Operation and Safety Procedures Manual

Vessel Operations Office

Contents

1 Mission

The Vessel Operations at Texas A&M University at Galveston is the gateway to our classroom on the waves. It is a vibrant hub of activity, using a multi-mission mix of education, training, and recreational vessels that the diverse water related campus and community have available seven days a week throughout the year. The Vessel hosts numerous waterborne research projects, labs, community education courses, continuing education programs, and recreational opportunities.

The Vessel Operations is supported by an enthusiastic and dedicated staff with maintenance facilities, docks, boats, and administrative spaces that are a source of pride and enjoyment for students and their families, alumni, faculty, staff, the entire TAMU system and the community. It will also, by its exemplary operation, be an extension of the academic teachings of Texas A&M Maritime Academy.

2 Introduction

This manual is the exclusive property of Texas A&M University at Galveston (TAMUG). It should not be removed from any of TAMUG's vessels or premises, neither should its contents be copied nor conveyed to anyone not employed by TAMUG without the permission of the Executive Director MESSO.

2.1 Purpose

The purpose of this manual is to describe TAMUG's procedures in developing, implementing, and maintaining the functional elements of TAMUG's Vessel Operations and Safety Procedures (OSP).

2.2 Contents

The contents of this manual provide an overview of TAMUG procedures on safety and environmental protection. In particular, this manual is for the use of the following categories of personnel:

vessel masters,

onshore personnel,

other seagoing personnel and

onshore management.

Copies of the OSP documentation are controlled and only made available to non-university personnel on instructions from the Exec. Director.

3 Safety and Operations Overview and Responsibility

The purpose of the TAMUG Vessel Operation and Safety Procedures Manual is to set forth the operational and safety guidelines adopted by the administration of Texas A&M University at Galveston (TAMUG) to provide for the operational safety and training of all personnel involved in vessel field activities associated with TAMUG's educational, research, training, recreational sports and outreach programs. TAMUG is committed to conducting its operations to ensure safety at sea, prevention of human injury or loss of life, and avoidance of damage to property and the environment, in particular the marine environment. The University seeks to develop, implement, and maintain standards of safety and environmental protection in line with what is considered reasonable and practical.

3.1 Procedure Objectives

The specific objectives of the TAMUG's operations and safety procedures are to:

prevent human injury or loss of life;

provide for safe practices in vessel operation;

comply with relevant mandatory rules and regulations;

list safeguards against all identified risks;

provide a safe working environment;

avoid damage to property and the environment, in particular, the marine environment;

continue to improve the safety management skills of vessel and shore-based personnel including preparing for emergencies related both to safety and environmental protection and;

assure that all boats utilized for TAMUG educational, research, training, recreation and outreach activities are properly outfitted, reliable, safely operated and managed;

