threatens further damage to the hull.
- ☐ Ballast pumps should be readied as well as dewatering pumps.
- ☐ Ship's personnel should begin making the rescue craft ready.
- ☐ Emergency communications should be initiated.
- ☐ An OFI/CAR should be generated.
- ☐ The ship should make arrangements for temporary repairs before moving to a facility to make permanent repairs.
- ☐ A hull surveyor, the naval architects and authorities should be consulted. Divers and salvage teams may have to be engaged on short notice. The Master has the authority to secure any assistance from such providers.

Documentation

- Ship Fire and Emergency Plan
- Damage Control Plan and Stability Information
- Station Bill
- Emergency Flowchart
- SOPEP
- Drill documented in Sinex
- TGT Emergency Towing Manual

SMM 8.1.7 HAZMAT Spills Checklist

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Hazardous materials can pose a threat to personnel and the ship, especially if they are mishandled or there is a risk of fire. Prevention is the best procedure with HAZMAT situations because they are so difficult to contain and mitigate afterwards. Awareness of the materials on board and familiarization with MSDS's, and the potential risks of specific materials will help immensely. For more information, see Science HAZMAT 7.4.7 and Spill Prevention 7.0.7 that discusses proper HAZMAT storage and spill prevention procedures.

- ☐ All spills should be immediately reported to the Bridge and the person reporting the spill should try to supply the bridge with as much information as possible from a safe location. The MSDS for the material involved should be consulted.
- ☐ The Master should be informed immediately of any spill and take command. The Chief Officer should be dispatched with members of the deck department to assist. The damage control locker on the 01 deck should be utilized for staging to keep response personnel clear of affected areas.
- ☐ Announcements should be made to evacuate all ship's personnel away from the affected areas.
- ☐ Emergency teams responding must be wearing the appropriate PPE and breathing apparatus.
- ☐ Avoid contaminating other areas of the ship if possible by securing ventilation and traffic through the affected spaces.
- ☐ Any spill should first be contained. Containers of remaining or different HAZMAT should be moved to a safe location. Once the space is secured and the spill is contained, efforts to dilute or remove the material can begin as directed by the handling and clean-up instructions in the MSDS.
- ☐ The Mate on Watch shall make adjustments to the heading of the ship and reduce the ship's motion or provide a desired relative wind.
- ☐ A plan should be formulated for the actions to be taken to minimize the hazards to the ship and personnel. The Lead Technician shall assist the Chief Officer in the cleanup efforts if the HAZMAT release is science related.
- ☐ Power sources on deck may have to be secured in case of damage to electrical components.
- ☐ An OFI/CAR should be generated after the incident.
- ☐ If personnel are injured in the HAZMAT incident or exposed to hazardous substances, the shore medical provider shall be contacted immediately.

Documentation

- Ship Fire and Emergency Plan
- Damage Control Plan
- Stability Information
- Station Bill
- Emergency Flowchart
- Drill documented in Sinex

SMM 8.1.8 Flooding Checklist

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Flooding can pose a serious threat to vessel stability, personnel and machinery.

- ☐ If flooding is discovered, the person must promptly notify the bridge or duty officer. That person is to make all reasonable attempts to ensure that all persons are evacuated out of the space, securing doors behind them
- ☐ The Bridge officer shall immediately sound the General Alarm, activate Emergency Teams, close all watertight doors, then notify the Engine Room and the Master.
- ☐ The Bridge officer is to make announcements over the intercom to alert the Chief Officer and the investigative team where the flooding is occurring. Dewatering equipment and ballast pumps should be prepared.
- ☐ All power should be secured to the affected spaces to prevent grounding and the risk of electrocution.
- ☐ The vessel's motion should be slowed and all propulsion stopped.
- ☐ The first priority is to slow or stop the introduction of water below the waterline, and to isolate the affected compartments.
- ☐ Once the situation is stabilized, soundings should be taken in all tanks and double bottoms. The vessel's stability plans should be consulted to assess the extent of the damage and the effect of flooding upon reserve buoyancy and stability.
- ☐ Emergency communications should be established.
- ☐ An OFI/CAR should be generated.
- ☐ No action should be taken without considering its effects upon stability.
- ☐ Temporary damage control measures should be taken as needed before moving the vessel to a location for permanent repairs.

Documentation

- Ship Fire and Emergency Plan
- Damage Control Plan and Stability Information
- Station Bill
- Emergency Flowchart
- Drill documented in Sinex

SMM 8.1.9 Machinery Casualty

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A catastrophic machinery failure in the engine room can pose extreme hazards to personnel, the vessel, and the environment. Because the Machinery Room is the center of usual damage control activity, any kind of machinery failure, particularly the diesel generators, could pose serious consequences.

- ☐ Determine if the failure is catastrophic or routine. Examples of catastrophic failures include loss of a generator, loss of power, fuel line damage, gear box failure, etc. If the failure is determined to be catastrophic, continue to follow the checklist. For routine casualties, a CASREP shall be generated and sent to MarOps.
- ☐ Anyone witnessing a major machinery casualty must contact the Duty Engineer and the bridge. The Mate on Watch needs to be aware of the situation as soon as possible.
- ☐ The Master will be notified and take command. All additional risks shall be examined. If the risk of oil pollution is possible, the SOPEP will be activated.
- ☐ The General Alarm should be sounded and personnel mustered. The Chief Engineer shall determine a safe area to muster the assigned engine room personnel.
- ☐ All reasonable attempts to evacuate personnel shall be made and the engineer on scene should secure equipment, fuel and machinery in the space. If there is a risk of flying debris, personnel should take alternative measures to secure equipment at remote shutoffs.
- ☐ An observer should give communication to the bridge so that the Master is fully informed of the current situation.
- ☐ Emergency communications will be established. Proper day-shapes and navigation lights will be displayed.
- ☐ Once the situation is stabilized, temporary repairs should be made until the ship can make a safe harbor for permanent repairs.
- ☐ A CASREP shall be generated immediately after the emergency is contained and sent to MarOps. The CASREP will remain open until the issue is fully resolved.
- ☐ An OFI should be generated if warranted.

Documentation

- Ship Fire and Emergency Plan
- Station Bill
- SOPEP
- CASREP
- Drill documented in Sinex

SMM 8.1.10 Abandoning Ship Checklist

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In the event that the vessel must be evacuated, the decision to abandon ship is only made by the Master. If the Master has been incapacitated, the most senior deck officer shall assume command and make the decision. The final decision to abandon hopefully will be preceded by sufficient time to make the necessary arrangements, but time may be short in an actual emergency, so planning and practice are essential.

- ☐ The rescue boat should be kept ready for launch.
- ☐ Once the decision is made, the crew shall be given the order to proceed to Boat Stations and to abandon ship. All personnel shall be mustered and shall bring their survival gear. Missing persons shall be accounted for and a search conducted, if time permits.
- ☐ Emergency Communications shall be established at the onset of the emergency.
- ☐ The ship shall be illuminated and emergency flares deployed if there are other vessels, aircraft or land nearby during the evacuation. Otherwise flares should be saved and used when the probability of someone seeing them is highest.
- ☐ The ship should be brought to the best heading for the seas to protect the abandon ship effort.
- ☐ If time permits, blankets, extra food and supplies should be brought to the rescue boat and liferafts along with the ship's logbook, charts and signaling equipment.
- ☐ Navigation equipment, SARTS, radios and the EPIRB shall be brought to the rescue boat station and activated. Life Rings with lights shall be brought and made ready for persons who may fall in the water.
- ☐ The liferafts must be prepared and marshaled alongside the vessel and if time permits, a cargo net or ladder should be rigged.
- ☐ The rescue boat should be launched and keep the liferafts alongside and rescue any persons accidentally falling in the water.
- ☐ Members of the science party shall be assisted into the rafts first. All efforts to keep people out of the water should be made. The marine technicians will be in charge of escorting science personnel to the life raft embarkation station, and will maintain a count of science and crew personnel as they board the rafts.
- ☐ The Master should only depart the vessel once it is apparent that the ship would endanger his/her life. Other crew members standing by with the Master should be taken off the ship before the Master boards his assigned raft.
- ☐ Prior to departing the vessel, the Master must make sure that all possible efforts to establish communications with surrounding vessels and shore rescuers have been made. If possible, current wind and sea conditions should be passed to rescuers so they can track the drifting of rafts better.
- ☐ Once the vessel is abandoned, the rescue boat and liferafts should stay close to the last location sent to the shore.
- ☐ The Master should establish a command structure between the rafts and communications. Morale is important and a properly prepared crew can safely survive for extended periods of time.

Documentation

- Ship Fire and Emergency Plan
- Station Bill
- Drill documented in Sinex
- Emergency Flowchart

SMM 8.1.11 Search and Rescue Checklist

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UW MarOps vessels may be called upon at any time to participate in a search and rescue effort.

- ☐ UW MarOps ships will participate in AMVER Ship Reporting System or other reporting systems as directed by the USCG or other port state administration
- ☐ All deck watch officers shall familiarize themselves with the contents of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual.
- ☐ The Bridge Team shall be briefed and Emergency Communications established. Additional personnel for lookouts and steering shall be assigned as needed.
- ☐ The Chief Engineer will be briefed and the machinery prepared for maneuvering and or high-speed capability.
- ☐ All other operations should be terminated promptly.
- ☐ The Rescue boat shall be checked to confirm it is ready.
- ☐ If necessary, the crew should be brought to Emergency Stations.
- ☐ The ship should be prepared to receive survivors, with berthing, food and shelter.
- ☐ The hospital and medical facilities should be made ready to provide first aid.
- ☐ Preparations to receive persons and liferafts alongside should be made. Lifelines, nets and a ladder should be rigged.
- ☐ Survivors being taken aboard - Refer to SMM 8.0.4 Emergency Assistance
- ☐ The Search and Rescue Coordinator will dismiss the ship when operations are complete.