3.2 Implementation

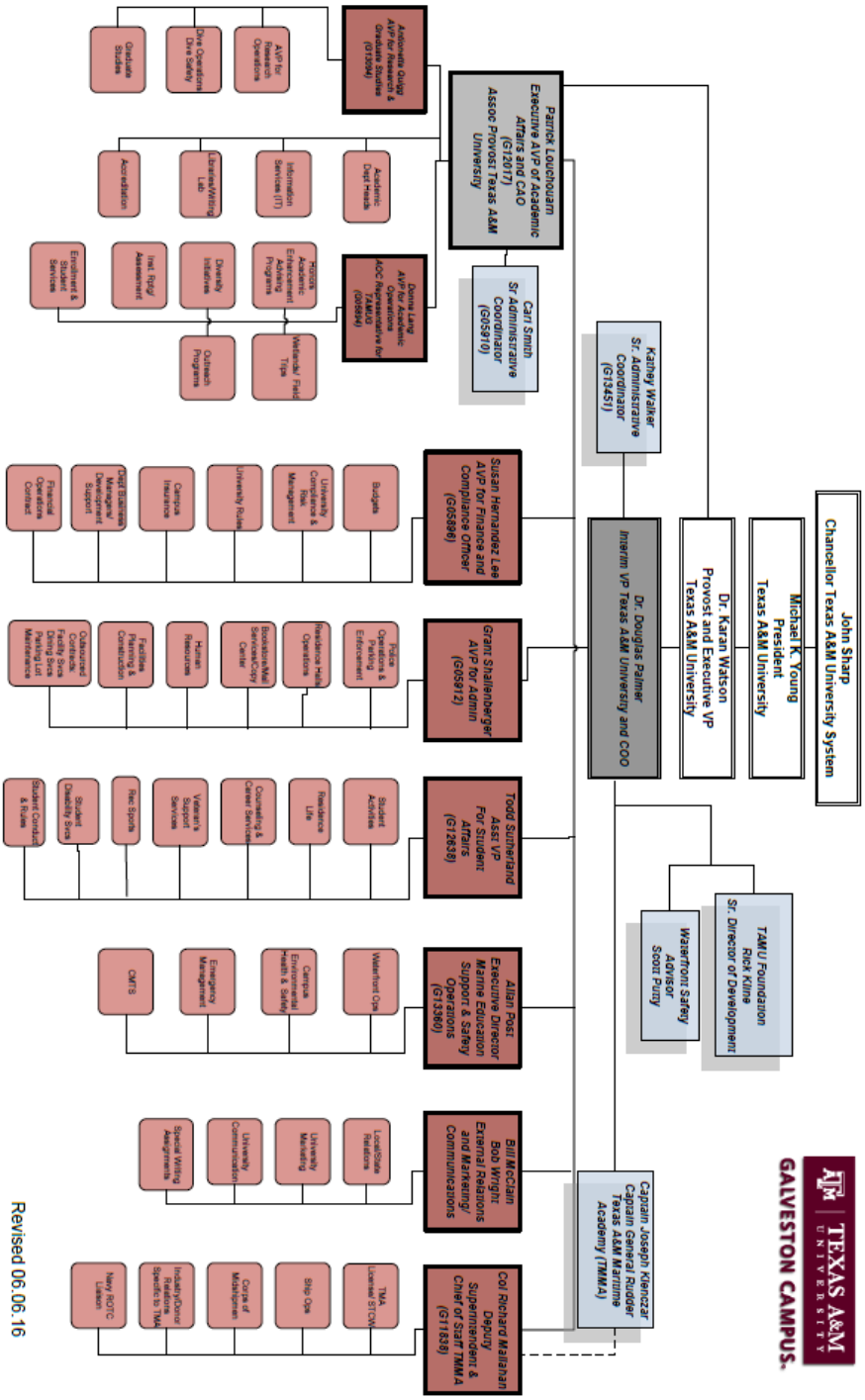
The university has included the following implementation elements in the development, and maintenance of the safety and operations procedures:

These procedures apply to all personnel; including faculty, staff, and students who may use or work upon any vessel, regardless of the vessel's ownership, on tasks or projects under the auspices of TAMUG with the exception of MARAD owned vessels. MARAD owned vessels, including the training ship and related support vessels, will fall under the operations and safety management system of the training ship and be operated under the responsibility and authority of the Master of the training ship.

These procedures also apply to contractors, volunteers, or visitors who may become directly or indirectly involved in any vessel field activity under TAMUG's purview. (Except MARAD vessels as noted.)

Governmental agencies or visiting marine science programs utilizing TAMUG's Vessel Operations or marine terminal at the Mitchell or Teichman Road campuses must adhere to applicable sections of these procedures.

3.3 TAMUG Organizational Chart



3.4 TAMUG Vice President and COO

The TAMUG COO is responsible for the safety and health of all personnel assigned to, working with or participating in TAMUG vessel activities.

3.5 Vessel Operations Advisory Committee

Vessel Operations Advisory Committee
By Laws
As adopted by the Committee on February 8, 2016

3.5.1 MISSION

The mission of the Texas A&M University at Galveston Vessel Operations Advisory Committee is to determine the overall policy for use, acquisition, scheduling and maintenance of vessels operated by, or contracted for use by TAMUG personnel, with the exception of the federal training ship.

The Vessel Operations Advisory Committee (VOAC) serves in an advisory capacity for all faculty, staff, and student involvement in the formulation of vessel policy and for the continuing evaluation and development of the TAMUG Vessel Operations, Training, and Safety Program.

The Vessel Operations Advisory Committee is a standing committee reporting to the COO of TAMUG

3.5.1.1 Role and Function

The Committee is the primary body responsible for this organization and its work.

3.5.1.2 Membership and Term

Members

(a) Chief Academic Officer
(b) VP Research
(c) Dept. Head Oceanography TAMU
(d) Department Head (CAO appoints biannually)
(e) Research Faculty (CAO appoints biannually)
(f) Maritime Faculty (CAO appoints biannually)
(g) VP Finance
(h) VP Student Affairs
(i) Director Seacamp-Outreach

Non-voting advisors to the Committee

(j) Exec. Director MESSO – Allan Post
(k) Vessel Operations Safety Advisor – Joe Klenczar
(l) Secretary-Vernon Camus

Term
The members of the Committee are appointed based upon their position and, therefore, do not have a term limit unless indicated.