Documentation

- Station Bill
- Emergency Flowchart
- IAMSAR Manual
- AMVER Ship Reporting System Manual
- Drill documented in Sinex

SMM 8.1.12 Person Overboard Checklist

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Person Overboard refers to any person in the water and deemed to be in distress by the Master. The person may not necessarily be a member of the ship's company. The greatest threat to the person is heat loss. Depending upon the water temperature, survivability may be measured in minutes.

- ☐ Once a person is determined to be missing and the Master determines that there is a Person Overboard, or if a person observes a person in the water or entering the water, the alarm shall be sounded to muster the crew. An announcement should be made over the intercom.
- ☐ The person observing someone in the water, shall alert the bridge immediately and inform the Duty Officer where the person is relative to the ship while maintaining eye contact and continually pointing at the person. They shall also throw a life ring and other available floating objects in the water, especially if the ship is moving so there is a "floating trail" leading back to the person.
- ☐ Immediate action to maneuver the stern away from the person is required. All other operations should be terminated.
- ☐ Research Vessels are very maneuverable which means that there may be a number of options available: quick stop, circling or a Williamson turn. The duty officer may have to make a quick decision taking into account the weather, daylight, sea temperature and the condition of the victim. A smoke and light life ring marker shall be deployed.
- ☐ At least one lookout should be posted to keep an eye on the person in the water or last known position. Once posted, this lookout should not be distracted.
- ☐ The Bridge Team shall be informed and Emergency Communications established. Additional personnel for lookouts and steering should be made.
- ☐ The Duty Engineer should be contacted and the machinery prepared for maneuvering and or high-speed capability.
- ☐ The Rescue boat shall be checked to confirm it is ready.
- ☐ The ship should be prepared to receive the survivor, with berthing, food and warm blankets.
- ☐ The hospital and medical facilities should be made ready to provide first aid. The medical provider should be contacted for treatment assistance.
- ☐ If all attempts are made to find the person that is missing and presumed overboard, a search shall be conducted until it is beyond a doubt that the person is missing.
- ☐ An OFI/CAR should be generated.
- ☐ The Master shall determine when the situation is completed.

Documentation

- Station Bill
- Emergency Flowchart
- Ship's Medical Log
- Drill documented in Sinex

SMM 8.1.13 Serious Injury/Illness/Death Procedure

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- The Master shall be informed promptly if there is any serious injury, illness or death aboard the ship.
- Any person coming upon a situation where medical assistance of any kind is required shall call the bridge immediately or contact the Master.
- The Master shall call out sufficient personnel to assist in moving or tending to the situation.
- The Master shall determine the level of care necessary and may assign a qualified Deck Officer to administer minor care. For more serious medical situations, the qualified Medical Person in Charge (MPIC) shall be assigned to provide medical care. The Master has the ultimate responsibility for overseeing the medical care.
- The Master or MPIC shall contact the shore side medical provider and the UW MarOps staff to discuss the situation so that the UW can provide the best medical care for the victim. All assets of the University and its agents may be utilized to offer the best care available. The Master has authority to call for medical evacuation, assets, or to suspend operations and proceed without delay to a place where further medical care may be obtained.
- The Master shall use the shore side medical provider advice as guidance, but should document and inform MarOps in any instance where it is not followed.
- If an injury is incapacitating for more than 72 hours, or the Master believes that the injury might incapacitate for more than 72 hours, a urine sample for drug screening shall be collected as soon as possible by all participants in an accident or incident. Brief statements and names of witnesses shall be collected.
- If a person should appear to be dead, the Master shall still contact the shore side medical provider and administer first aid to resuscitate the victim until a Medical Doctor is consulted
- The UW MarOps staff shall be contacted immediately with this information so that arrangements can be made to transport the remains in accordance with the local regulations. UW contracted ship's agents and the shore side medical provider may be utilized in this case for these services.
- The ship and the crew should be respectful of any injured, ill, or deceased crewmember and all efforts should be made to reassure and comfort persons traumatized by the situation.
- Evidence of possible criminal acts should be retained as evidence and UW MarOps and local authorities shall be notified of any suspicion of such acts. The area may need to be preserved as a crime scene.
- Local law enforcement will be notified as required.
- Appropriate log entries in the Medical log, deck log, official log should be made and OFI/CARs, 2692 and UW incident forms completed.

- The Master is instructed to send sick or injured persons ashore at his/her discretion to a competent medical authority. It may be advisable to arrange for another person to remain with the sick or injured individual. The Port Captain will help manage logistics of a medical evacuation.
- Medication and care shall be logged and the belongings of any individual sent ashore for care shall be inventoried, secured and prepared for transport.
- Medical information shall be kept separately in the *Medical Log* and only basic information of the incident logged in the *Deck Log*.
- Report to the US Coast Guard if a "serious marine incident" (for this procedure this shall mean loss of life, or any injury to a crewmember, passenger, or other person which requires professional medical attention beyond first aid):
 - Immediately contact the nearest USCG Marine Safety Office, Marine Inspection Office, Group or Activities.
 - Within 5 days, the Master or UW MAROPS shall submit:
 - *Form CG-2692 (Report of Marine Accident, Injury or Death)* if there is a loss of life or if there is an injury that requires professional medical treatment (beyond first aid) and renders the crewmember unfit to perform routine duties. Brief statements by witnesses should be taken.
 - The Master shall determine whether there is any evidence of alcohol or drug use by individuals directly involved in the casualty.
 - The report shall include information which:
 - Identifies those individuals for whom evidence of drug or alcohol use, or evidence of intoxication, has been obtained; and,
 - Specifies the method used to obtain such evidence, such as personal observation of the individual, or by chemical testing of the individual.
 - If an individual directly involved in a casualty refuses to submit to, or cooperate in, the administration of a timely chemical test, when directed by a law enforcement officer or by the Master, this fact shall be noted in the ship's *Deck Logbook* and in the written report, and shall be admissible as evidence in any administrative proceeding.
 - *Form CG-2692B (Report of Required Chemical and Drug Testing following a Serious Marine Incident)*.
 - An entry shall be made in the ship's Official Deck Logbook, pertaining to those individuals for whom evidence of intoxication is obtained. The individual must be informed of this entry and the entry must be witnessed by a second person.
 - Loss of life specimen requirements:
 - When an individual engaged or employed on board the ship dies as a result of a serious marine incident, blood and urine specimens must be obtained from the remains of the individual for chemical testing, if practical to do so. The Master shall notify the appropriate local authority, such as the coroner or medical examiner, as soon as possible, of the fatality and of the requirements of this subpart. UW MAROPS shall provide the specimen collection and shipping kit and request that the local authority assist in obtaining the necessary specimens. When the custodian of the remains is a person other than the local authority, UW MAROPS shall request the custodian to cooperate in obtaining the specimens required under this part.

- If the local authority or custodian of the remains declines to cooperate in obtaining the necessary specimens, UW MAROPS shall provide an explanation of the circumstances on *Form CG-2692B*.

Documentation

- Emergency Flowchart
 - Ship's Medical Log
 - Deck Logbook
 - Drill documented in Sinex
 - USCG 2692/2692B
 - OFI/CAR
 - Medical Provider Information and Inventory
 - [Marine Operations Accident Reporting Form](#)
-

SMM 8.1.14 Security

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Must use UW login account to access

SMM 8.1.14.1 Vessel Security Inport Bill

Version 2018 July 29

Updated MBC Approved RAK

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IN-PORT SECURITY BILL

General

The following information promulgates assignments and procedures in relation to the MARSEC Level in the area that the vessel is operating.

Signal

The signal for a security alert or drill shall be 4 short rings on the general alarm and 4 short blasts on the ship whistle, in addition to hailing over the PA system. Muster at normal emergency stations.

Information

The following assignments will be implemented during MARSEC Level One, Two and Three or as the Master, VSO, or OOW deem appropriate

Rank	Marsec Level 1	Marsec Level 2	Marsec Level 3
Master	Overall command	Overall command	Overall command
Chief Mate	PIC of deck watch	PIC of ship security	On duty, VSO
2 nd Mate	PIC of deck watch	PIC of deck watch	On duty, assist as directed
3 rd Mate	PIC of deck watch	PIC of deck watch	On duty, assist as directed
AB	Gangway watch	Gangway watch/patrol	On duty, gangway watch/patrol
AB	Gangway watch	Gangway watch/patrol	On duty, gangway watch/patrol
AB	Gangway watch	Gangway watch/patrol	On duty, gangway watch/patrol
AB	Gangway watch	Gangway watch/patrol	On duty, gangway watch/patrol
AB/OS	Gangway watch	Gangway watch/patrol	On duty, gangway watch/patrol
AB/OS	Gangway watch	Gangway watch/patrol	On duty, gangway watch/patrol
Ch. Eng.	PIC of Engine Room	PIC of Engine Room	On duty, PIC of Engine Room
1 st A/E	PIC of Engine Room	PIC of Engine Room	On duty, Engine Room
2 nd A/E	PIC of Engine Room	PIC of Engine Room	On duty, assist as directed
3 rd A/E	PIC of Engine Room	PIC of Engine Room	On duty, assist as directed
Oiler	Available for gangway watch	Engine Room watch	On duty, assist as directed
Oiler	Available for gangway watch	Engine Room watch	On duty, assist as directed
Oiler	Available for gangway watch	Engine Room watch	On duty, assist as directed
Oiler/Wiper	Available for gangway watch	Engine Room watch	On duty, assist as directed
Steward	Available for gangway watch	Available for gangway watch	On duty, assist as directed
Cook	Available for gangway watch	Available for gangway watch	On duty, assist as directed
Mess Asst.	Available for gangway watch	Available for gangway watch	On duty, assist as directed

Master

VSO

SMM 8.1.14.2 Vessel Security at Sea Bill

Version 2018 July 29

Updated MBC Approved RAK

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AT-SEA SECURITY BILL

General

The following information promulgates assignments and procedures in relation to the MARSEC Level in the area that the vessel is operating.

Signal

The signal for a security alert or drill shall be 4 short rings on the general alarm and 4 short blasts on the ship whistle, in addition to hailing over the PA system. Muster at normal emergency stations.

Information

The following assignments will be implemented during MARSEC Level One, Two and Three or as the Master, VSO, or OOW deem appropriate.

Rank	Marsec Level 1	Marsec Level 2	Marsec Level 3
Master	Overall command	Overall command	Overall command
Chief Mate	PIC of deck watch	PIC of ship security	On duty, VSO
2 nd Mate	PIC of deck watch	PIC of deck watch	On duty, assist as directed
3 rd Mate	PIC of deck watch	PIC of deck watch	On duty, assist as directed
AB	Bridge watch	Bridge watch	On duty, bridge watch/patrol
AB	Bridge watch	Bridge watch	On duty, bridge watch/patrol
AB	Bridge watch	Bridge watch	On duty, bridge watch/patrol
AB	Day work	Deck watch/patrol	On duty, deck watch/patrol
AB/OS	Day work	Deck watch/patrol	On duty, deck watch/patrol
AB/OS	Day work	Deck watch/patrol	On duty, deck watch/patrol
Ch. Eng.	PIC of Engine Room	PIC of Engine Room	On duty, PIC of Engine Room
1 st A/E	PIC of Engine Room	PIC of Engine Room	On duty, Engine Room
2 nd A/E	PIC of Engine Room	PIC of Engine Room	On duty, assist as directed
3 rd A/E	PIC of Engine Room	PIC of Engine Room	On duty, assist as directed
Oiler	Engine watch	Engine Room watch	On duty, assist as directed
Oiler	Engine watch	Engine Room watch	On duty, assist as directed
Oiler	Engine watch	Engine Room watch	On duty, assist as directed
Oiler/Wiper	Engine watch	Engine Room watch	On duty, assist as directed
Steward	Assist as directed	Assist as directed	On duty, assist as directed
Cook	Assist as directed	Assist as directed	On duty, assist as directed
Mess Asst.	Assist as directed	Assist as directed	On duty, assist as directed

Master

VSO

SMM 8.2.4 Enclosed Space Rescue Checklist

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Ref: [SMM 7.2.4, Enclosed Space Entry Form](#)

Being prepared to safely rescue someone from an enclosed space takes planning and practice. This checklist cannot cover every detail, however it is a guide to assist in a safe rescue.

- ☐ The first action from the person assigned as the attendant should be to raise the alarm. Although speed is often vital in the interest of saving life, rescue operations should not be attempted until assistance has arrived and a planned approach can be made. **Under no circumstances should the attendant enter the enclosed space.**
- ☐ A team leader will be identified - this should be a senior officer. The role will be to direct the rescue effort, therefore the leader should not form part of the team that enters the enclosed space.
- ☐ After checking the atmosphere with an O2/gas meter, the team leader will send one individual to investigate the enclosed space. The person entering the space will carry an O2/gas meter. If the O2/gas meter provides unsatisfactory readings then the space must be ventilated before any investigation and/or rescue attempt is made.
- ☐ If a rescue is determined to be necessary, the team leader will identify personnel to assist. The team leader will also determine the procedure to be used to remove the individual from the enclosed space. The procedure will vary based on the entrance to the enclosed space (ie. vertical or horizontal). Consideration should be given to using a going aloft harness to remove the individual.
- ☐ Backup personnel should be employed to rig the rescue equipment, ensuring that the entry team have the equipment and support necessary to carry out their task. One crew member should be assigned to assist the rescue team leader with communications and to maintain a record of events.
- ☐ An effective system of communication between the team leader and the entry team should be agreed. Typically the on board UHF radios can be used.
- ☐ The hospital and medical facilities should be made ready to provide first aid.

Documentation

- Emergency Flowchart
- Drill documented in Sinex, include this checklist and the applicable 7.2.4 Enclosed Space Entry Form

SMM 9.0 Opportunities for Improvement, Near Misses/ Hazardous Occurrences, Accidents, Non-Conformities, CASREPs, and Corrective Actions

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The UW MarOps SMS requires the Master, or person appointed by the Master, to report Opportunities for Improvement (OFI), Near Misses/Hazardous Occurrences, Non-Conformities, and equipment Casualty Reports (CASREPs) to the Designated Person Ashore (DPA).

UW MarOps will investigate and analyze these reports with the objectives of:

- Correcting the hazardous situation
- Enhancing Safety and Preventing Pollution
- Preventing Recurrence
- Continually Improving the SMS
- Managing cyber risks - with emphasis on the security of the vessel's operational technology (OT)
- Documenting Root Cause using the Five Whys method

UW MarOps will provide feedback and the outcome of the report to the originator, and, as appropriate, the Master will cover the issue at the monthly safety meeting on board.

SMM 9.1 Reporting Procedures

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This section includes the procedures for ensuring that non-conformities, accidents, and hazardous situations are reported, investigated, and analyzed with the objective of improving safety and pollution prevention.

The types of reports are:

Opportunity for Improvement: is any condition with the vessel that has the potential for harm to a person, the environment, or operation of the vessel. This may also include a deficiency with the Safety Management Manual, ([SMM 9.1.1](#)).

Near Miss / Hazardous Occurrence: is a sequence of events or conditions where an accident was avoided, but had the potential for injury, damage to the vessel, damage to the environment, or negative impact to vessel operations ([SMM 9.1.2](#)).

Accident: is an incident that resulted in injury to a person, damage to the vessel, damage to the environment, or negative impact to vessel operations ([SMM 9.1.3](#)).

Non-Conformity: is an identifiable deviation from the SMS that poses a threat to the safety of personnel or the ship, or a risk to the environment, that requires corrective action ([SMM 9.1.4](#)).

CASREPs: is an internal report used for recording significant equipment malfunctions which may result in the degradation of the ship's readiness, ability to operate safely, and conduct science ([SMM 9.1.5](#)).

A final review of all reports under SMM 9.1 will be conducted by corresponding shoreside personnel.

Each report shall be signed, dated and filed into the shoreside tracking system, Monday.com, to ensure that standards for reporting are being met and that tracking is maintained.

Any deficiency identified by an external organization (i.e. USCG, the owners, the charterers, or any other administrators or classification societies) shall be treated as its own report.

SMM 9.1.1 Opportunities for Improvement (OFI)

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An Opportunity for Improvement is any condition with the vessel that (1) has the potential for harm to person, the environment, or operation of the vessel; (2) a deficiency with the Safety Management Manual.

Opportunities for Improvement (OFI) may be created in response to an event or not.

Below are examples of when an OFI should be created:

- Accidents, injuries or environmentally impacting events, including equipment damage
- Accidents ([SMM 9.1.3](#)), Near Misses/Hazardous Occurrences ([SMM 9.1.2](#)), concerns over Cybersecurity ([SMM 7.5](#))
- Malfunction of critical machinery, such as a CASREP ([SMM 9.1.5](#))
- Performance Problems in the SMS, Non-Conformities ([SMM 9.1.4](#))
- General modifications and improvements to the SMS

Reporting:

- Crew, Marine Technicians, and members of the Science Party are encouraged to report Opportunities for Improvement to their Department Heads or Supervisors.
- Upon receiving an Opportunity for Improvement, the Master shall inspect the situation and make an evaluation based on the observations and concerns of the crew, marine techs, or science party. The Master shall meet with Department Heads or Marine Technicians to finalize a solution.
- Opportunities for Improvement does not include standard maintenance.
- The Master shall notify the University of Washington Marine Operations at TGTops@uw.edu with a message formatted in the following:

TO: University of Washington Marine Operations (TGTops@uw.edu)
SUBJ: OFI – Description – YYYY-MM-DD
DATE: YYYY-MM-DD

Attachments with additional information and/or pictures.

Text to contain the following:

1. Description of the situation.
2. Probable cause, if known.
3. Consequences with respect to harm to people, damage to the environment or property, and/or loss of operational ability.
4. Suggestions and recommendations for repair, improvement, and/or preventing recurrence. This should include both short and long term repair, and future prevention as applicable.

- The OFI shall be discussed at the next monthly shipboard Safety Meeting
- The Master shall maintain a record of all OFIs generated by the vessel.

OFIs will be recorded and tracked in the Regulatory and Safety Management Workspace on Monday.com.

SMM 9.1.2 Near Misses/Hazardous Occurrences

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A Near Miss/Hazardous Occurrence is a sequence of events or conditions where an accident was avoided, but had the potential for injury, damage to the vessel, damage to the environment, or negative impact to vessel operations

- When a Near Miss occurs, the operation should be stopped in a safe manner, equipment should be secured and all personnel should stand down until the situation can be reevaluated.
- Equipment involved, or was in close proximity to the Near Miss shall be inspected for damage and replaced if needed.
- Crew Members who witness a Near Miss incident shall check for any injured personnel.

Reporting:

- All Near Misses must be reported through the chain of command to the Master.
- Crew, Marine Technicians, and members of the Science Party are encouraged to report Near Misses/Hazardous Occurrences to their Department Heads or Supervisors.
- Upon receiving a reported Near Miss/Hazardous Occurrence, the Master shall make an evaluation based on the observations and concerns of the crew, marine techs, or science party. The Master shall meet with Department Heads or Marine Technicians, as needed, to document the event.
- The Master shall notify the University of Washington Marine Operations at TGTops@uw.edu with a message formatted in the following:

TO: University of Washington Marine Operations (TGTops@uw.edu)
SUBJ: Near Miss – Description – YYYY-MM-DD
DATE: YYYY-MM-DD

- Text to contain the following
 1. Description of the situation.
 2. Probable cause, if known.
 3. Potential consequences with respect to harm to people, damage to the environment or property, and/or loss of operational ability.
 4. Sequence of events leading to the near-miss
 5. Suggestions and recommendations for repair, improvement, and/or preventing recurrence. This should include both short and long term repair, and future prevention as applicable.
- The Near Miss shall be discussed at the next monthly shipboard Safety Meeting
- The Master shall maintain a record of all Near Misses generated by the vessel.
- A useful reference from the IMO is Guidance on Near-Miss Reporting ([MSC-MEPC.7/Circ.7](#))

SMM 9.1.3 Accidents

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An Accident is an incident that resulted in injury to a person, damage to the vessel, damage to the environment, or negative impact to vessel operations.