The Committee elects the Chairperson and Vice Chairperson of the Committee for a two year term.

3.5.2 Meetings

(a) Regular Meetings. The Committee holds regular meetings at least quarterly. Dates and locations for regular meetings are coordinated by the Secretary.

(b) Special Meetings. The Committee may hold special meetings. Special meetings are called by the Chair at the direction of a majority of the Committee. The dates and locations of special meetings must be announced to the membership of the Committee at least two working days in advance.

(c) Attendance. Members of the Committee are expected to maintain regular attendance at Committee meetings. Members may appoint a representative to attend a meeting on their behalf.

(d) Notification of Absence. Members of the Committee are expected to notify the Secretary of the Committee in advance of anticipated absences and of their appointment of a representative.

(e) Quorum. The quorum for the official conduct of business at a regular meeting of the Committee is 50% of the members. The quorum at a special meeting is 60% of the members of the Committee.

3.5.3 Voting

Members of the Committee have voting rights and may convey those rights to their representatives provided the member communicates this authorization to the Secretary in advance of the meeting.

3.5.4 Membership Year

The membership year for service on the Committee is September 1 through August 31.

3.5.5 OFFICERS

3.5.5.1 Officers of the Committee and Their Duties

(a) Chair
   a. The Chair conducts meetings of the Committee with the assistance of the MESSO Executive Director.
   b. The Chair also provides general leadership for the Committee, ensuring that the Committee has and fulfills a work agenda consistent with its goals.

(b) Vice Chair
   a. The Vice Chair assumes the duties of the Chair in his or her absence. To maintain continuity the Vice Chair shall assume the Chair upon the expiration of the Chairpersons term and serve for 2 years.

(c) Secretary
   a. The Secretary maintains communications for the Committee. As a part of the communications role, the Secretary keeps or causes to be kept minutes of regular and special meetings of the Committee and presents the minutes for approval. The Secretary maintains all minutes as official documents of the Committee. The secretary coordinates the schedule and location of meetings.

3.5.6 COMMITTEES

3.5.6.1 Role and Function

The VOAC may choose to undertake its day-to-day activities through "standing" and "ad hoc" committees. Both types of committees may be created by action of the Committee. Ad hoc committees will exist for a fixed term; standing committees will continue until dissolved by action of the Committee.

3.5.6.2 Committee Members, Community Members, and Chair

Standing and Ad Hoc Committees of the VOAC are composed from members of the Committee and may include others who have interest or expertise related to a committee's area of work. Except where it is stipulated otherwise in the Bylaws, the Chair of the committee is appointed by the Chair of the VOAC with the advice and consent of the VOAC.

3.5.6.3 Reporting

Committee Chairs make reports on committee activity at meetings of the VOAC.

3.5.7 AMENDING THE BYLAWS

3.5.7.1 Authority to Propose Amendments

Amendments to the Bylaws of the Committee may be proposed by members of the Committee.

3.5.7.2 Procedures for Amending the Bylaws

A proposal to amend the Bylaws must be made in writing to the Chair at least 30 days prior to the regularly scheduled meeting of the Committee at which the amendment is to receive initial consideration by the Committee. The adoption of a proposed amendment to the Bylaws requires a two-thirds favorable vote of the members of the Committee present at the meeting when the proposed amendment is being considered.

3.6 Executive Director MESSO

The Executive Director MESSO will oversee the cost center for billing and collection of vessel usage fees (fees must be based upon current market rates for comparable vessels and are to include insurance, fuel, salaries and other related operating expenses); scheduling and planned use of vessels; the TAMUG vessel operation, training and safety program and the overall operational integrity of the TAMUG vessel fleet. The TAMUG vessel fleet will consist of all vessels under the auspices of TAMUG including research vessels, applicable training vessels, vessels funded through grants, donated vessels and recreational vessels owned by TAMUG.

As the department head, the Executive Director MESSO will be responsible for the daily management of the TAMUG vessel fleet (including all research, training/teaching, recreational, outreach vessels and non-TAMUG vessels kept on TAMUG property). The Exec. Director will also coordinate, direct and evaluate the effectiveness of the Vessel Operation, Training and Safety program for TAMUG. The Exec. Director and his/her designated representative(s) are vested with the authority to examine all activities involving the use of vessels, regardless of ownership of the vessel, and may initiate action to stop any operation or hazardous practice where there appears to be impending danger or potential human injury or death, or serious damage to equipment, material, or facilities.