- The Master shall be notified immediately, along with the Department Heads of the affected area, and the Marine Tech on watch when appropriate.
- If an accident has occurred, the related operation shall be stopped in a safe manner, relevant equipment should be secured, and all immediate personnel shall stand down until the situation can be evaluated.

The following SMM sections should be referenced depending on the situation:

- [SMM 8.0.2 Emergency General Instructions](#)
- [SMM 8.0.3 Emergency Preparation Index](#)
- [SMM 8.1.1 Fire Checklist](#)
- [SMM 8.1.2 Collision and Allision Checklist](#)
- [SMM 8.1.3 Structural Failure](#)
- [SMM 8.1.4 Steering Gear Failure Checklist](#)
- [SMM 8.1.5 Propulsion and Electrical Failure Checklist](#)
- [SMM 8.1.6 Grounding Checklist](#)
- [SMM 8.1.7 HAZMAT Spills Checklist](#)
- [SMM 8.1.8 Flooding Checklist](#)
- [SMM 8.1.9 Machinery Casualty](#)
- [SMM 8.1.13 Serious Injury/Illness/Death Procedure may be used in regards to a Hazardous Occurrence.](#)

Medical Reporting:

If medical attention is required, the MPIC shall be notified (See [Section 8.1.13](#))

- A [Marine Operations Accident Reporting Form](#) shall be filled out by the MPIC and submitted to the DPA and Port Captain within 24 hours of the incident.

Non-Medical Accident Reporting:

- For accidents which do not involve medical attention, the Master shall notify the University of Washington Marine Operations at TGTops@uw.edu within 24 hours of the event with a message formatted in the following:

TO: University of Washington Marine Operations (TGTops@uw.edu)
SUBJ: Accident – Description – YYYY-MM-DD
DATE: YYYY-MM-DD

Attachments with additional information and/or pictures.

- Text to contain the following
 1. Description of the situation.
 2. Probable cause, if known.
 3. Sequence of events leading up to the accident
 4. Consequences with respect to harm to people, damage to the environment or property, and/or loss of operational ability.
 5. Suggestions and recommendations for repair, improvement, and/or preventing recurrence. This should include both short and long term repair, and future prevention as applicable.
- The accident shall be discussed at the next monthly shipboard Safety Meeting
- The Master shall maintain a record of all Accident Reports generated by the vessel.

SMM 9.1.4 Non-Conformities

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A Non-Conformity is an identifiable deviation from the SMS that poses a threat to the safety of personnel, the ship, or a risk to the environment that requires corrective action.

Cybersecurity incident and/or operationally impactful cybersecurity event thresholds are covered in the UW MarOps CRMP. ([SMM 7.5](#))

Report Format and Content

Crew, Marine Technicians, and members of the Science Party are encouraged to report Non-Conformities to their Department Heads or Supervisors.

Non-conformities shall be submitted in an email and contain the below information.

- The Master shall notify the University of Washington Marine Operations at TGTops@uw.edu with a message formatted in the following:

TO: University of Washington Marine Operations (TGTops@uw.edu)
SUBJ: Non-conformity, the topic, and the date (YYYYMMDD).

Attachments with additional information and/or pictures.

- The email TEXT will contain:
 1. A description of the Non-conformity including the relevant section of the SMM
 2. Probable causes, if known.
 3. Consequences of the non-conformity with respect to safety of personnel, potential damage to the environment or property, and/or impact to cruise objectives.
 4. Suggestions and recommendations for preventing recurrence.

SMM 9.1.5 Equipment Casualty Reporting (CASREP)

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The purpose of Equipment Casualty Reporting is to alert University of Washington shoreside personnel of the status of significant equipment malfunctions which may result in the degradation of the ship's readiness, ability to operate safely, and conduct science. These reports provide information about the seriousness of the casualty and any help needed to correct it.

An equipment casualty worthy of reporting can be defined as an equipment malfunction or deficiency which;

- cannot be corrected within 24 hours,
- and degrades the ship's ability to operate safely.

This includes but is not limited to the following examples:

- Loss of main propulsion, primary steering, or any associated component or control system that reduces the maneuverability of the vessel.
- Additional reports can be directed for other situations by the Port Engineer or DPA

Reporting:

- The Initial Equipment Casualty Report form (see next page) should be completed and transmitted via email to University of Washington Marine Operations (TG Tops@uw.edu), within 36 hours of equipment failure.
- The respective department head for which the equipment failure occurred shall complete and sign the Initial CASREP.
- Corresponding Shoreside Manager will reply with receipt of CASREP with any additional comments or information. Filing and tracking contained in Regulatory and Safety Management Workspace on Monday.com.
- CASREP titles will be selected based on the date of failure. For example, an equipment casualty that occurs on December 2, 2021 shall be titled CASREP 2021DEC02. This shall also be uploaded into Sinex as a Service Request per the following procedure:

Open a new Service Request and complete the following steps:

- Step 1: Enter Description as follows: CASREP YYYYMMDD is OPEN; Complete this Service Request when CASREP YYYYMMDD is CLOSED. Get all necessary signatures on closed CASREP and upload into SINEX;

- Step 2: Choose 'Shoreside' from Workgroup dropdown menu; Upload copy of Initial CASREP;
- Step 3: Select Asset that CASREP Applies to;
- Step 4: Enter the Date of the Initial CASREP;
- Step 5: Request Service;

Closeout:

- After the equipment has been repaired and tested satisfactory (SAT), the respective department head shall complete a Equipment Casualty Closeout Report form (see next page).
- The Equipment Casualty Closeout Report form shall then be transmitted via email to UW Marine Operations (TGTops@uw.edu).
- Corresponding Shoreside Manager will reply with receipt of CASREP Closeout Report with any additional comments or information and file in Regulatory and Safety Management Workspace on Monday.com.
- The Equipment Casualty Closeout Report shall also be uploaded into Sinex according to the following procedure

Procedure for closing CASREP Service Requests:

- Find overdue Service Request under, Block Assignments, Shoreside Workgroup;
- Complete Service Request by clicking the 'Sign Off' button
- Add notes as needed;
- Click the 'Options' hyperlink
- Enter a SignOff Date;
- Click the 'Choose File' button; Upload the Equipment Casualty Closeout Report;
- Check the 'Completed' box; Click the 'Sign off' button

Initial Equipment Casualty Reporting (CASREP) Form

Non-editable internet version:

<https://docs.google.com/document/d/15qCamF6Er1sfHw-09caC84D5m4sB-UhUyPbAiwZqGQY/preview?tab=t.0>

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

Closeout Equipment Casualty Reporting (CASREP) Form

Non-editable internet version:

<https://docs.google.com/document/d/1VBPTyPjG3oKe35JuQGLi6-cTngz8U72BrCsvDKcBraE/preview?tab=t.0#heading=h.y439f8lasyc>

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 9.2 Corrective Actions

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UW MarOps has established the following procedures for the implementation of corrective actions, including measures to prevent recurrence.

- All reports listed in [Section 9.1](#) (OFI, Near Misses/Hazardous Occurrences, Accidents, Non-conformities, and CASREPs) shall include a recommendation from the personnel involved on how to prevent recurrence.
- Reports shall be reviewed by at least two members of the MarOps teams, with one of the members being the Manager of Marine Operations (DPA) or the Port Captain (Alternate DPA).
- The recommendation from the personnel involved with the incident will be evaluated and built upon as needed.
- The final review will be
 - communicated back to the vessel and will be addressed in the following safety meeting
 - signed, dated and filed in the shoreside reports tracking system, Monday.com, by corresponding shoreside personnel.

Shipboard Safety Meetings

The Master will organize and conduct a monthly safety meeting with the entire crew except those on watch. The meeting will normally alternate between a morning and afternoon time so all watchstanders have the opportunity to attend over time. Marine Technicians will attend when available.

- During each meeting past and open safety issues will be reviewed and new safety concerns will be discussed.
- Additionally, all recent Opportunities for Improvement, Near Misses/Hazardous Occurrences, Accidents (without identifying information) Non-conformities, and CASREPs shall be reviewed.
- The intent of these reviews is not to draw negative attention or identify fault for any individual, but to review contributing factors and prevent recurrence.
- Monthly training or the discussion of a training topic may also be included.

The Monthly Safety Meeting: Training Summary form and subsequent meeting notes shall be filed in Sinex and emailed to MarOps by the Master.

Documentation

- [Monthly Safety Meeting: Training Summary](#)

SMM 10 Maintenance

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Per ISM Code 10, the company has established procedures to ensure the vessel is maintained in conformity with the provisions of the relevant rules and regulations and with any additional requirements that may be established by the company. This section outlines those requirements and procedures.

SMM 10.1 Maintenance Procedures

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- Continual maintenance is required to keep the ship in a safe operating condition and is part of normal ship operations. While some efforts to mitigate side effects of maintenance (eg noise from needle gunning, potential contamination of science samples) may be taken, this work is an essential part of the ship's routine and must not be significantly delayed.
- The maintenance planned should be coordinated between the deck department, engineering department, marine technicians, and stewards (when relevant).
- SINEX will be used to assign, track, and record maintenance.
- Each department head shall oversee and track their respective maintenance on the forms provided in Section 10.3. They shall inform MarOps of any maintenance that they cannot complete, and also provide input for shoreside maintenance and shipyard work lists.
- During scheduled maintenance periods for the vessel, the requirement for monthly critical equipment forms may be suspended with approval from the Port Captain.
- All ship personnel may be assigned maintenance duties either in the course of regular operations.
- Personnel shall be properly briefed on the objective of the maintenance, the precautions necessary to safely complete the task, and the time allotted.

Work Area Safety

- The work area must be understood by people performing the maintenance and should be monitored during work operations.
- Persons assigning the work must check that all participants involved are aware of the proper usage of power tools and Personal Protective Equipment (PPE) as per [SMM 10.1.1](#)
- Persons assigning the work shall recommend personnel to complete the UW Hand and Power Tool Safety Course <https://www.ehs.washington.edu/training/hand-and-power-tool-safety-online>
- Before work begins, all persons involved in, or in the vicinity of, a work area must be made aware of the potential hazards. There should be additional consideration when working with power tools and/or above another work area (for Work Aloft see [SMM 7.1.4](#)).
- The removal of guards from power tools during operation is not permitted.
- Proper PPE must be worn until the work is completed or until a person is fully removed from the work area.
- If people need to enter or pass through a work area and are unable to don all necessary PPE, the work must pause until the area is clear.

SMM 10.1.1 Personal Protective Equipment (PPE)

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Overview

Personal protective equipment (PPE) provides a barrier between a person and the environment to prevent harmful effects from hazards. PPE may include items such as protective clothing, respiratory devices, protective shields and barriers, gloves, safety glasses and goggles, shoes, earplugs or muffs, hard hats, coveralls, vests, etc. This equipment is meant to minimize exposure to environmental hazards, chemical hazards, radiological hazards, and irritants capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.

- PPE shall be readily available and provided by the employer, excluding personal clothing.
- The department heads are responsible for the proper use and maintenance of PPE.
- PPE must be appropriate for the work area and without defects.

Application

Personal protective equipment should fit comfortably, and securely per the individual. Before beginning a task or entering a work area the following must be considered regarding PPE:

- What are the potential hazards and what is needed to minimize exposure to those hazards?
- When should it be in place and when is it safe to remove it?
- The limitations of the equipment.

Protective Clothing

PPE includes wearing protective clothing suited for the task. When planning what clothing should be worn consideration shall be given to the tools to be used, fumes and particulates, chemicals, temperatures, proximity to other operations and machinery, and your positioning and orientation while working.

Thicker and more tightly woven fabrics shall be worn when operating tools that produce flying or hurled debris, which are common with the use of grinders and rotating saws.

Documentation

- [OSHA PPE Standards](#)
- [UNOLS Research Vessel Safety Standards](#)

SMM 10.2 Reporting and Record Keeping

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SINEX is the system of record aboard the vessel for the tracking of all maintenance and repair. In addition, the monthly forms listed in Section 10.3 and 10.4 shall be scanned and entered into SINEX as documented at the bottom of those forms.

- All inspections should be held at appropriate intervals and by the appropriate level position. If in doubt, the department head responsible for the equipment should be consulted.
- During scheduled maintenance periods for the vessel, the requirement for monthly critical equipment forms may be suspended with approval from the Port Captain.
- Any non-conformity of a piece of critical equipment or system should be reported using the equipment Casualty Reporting (CASREP) procedure ([SMM 9.1.5](#))
 - Refer to USCG 2692/2692B for [reporting requirements](#)
- Appropriate corrective action must be taken to correct the deficiency in a timely manner
- Records of all maintenance and repair - as well as CASREPs and Monthly Reports - shall be kept in SINEX

SMM 10.3 Monthly Critical Equipment Forms

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Per ISM Code 10.3, the critical equipment and technical systems which may result in hazardous situations if there is sudden operational failure have been identified and listed in the Critical Equipment and Maintenance Forms (10.3.1 through 10.3.5). These pieces of critical equipment and technical systems will be evaluated monthly by the position assigned to complete each form and a rating will be assigned.

The ratings shall be labeled as one of three ratings: **Satisfactory, Sat *, Unsatisfactory**

- **Satisfactory:** the piece of equipment or system is fully functional and operating properly; no repair is necessary.
- **Sat *:** the piece of equipment or system is operational and provides the necessary function or there is redundancy for the system; however, some maintenance or repair is needed for the improvement of the system. Repair should be completed as soon as resources are available.
- **Unsatisfactory:** the piece of equipment or system is not operational. If it is a critical piece of equipment or system, an equipment Casualty Report (CASREP) must be filed. A plan will be established and approved for the repair of the deficient critical system as soon as possible.

The forms are completed by the last day of the month and recorded in SINEX. The completed forms are collected by the Master and sent to the shoreside MarOps team by the first business day of the next month. The shoreside MarOps team meets monthly to review these forms focusing on any equipment that is unsatisfactory or coming due for inspection or repair.

- During scheduled maintenance periods for the vessel, the requirement for monthly critical equipment forms may be suspended with approval from the Port Captain.

Archives and Files

[SMM 10.3.1](#) Deck Critical Equipment and Maintenance Form

[SMM 10.3.2](#) Deck 3rd Mate Safety Inspection Form

[SMM 10.3.3](#) Deck 2nd Mate Navigation Form

[SMM 10.3.4](#) Engineering Critical Equipment and Maintenance Form

[SMM 10.3.5](#) Steward Critical Equipment and Maintenance Form

SMM 10.3.1 Deck Critical Equipment and Maintenance Form

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Non-editable internet version:

https://docs.google.com/document/d/1XZzjEuQkPtA_AjMqghfECuxzw7yRi7o9Np1EF2BC9H0/preview?tab=t.0

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 10.3.2 3rd Mate Safety Inspection Form

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Non-editable internet version:

https://docs.google.com/document/d/1yHizN6dS1hFoe3uTXH_JIUJAXrhrsmtURYNg7hd9wmg/preview?tab=t.0

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 10.3.3 2nd Mate Navigation Form

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Non-editable internet version:

<https://docs.google.com/document/d/1KAEKESJhUtSl1u0Et1ueFu24l9aM1TZKrfCIUSq9IGw/preview?tab=t.0>

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 10.3.4 Engineering Critical Equipment and Maintenance Form

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Non-editable internet version:

<https://docs.google.com/document/d/1dxVNDzjBwp2HowBnIhFximt-TsF4u1XevmHcYiR3oSI/preview?tab=t.0>

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 10.3.5 Steward Critical Equipment and Maintenance Form

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Non-editable internet version:

https://docs.google.com/document/d/12mqWzYpPFsmIfXOp_UdBvjC2Szvb_RjSzdWYiyIFp_hA/preview?tab=t.0

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 10.4 Master's Monthly Report

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Non-editable internet version:

https://docs.google.com/document/d/1TWWwDQGp0hGsVDnER_qCT_pS8paNf8nFkpDFFFEGGMM/preview?tab=t.0

Fillable form can be found on the ship's intranet in the SMM / Forms folder

<http://www.rvtgt.uw.edu/smm/Forms/>

SMM 11 Documentation Process for Shore Staff and Vessels

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Publishing Documents and Change Process

The Port Captain is the ISM coordinator, and will update the SMM as needed. The Manager of Marine Operations as the primary DP will approve any changes. Changes will be tracked in the "SMM Changes" section at the beginning of the SMM. .

The Master may deviate from the SMM when necessary for the safety of the vessel. This will be followed by a written report of the changes made and reasons thereof.

If shoreside personnel identify the need for changes to the SMM, they will be proposed and handled in a timely manner during the bi-weekly SMM review process.

Version Control

The most recent SMM are located on the UW School of Oceanography website (https://www.ocean.washington.edu/story/UW_Safety_Managment_System) and on the ship's intranet on board. This allows the crew and science party ready access to an electronic version of the SMM.

Obsolete documents shall be promptly removed.

Files

The Port Captain and Master will retain SMS related files for a minimum of 3 years unless there is a reason to keep them longer.

SMM 12 Internal Audits

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Process

The Designated Person shall direct the Port Captain to carry out an internal safety audit of shoreside operations and vessel operations at intervals not exceeding twelve months of the previous internal audit to verify whether safety and pollution-prevention activities comply with the Safety Management System. In exceptional circumstances, this interval may be exceeded by not more than three months.

UW MarOps will periodically verify whether all those undertaking delegated ISM-related tasks are acting in conformity with the company's responsibilities under the ISM Code.

The Port Captain will coordinate the timing and scope, and give reasonable advance notice. As part of the audit the Port Captain shall review and evaluate the efficiency of the SMS, identifying any deficiencies and possible corrective actions. The audit plan may include both shoreside and vessel items due to the small size of UW MarOps staff and operation.

The Port Captain may assign qualified auditors to conduct parts of or all of the audit. When possible the Port Engineer and Port Captain will audit the areas outside their expertise. All elements shall be reviewed. The audits may be performed in sections or all at once. Previous audits will be provided to compare, and ensure past recommendations were addressed.

Results

Results of the Internal Audits will be provided to the MarOps Safety Committee (MSC), the Master, and Department Heads for continual improvement. They will also be available to external auditors.

Prior to their annual meeting, the MSC will also be provided any ISM or ABS guidance changes, all Opportunities For Improvement, the Vessel Safety Meeting minutes, non-conformities, accidents, hazardous conditions, near misses, and any other SMM Section 9 activities since their last meeting. The Port Captain will keep minutes and develop action OFIs. Action OFIs will be tracked until resolution.

Archives and Files

The Port Captain will maintain the audit plan, results, and MSC meeting minutes and recommendations in the Regulatory and Safety Management Workspace on Monday.com.

SMM 12.1 Remote Surveys

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The following procedures are required for remote surveys:

1. The Port Engineer or Port Captain will identify surveys that can be conducted remotely and request permission from the regulatory agency (USCG, ABS, etc) to conduct such a survey.
2. For engineering surveys, the Chief Engineer will gather the support information, confirm it accurately represents the condition on board, and pass the information to the Ship Captain and the Port Engineer.
3. For deck surveys, the Chief Mate will gather the support information, confirm it accurately represents the condition on board, and pass the information to the Ship Captain and Port Captain.
4. For agriculture or other food related inspections, the Chief Steward will gather the support information, confirm it accurately represents the condition on board, and pass the information to the Ship Captain and the Port Captain.
5. The Port Engineer or Port Captain will review the information, confirm it meets any class and/or statutory requirements. If there are questions whether a given survey meets any class and/or statutory requirements, it will be discussed with the Ship Captain and brought to the Manager of Marine Operations for confirmation.
6. The Port Engineer or Port Captain will submit to the appropriate agency or review authority.
7. Restrictions of non-crewmembers on the ship does not relieve the ship or Marine Operations of our responsibility to report all conditions related to damage or failure of equipment that must normally be reported to USCG under regulatory requirements, ABS under class rules, or other oversight agency.

All reporting requirements of non-compliance or equipment that does not meet statutory requirements remain in effect and shall not be delayed.

SMM 13 Verification

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Process

The Designated Person shall direct the Port Captain to coordinate the external audits (also referred to as verifications) of the R/V *Thompson* and of the shoreside office with the American Bureau of Shipping (ABS).

- The Document of Compliance (DOC) is valid for a period of five years and requires annual verification through an ABS external audit (verification). Shoreside audits to maintain the validity of the DOC must be carried out within three months before or after the anniversary date (23 May). The Five Year Renewal audit must be conducted by 23 May of that year. The annual verification shall be endorsed on the DOC by the ABS surveyor/auditor.
- The Safety Management Certificate (SMC) is valid for a period of five years and is subject to at least one intermediate verification. Ship audits to maintain the validity of SMC shall be carried out between the second and third anniversary date of the issuance of the SMC (27 March). The intermediate verification shall be endorsed on the SMC by the ABS surveyor/auditor.

Results and Files

The Port Captain will maintain the verification results in the Regulatory and Safety Management Workspace on the MarOps Monday.com.

The Port Captain shall maintain a valid DOC and a copy will be provided to the Master.

The Master will maintain a valid SMC and a copy will be provided to the Port Captain.

Previous Years' Summary of Changes

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2025 Summary of Changes

Updates uploaded to the ship's intranet - 12/23/2025

7.2.6 - 12/18/2025 - Fueling

- Swapped dosing information to A-10 additive to Fueling Plan

8.1.13 - 12/18/2025 - Serious Injury/Illness/Death

- Reference to Voyage File removed

7.1.2 - 12/18/2025 - Bridge Watch Turnover

- Reference to Voyage File removed

7.0.10 - 12/18/2025 - Medical Care

- Updated to include the new subsection 7.0.10.1 for Viral Outbreak Management Plan

7.0.10.1 - 12/18/2025 - Viral Outbreak Management Plan

- New Section Added

7.0.9 - 12/18/2025 - Crew Rest and Overtime

- Screenshot of new time sheet added
 - Added signoff of mariner and reviewer

2.2 - 12/18/2025 - Drug & Alcohol Policy

- Text added about acting appropriately when in port
- Reference to the new section 2.2.1 added
- "Active Duty" replaced with "Active Employment"

2.2.1 - 12/18/2025 - Random Drug Testing Guidelines

- New Section added to SMM

2.0.1 - 12/18/2025 - Health and Safety Plan

- Section deleted and replaced with new section 7.0.10.1

1.0.1 - 12/18/2025 - Safety Management Manual Introduction and Application

- One link removed to consolidate information to the R/V Thomas G Thompson webpage

Updates uploaded to the ship's intranet - 11/20/2025

7.0.2 - 10/30/25 - Risk Assessment and Risk Management

- Add pre-installation risk assessments for all temporary equipment installations

7.0.9 - 10/30/2025 - Crew Rest and Overtime

- Add language to require tracking of rest hours
- Updated timesheet to be called STCW Work/Rest Hours form

9.0 - 10/30/2025 - OFI, Near Miss, Haz Occurrence, etc.

- Added Documenting Root Cause using Five Whys method

9.1.5 - 10/30/2025 - Closeout Equipment Casualty Reporting (CASREP) Form

- Added Root Cause Analysis section

Updates uploaded to the ship's intranet - 10/2/2025

3.0 - 9/25/2025 - Company Responsibility

- Remove Alternate DP from Port Engineer

4.0 - 9/25/2025 - Designated Person (DP)

- Remove Georg Schroeder from list of Alternate DPs

Updates uploaded to the ship's intranet - 7/31/2025

6.1 - 7/31/2025 - Crew Familiarization & Qualifications

- Section for Crew Member Certifications added
- Reworded "To Be Completed By..."
- "Prior to the first ballast water transfer" added to Engineer section
- "Prior to Standing First Watch" added from the Master and Mates section

Updates uploaded to the ship's intranet - 7/24/2025

7/24/2025 - Updated online view platform of SMM and all forms that are in separate files.

- Updated all links to online versions to reflect these changes

Updates uploaded to the ship's intranet - 7/17/2025

5.1 - 7/17/2025 - Masters Change of Command Report and Inventory Form

- Addition to line 8 to add BWMP yearly signatures

7.0.2.3 - 7/17/2025 - Qualitative Risk Assessment (Hazard Analysis)

- Link the form into the SMM
- Gave anyone with the link viewer access to spreadsheet

10.4 - 7/17/2025 - Master's Monthly Report

- Petty Cash section updated
- BWMP Master Signoff (quarterly) section added

10.3.3 - 7/17/2025 - 2nd Mate Navigation Form

- Lines added for individual Navigation Equipment, Bridge Instruments, GMDSS Equipment, and DP.

7.1.5, 7.1.6, 7.1.7 - 7/17/2025 - Boat Operations, Rescue Boat Procedure, Workboat Procedure

- Minor updates to reflect the change from 2nd Rescue Boat to Workboat

Updates uploaded to ship's intranet - 6/9/2025

7.0.2.3 - 6/9/2025 - Qualitative Risk Assessment (Hazard Analysis)

- Form separated out of full SMM to allow for easier use

Updates uploaded to ship's intranet - 6/5/2025

10.3.4 - 6/5/2025 - Engineering Critical Equipment and Maintenance Form

- Power Generation Systems (4 & 1) updated to remove (4 & 1)
- Ballast Water Training (quarterly) added to note the last date reviewed

7.2.1 - 6/5/2025 - Engineering Duty Assignment

- Added: The Chief Engineer shall review the BWMP periodically to ensure all signatures and trainings are up to date
- Some formatting changes

Updates uploaded to ship's intranet - 5/30/2025

7.2.2.1 - 5/30/2025 - Pre Departure Engineering Checklist

- Form separated from SMM

7.2.2.2 - 5/30/2025 - Pre Arrival Engineering Checklist

- Form separated from SMM

Updates uploaded to ship's intranet - 5/29/2025

8.0.1 - 5/29/2025 - Emergency Contacts

- Director - School of Ocean contact updated
- Asst. Director of UW News & Info contact updated

- Risk Management Asst Dir - UW contact updated
- Glosten contact updated
- SeaWest contact added

7.2.5 - 5/29/2025 - Lockout/Tagout Checklist

- Locations updated to circuits, valves, and systems

7.2.2.1 - 5/29/2025 - Pre Departure Engineering Checklist

- Diesel Generator Configuration updated

7.2.2.2 - 5/29/2025 - Pre Arrival Engineering Checklist

- Diesel Generator Configuration updated

Updates uploaded to ship's intranet - 4/16/2025

10.3.1 - 2/27/2025 - Deck Critical Equipment and Maintenance Form

- Anchor Chain Gauged changed to Anchor Chain
- Line added for Last Gauged date
- End for end port and End for end stbd dates removed

Updates uploaded to ship's intranet - 2/13/2025

7.0.8 - 2/13/2025 - Cleaning and Hygiene Form

- Separated out of the full SMM Document to create an easier to use form
- Links to published version and intranet versions added

10.3.3 - 2/13/2025 - 2nd Mate Navigation Form

- EPIRB 3 (Centerline 05) added

10.4 - 2/13/2025 - Master's Monthly Report

- Row added to show any Risk Assessments Completed during the month

7.1.7 - 2/13/2025 - Rescue Boat # 1 Procedure

- Update name to Workboat Procedure

10.3.2 - 2/13/2025 - 3rd Mate Safety Inspection Form

- Rescue Boat # 1 Prop Boat renamed to Workboat
- Rescue Boat # 2 renamed to FRB # 2 (Jet Boat)
- Release Hook Rebuilt/Certified: deleted

10.3.4 - 2/13/2025 - Engineering Critical Equipment and Maintenance Form

- FRB # 1 renamed to Workboat

- FRB # 2: Added "Jet Boat"

7.0.2 - 2/13/2025 - Risk Assessment & Risk Management

- UW MarOps and Chief Mate can also decide that a Risk Assessment is prudent for an upcoming science evolution
- Science evolutions that require a Risk Assessment will be identified during Cruise Planning meetings
- Additional Risk Assessments will also be undertaken as deemed necessary

3.0 - 2/7/2024 - Company Responsibilities and Authority

- Updated to include Marine Operations Coordinator and Admin Assistant roles

10.3.1 - 2/6/2024 - Deck Critical Equipment and Maintenance Form

- Added requirement for monthly Load Line Marking inspection

2024 Summary of Changes - 1/30/2025

- Moved 2024 changes to Previous Years' Summary of Changes
- This page updated to show only 2025 Changes

2024 Summary of Changes

Updates uploaded to ship's intranet - 12/26/2024

SMM 9.1.5 - 12/19/2024 - Equipment Casualty Reporting (CASREP)

- Information added for followup and tracking of CASREPs under Reporting and Closeout
- Information added for Recurrence Prevention in Closeout Equipment Casualty Reporting (CASREP) Form

SMM 9.2 - 12/19/2024 - Corrective Actions

- Information added for following and tracking of Corrective Actions in Monday.com

SMM 9.1 - 12/19/24 - Reporting Procedures

- Information added for shoreside review and tracking of reports in Monday.com

Updates uploaded to ship's intranet - 11/10/2024

SMM 7.0.2 - 11/10/2024 - Assessment of Risks

- Revised section
- Added two additional risk assessment techniques, and listed all three in subsections. 7.0.2.1 Simplified Risk Assessment, 7.0.2.2 Generic Qualitative Risk Assessment, 7.0.2.3 Qualitative Risk Assessment (Hazard Analysis)

SMM 2.4 - 10/31/2024 - Video and Audio Surveillance in Passageways Leading to Berthing Areas

- New section added to SMM

SMM 2.3 - 10/31/2024 - Master Key Control

- New section added to SMM

Updates uploaded to ship's intranet - 10/17/2024

SMM 2.1 - 10/17/2024 - Harassment & Personal Relationships

- Added section for information in crew berthing areas
- Updated sections throughout policy
- Added References section

SMM 2.2 - 10/17/2024 - Drug & Alcohol Policy

- Updated UW Carelink info to UW Employee Assistance Program

Updates uploaded to ship's intranet - 10/3/2024

SMM 7.1.8 - 10/3/2024 - Crane Operations and Qualifications

- Added requalification timeline requirement
- Updated operation under instruction requirement
- Added 2 more lines under Qualification Process

SMM 7.1.9 - 10/3/2024 - Winch Operations and Qualifications

- Added requalification timeline requirement
- Added 2 more lines under Qualification Process
- Add line to identify which winch(es) crew member is qualifying on

SMM 10.2 - 10/3/2024 - Reporting and Record Keeping

- Added 3 bullet points for reporting, corrective actions and record keeping
- Added link to USCG 2692/2692B

Updates uploaded to ship's intranet - 9/12/2024

SMM 6.1 - 9/12/2024 - Crew Familiarization & Qualifications Form

- Added Husky Prevention and Response Training section

Updates uploaded to ship's intranet - 8/22/2024

SMM 10 - 8/22/2024 - Maintenance

- New section written to introduce SMM 10 sections

SMM 10.1 - 8/22/2024 - Deck Critical Equipment and Maintenance Form

- Renumbered to SMM 10.3.1
- 3rd rating added; SAT*
- New SMM 10.1 named Maintenance Procedures added

SMM 10.1.1 - 8/22/2024 - Deck 3rd Mate Safety Inspection Form

- Renumbered to SMM 10.3.2
- 3rd rating added; SAT*

SMM 10.1.2 - 8/22/2024 - Deck 2nd Mate Navigation Form

- Renumbered to SMM 10.3.3
- 3rd rating added; SAT*

SMM 10.2 - 8/22/2024 - Engineering Critical Equipment and Maintenance Form

- Renumbered to SMM 10.3.4
- 3rd rating added; SAT*

SMM 10.3 - 8/22/2024 - Steward Critical Equipment and Maintenance Form

- Renumbered to SMM 10.3.5
- New SMM 10.3 named Monthly Critical Equipment Forms added to explain the use of the forms and rating system
- 3rd rating added; SAT*

SMM 10.4 - 8/22/2024 - Master's Monthly Report

- Introduction paragraph added

SMM 10.0.1 - 8/22/2024 - Personal Protective Equipment (PPE)

- Renumbered to 10.1.1

SMM 10.2 - 8/22/2024 - Reporting and Record Keeping

New section added

Updates uploaded to ship's intranet - 8/16/2024

SMM 7.0.2 - 8/16/2024 - Assessment of Risks and Safeguards Form

- Previously unpublished changes from Sep 2023 published.

SMM 7.2.5 - 8/16/2024 - Lockout/Tagout Checklist

- Separated Checklist into separate document

Updates uploaded to ship's intranet - 8/14/2024

SMM 10.2 - 8/13/2024 - Engineering Critical Equipment and Maintenance Form

- FRB # 1 and FRB # 2 split into separate lines

Updates uploaded to ship's intranet - 6/27/2024

SMM 8.0.1 - 6/27/2024 - Emergency Contacts

- C-link contact email address removed
- Glosten Contact name updated
- Medical Advisory System email updated
- USCG National Response Center phone numbers updated
- UW Police numbers updated
- UW Safe Campus contact added
- Contact information for Manager of Marine Operations and Port Captain updated
- Other UW Contacts updated

SMM 4.0 - 6/27/2024 - Designated Person (DP)

- Contact information for Manager of Marine Operations and Port Captain updated

Updates uploaded to ship's intranet - 5/17/2024

SMM 7.4.6.1 - 5/2/2024 - Lithium Batteries

- New Section added
- Information moved from 7.0.7 Spill Prevention and Storage

SMM 7.0.7 - 5/2/2024 - Spill Prevention and Storage

- Lithium Battery Storage moved to new section 7.4.6.1

SMM 7.4.7 - 5/2/2024 - Hazardous Materials

- Updated to 7.4.6

SMM 7.4.6 - 5/2/2024 - Radioactive Materials

- Updated to 7.4.6.2

SMM 7.4.8 - 5/2/2024 - Research Diving Operations Procedure

- Updated to 7.4.7

SMM 7.4.9 - 5/2/2024 - Explosives

- Updated to 7.4.6.3

SMM 8.1.5 - 5/2/2024 - Propulsion and Electrical Failure Checklist

- TGT Emergency Towing Manual added to Documentation list

SMM 8.0.1 - 5/2/2024 - Emergency Contacts

- Added Admin Asst - School of Oceanography

SMM 7.4.3 - 5/2/2024 - Over the Side Operations

- Various changes

Updates uploaded to ship's intranet - 4/30/2024

SMM 9.2 4/30/2024 - Corrective Actions

- Link for Monthly Safety Meeting: Training Summary form added to document

SMM 8.1.13 4/24/2024 - Serious Injury/Illness/Death Procedure

- Marine Operations Accident Reporting Form link added to document
- Form added to TGT's Intranet SMM Forms folder

Updates uploaded to ship's intranet - 4/24/2024

SMM 2.2 - 4/24/2024 - Drug & Alcohol Policy

- Phone number updated for WA Employee Assistance Program

SMM 9.2 - 4/18/2024 - Corrective Actions

- Updates throughout section

SMM 8.2 - 4/18/2024 - Casualty Reporting Guidance

- Section deleted (information moved to 9.1.5)

SMM 9.1.5 - 4/18/2024 - Equipment Casualty Reporting (CASREP)

- New section added
- Initial Equipment Casualty Report form separated and linked in this section
- Closeout Equipment Casualty Report form separated and linked in this section

SMM 9.1.4 - 4/18/2024 - Non-Conformities

- New section added

SMM 9.1.3 - 4/18/2024 - Accidents

- New section added

Updates uploaded to ship's intranet - 4/10/2024

SMM 9.0 - 4/4/2024 - Opportunities for Improvement, Near Misses/ Hazardous Occurrences, Accidents, Non-Conformities, CASREPs, and Corrective Actions

- Updated, restructured, expanded by creating SMM 9.1-9.2

SMM 9.1.1 - 4/4/2024 - Opportunities for Improvement (OFI)

- New section added

SMM 9.1.2 - 4/4/2024 - Near Misses/Hazardous Occurrences

- New section added

Updates uploaded to ship's intranet - 2/23/2024

SMM 8.0.3 - 2/23/2024 - Emergency Preparedness Index

- Station Bill updated

SMM 7.0.6 - 2/22/2024 - Inclement and Heavy weather

- Voyage File removed from Documentation section

SMM 7.0.10 - 2/22/2024 - Medical Care

- Updates in the 2nd, 3rd, and 4th bullet points
- Some formatting updated

SMM 7.0.11 - 2/22/2024 - Communications

- Changes to daily report
- Some formatting updated

SMM 7.2.4 - 2/22/2024 - Enclosed Space Entry Form

- Typo updated

SMM 7.4.2 - 2/22/2024 - Science Cruise Preparation and On Board Science Meetings

- Updates throughout document
- Added link to Science Safety Meeting Attendance Sheet

SMM 7.1.4 - 2/22/2024 - Working Aloft Checklist

- Hard Hat updated to Helmet in PPE bullet

SMM 10.0.1 - 2/22/2024 - Personal Protective Equipment (PPE) and Protective Clothing

- Added this new section

SMM 10 - 2/22/2024 - Maintenance

- Renamed "Personal Protective Equipment (PPE) / Safety" to "work area Safety"
- Updated some text in work area Safety section

2023 Summary of Changes

Updates uploaded to ship's intranet - 12/7/2023

SMM 6.1 - 12/6/2023 - Crew Familiarization & Qualifications Form

- Updated format
- Separated form out for easier printing for use

Updates uploaded to ship's intranet - 10/26/2023

SMM 7.4.5 - 10/26/2023 - Science Equipment & Cargo

- Many updates throughout entire document

Updates uploaded to ship's intranet - 9/14/2023

SMM 5.0 - 9/14/2023 - Master's Responsibilities, Authority, & Guidance

- Added link to Master's Standing Orders document
- Several other small changes throughout document

SMM 5.3 - 9/14/2023 - Master's Standing Orders

- Creating separate Master's Standing Orders document; linking to it in SMM 5.0
- SMM 5.3 no longer exists

SMM 7.0.2 - 9/14/2023 - Assessment of Risks and Safeguards Form

- Clarified that the risk assessment will be conducted by a licensed officer with training in the specific technique.

SMM 7.6 - 9/14/2023 - SCBA Bottle Refilling Checklist

- Various changes throughout section
- Updated name to SCBA Cylinder Refilling Checklist
- Updated all bottle/tank references to cylinder

SMM 11 - 8/31/2023 - Documentation Process for Shore Staff and Vessels

- Language changed and added about Master's authority to deviate from the SMM
- Language regarding physical copies of SMM deleted

SMM 9.0 - 8/31/2023 - Opportunities for Improvement, Non-Conformities, Accidents, CASREPs, Hazardous Occurrences and Safety Meetings

- Added language about Cybersecurity incident and event reporting

Updates uploaded to ship's intranet - 08/03/2023

SMM 7.4.8 - 8/3/2023 - Diving Operations Procedure

- Various updates to entire procedure

Updates uploaded to ship's intranet - 06/28/2023

SMM 7.0.2 - 6/22/2023 - Assessment of Risks and Safeguards Form

SMM 7.2.6 - 6/22/2023 - Fueling

SMM 7.4.6 - 6/22/2023 - Radioactive Material

- Various updates to document

Updates uploaded to ship's intranet - 06/15/2023

SMM 2.0.1 - 6/15/2023

- Updated entire document to remove most protocol

SMM 7.1.3, 10.1, 10.1.1, 10.1.2, 10.2, 10.3, and 10.4 - 05/25/2023

- Created separate documents for each form. Replaced the form in this document with a link to the online versions of each.

SMM 10 - 05/25/2023 - Maintenance

- Procedure section updated
- PPE/Safety section added

SMM 8.0.3 - 5/11/2023 - Emergency Preparation Index

- Replaced specific names with just positions

SMM 2.0 - 5/11/2023 - Safety and Environmental Policy

- Added information about Cyber Risks

Updates Sent to Ship - 04/21/2023

SMM 10.1 - 04/06/2023 - Deck Critical Equipment and Maintenance Form

- Updated "Anchor Chain" to "Anchor Chain Guaged"
- Added "Date Inspected" and "Date Exercised" under Escape Scuttles

SMM 7.4.4 - 03/30/2023 - Unique Science Procedures Form

- deleted

SMM 7.0.7 - 03/30/2023 - Spill Prevention and Storage

- Change Title to add "Storage"

- General review and update to reflect current practices
- Add information on lithium battery storage

Table of Contents - 03/16/2023- Changed SMM 7.0.7 to "Spill Prevention and Storage"

SMM 7.4.7 - 03/16/2023 - Hazardous Materials

- General review & updates to reflect current practices
- Lithium Battery information added

SMM 10.1 - 03/2/2023-Deck Critical Equipment and Maintenance Form

- Changed to "This form shall be filed in Sinex and emailed to MarOps by the Master."

SMM 10.1.1 - 03/2/2023- 3rd Mate Safety Inspection Form

- Changed to "This form shall be filed in Sinex and emailed to MarOps by the Master."

SMM 10.1.2 - 03/2/2023- 2nd Mate Navigation Form

- Changed to "This form shall be filed in Sinex and emailed to MarOps by the Master."

SMM 10.3 - 03/2/2023- Steward Critical Equipment and Maintenance Form

- Changed to "This form shall be filed in Sinex and emailed to MarOps by the Master."

SMM 7.4.1 - 03/2/2023 - Cruise Planning & Marine Facilities Planner

- various updates to entire policy

SMM 7.4.2 - 03/2/2023 - Science Cruise Preparation and On Board Science Meetings

- various updates to entire policy

SMM 7.4.3 - 03/2/2023 - Over the Side Operations

- various updates to entire policy

SMM 10.4 - 03/2/2023 - Master's Monthly Report

- add line for confirming most recent SMM is on ship (physical and intranet copies)

SMM 7.1.4 - 03/1/2023 - Working Aloft

- Updated general notes and added start date/time and completion date/time

SMM 7.0.7.1 - 03/1/2023 - Pollution

- Added new (2022) garbage disposal placard

SMM 6.1 - 3/1/2023 - Crew Familiarization and Qualifications Form

- Changed: under required only for the Master, Chief and Engineers to read: "Read and sign the "Ballast Water Management Plan" located in the Main Control Room"
- Changed: Under required only for Master and Mates prior to standing watch(4): "Read and sign the "Ballast Water Management Plan" located in the Master's Stateroom and be familiar with sounding tubes inside the ship, the source of possible flooding."

Updates sent to the ship - 02/28/2023

SMM Table of Contents - 02/28/2023

- "2022 SMM Summary of Changes 4" updated to "2023 SMM Summary of Changes 5"

SMM Summary of Changes- 2/28/2023

- "2022" updated to "2023"

SMM 2.0 - 02/16/2023 - Safety and Environmental Policy - sent to ship 02/20/2023 - ML

- various updates to entire policy

SMM 7.0.1-2/14/2023 - Science Operations - sent to ship 02/20/2023 - ML

- Added a "Stop work" authority

SMM 2.0.1 - 12/15/22 - updated vaccination, testing, and masking requirements

SMM 10.3 - 11/17/22 updated to separate gaylord cleaning and service, plus dishwashing facilities and dishwashing ecolab

SMM 7.2.6.3 - 10/24/22 Added Internal Fuel Transfer Checklist to SMM

SMM 2.0.1 - 8/12/22

SMM 2.0.1 Health and Safety Plan, COVID-19 R/V Thomas G Thompson – This document is periodically updated to follow the CDC, UNOLS, and UW guidance and requirements.

SMM 7.0.10 - 6/29/21

Controlled Substances can only be administered per the instruction of a medical doctor

SMM 2

SMM 2.0.1 Health and Safety Plan, COVID-19 R/V Thomas G Thompson – This document is periodically updated to follow the CDC, UNOLS, and UW guidance and requirements.

SMM 7

SMM 7.0.6 Inclement and Heavy Weather Procedures - Added "Heavy weather procedures may also be set while the vessel is in port. If such procedures are set while in port the master shall make every effort to secure the vessel while alongside the dock or at anchor. This may include:

- o The addition of extra mooring lines or doubling up of lines.
- o Maintaining engines on stand-by.
- o Securing and removal of Potable Water, Sewage Lines, and Shore Power lines and cables.
- o Securing any loose dunnage on the aft deck.
- o Raising and securing the gangway.

- If at any point lightning is observed while the vessel is at the dock or at anchor, all deck operations shall stop and the crew and science party will clear the weather decks until the lightning has seized."

SMM 7.0.7.1 Pollution - Added new section

SMM 7.0.9 Crew Rest and Overtime – changed Purpose to mean "To ensure the process for overtime is documented and the crew adhere to STCW rest period requirements. The administration and accounting of pay is not subject to the Safety Management System."

- Added "The payment of overtime is authorized for the operational needs of the vessel, required routine maintenance of equipment, and normal administrative duties."
- Added "All crew members must work at least 8 hours per day and any assigned overtime due to operations or emergencies."
- Added "The Manager of Marine Operations delegates authority for overtime in the Sailing Orders. All crew members are pre authorized for 2 hours of discretionary overtime each day. Overtime projects must be approved by department heads."

SMM 7.0.11 Communications – Changed the email addresses for daily reports.

- Changed "noon report" to midnight report"
- Changed Daily report time from 1000-1200 to 1000-1400

SMM 7.0.13 Sailing Short Key Personnel - Added new section

SMM 7.1.3 Voyage Plan Form – added air draft and minimum Under Keel Clearance (UKC)

SMM 7.2.6 Fueling – Add the Max GMP for bunkering (585GMP).

- Added the Declaration of Inspection

SMM 7.2.6.1 Fuel Oil Transfer Assignments - added this section

SMM 7.2.6.2 Pre-Bunkering Operations Checklist – added this section

SMM 7.6 SCBA Bottle Refilling Checklist – added this section

SMM 7.7 Helicopter Operations – Added new section

- Added the General Arrangement to the section

SMM 8

SMM 8.0.1 Emergency Contacts – Updated positional email accounts

- Changed the Dean to Maya Tolstoy
- Changed the Risk Management Director to Bill Goodman

SMM 8.0.2 Emergency Flowchart Procedures - Added "Drills and training may be secured during Dry Dock/ Maintenance Periods, or any other non-operation period where the vessel may not be at full crew."

SMM 8.0.3 Station Bill - Updated to the latest version of the Station Bill

SMM 8.0.4 Emergency Assistance – Added new section

SMM 8.1.11 – Search and Rescue Checklist – Removed “All other operations should be terminated promptly.”

- Removed “Survivors being transferred are to be tended to and names recorded. The names of each person should be communicated once confirmed.” And ADDED “Survivors being taken aboard - Refer to SMM 8.0.4 Emergency Assistance”
- Removed “The Master shall determine when the Search and Rescue situation is completed, after consultation with the Search and Rescue on scene commander of the appropriate Rescue Coordination Center.” And ADDED “Search and Rescue Coordinator will dismiss the ship when operations are complete. ”

SMM 8.2 Casualty Reporting Guidance – Added new section

SMM 9

SMM 9 Opportunities for Improvement: Non-Conformities, Accidents, CASREPS, Hazardous Occurrences and Safety Meetings – Updated group email account
SMM 10

SMM 10.1 Deck Critical Equipment Form - Added “Maintenance Reports may be suspended during drydock periods.”

SMM 10.1.1 Third Mate Safety Inspection Form - Added “Maintenance Reports may be suspended during drydock periods.”

SMM 10.2 Engineering Critical Equipment and Maintenance Form - Added “Maintenance Reports may be suspended during drydock periods.”

SMM 10.3 Steward Equipment Maintenance Form - Added “Maintenance Reports may be suspended during drydock periods.”

SMM 10.4 Master’s Monthly Report - Added “Maintenance Reports may be suspended during drydock periods.”

SMM 12

SMM 12 Internal Audits – Added “The Designated Person shall direct the Port Captain to carry out an internal safety audit of shoreside operations and vessel operations at intervals not exceeding twelve months of the previous internal audit to verify whether safety and pollution-prevention activities comply with the Safety Management System.”

SMM 12.1 Remote Surveys – Removed “Due to COVID-19 pandemic and restrictions of personnel going aboard the vessel, the USCG and ABS are allowing remote surveys in certain circumstances.”

SMM 13

SMM 13 – Added “The Five Year Renewal audit must be conducted by 23 May of that year.”