It is the Exec. Director's responsibility to assure that Vessel Operators within the TAMUG fleet are appropriately qualified and certified and vessels contain all required safety equipment onboard. To this end, persons serving as Vessel Operators shall be required to have USCG licensure or have completed the TAMUG operator training program or a certification or training deemed equivalent by the Exec. Director.

The Exec. Director MESSO will coordinate all facilities repair, renovation and construction projects, maintenance and physical oversight of the TAMUG Vessel with the Director of Facilities Services. The Exec. Director MESSO will report directly to the Vice President and COO.

3.7 Vessel Safety Advisor

OVERALL PURPOSE

The Vessel Safety Advisor has the responsibility to:

Ensure the safe operation of the assigned small vessels and to provide effective feedback and advice to the President and COO on the safe practices of the Vessel Operations Department.

Verify and monitor all safety and pollution prevention activities in the operation of each vessel and to ensure that adequate resources and shore based support are applied as required.

KEY RESPONSIBILITIES and TASKS:

Serve as the designated person for safety discrepancies and to have direct access to the highest level of management for Vessel Operations Department.

In conjunction with the Vessel Operations Director the Vessel Safety Advisor assists with:

Implementing the safety and environmental protection procedures;

Evaluating and reviewing the effectiveness of the safety management system;

Reporting and analyzing non-conformities, accidents and hazardous occurrences;

Organizing and monitoring of internal audits;

Making appropriate revisions to the OSP; and

Ensuring that adequate resources and shore based support is provided.

Monitor the risk for WOD vessels and to act as part of the risk assessment team for vessel procedures and operations when called upon to do so.

Conduct vessel inspections and audits to confirm compliance with the OSP plan and applicable codes. Verify that any corrective action is agreed to and implemented within the required timeframes. Ensure outstanding defects are reported to the WOD.

Ensure that the WOD maintains records of accidents, incidents, near misses and non-conformance reports. Contribute fully to the investigations and verify that investigations are carried out effectively and that appropriate corrective action is agreed upon and implemented in a timely manner.

Assist in the provision of specialist advice on all marine and operational matters, actively promoting and supporting the development of effective professional working partnerships between vessel operators, TAMUG departments and TAMUG Executive Team.

4 Vessel Operator's and Master's Authority and Responsibility, and Other Person's Responsibility

4.1 Vessel Operators – Texas Parks and Wildlife Registered Vessels

Only persons who have been certified as TAMUG vessel operators by the Vessel Operations Manager may operate small vessels used under TAMUG auspices, regardless of the ownership or assignment of the vessel. The Vessel Operator is solely responsible for the safety of the crew and vessel at all times. It is the duty of the operator to refuse to operate the boat if conditions are unsafe and to refuse boarding to anyone the operator deems to appear to be under the influence of drugs or alcohol.

Vessel Operators are expected to understand and abide by all USCG regulations, State of Texas laws, and TAMUG procedures concerning boating safety operation. If research or recreational endeavors require vessel operation in states other than Texas, such as Louisiana or other Eastern Gulf states, it is the vessel operator's responsibility to seek and become familiar with applicable state/federal boating laws and insurance requirements. When vessel activities require TAMUG certified operator(s) to operate on waters outside the United States, the operator will be responsible for familiarity with International Navigational Rules, federal laws and insurance requirements for the waters in which the vessel(s) operate. Vessel Operators will be solely responsible for violation of any regulation.

In the event of a vessel accident, the Vessel Operator is the primary person responsible for the vessel and crew. If the vessel or crew is in imminent danger, the Vessel Operator should contact the USCG immediately as well as emergency medical services. Contact with TAMUG Campus Police should be made at the earliest opportunity once emergent concerns are addressed.

4.2 Master, USCG Inspected Vessels

The vessel's Master is, in both law and tradition, solely and ultimately responsible for the safety and good conduct of the vessel and all persons embarked. This line of authority remains in effect when the TAMUG vessels are visiting ports away from the TAMUG campus.

During research endeavors, the Master of a vessel facilitates the chief scientist in carrying out the research. In practice, the chief scientist informs the Master what is desired, and unless it is unsafe or illegal, it will be carried out. In case of serious disagreement, the question can be referred to the Vessel Operations Director, but it must be emphasized that if a decision has to be made quickly on the spot, the authority of the Master is absolute. Safety and health precautions must not be subordinated or disregarded because of the urgency of a particular job. Additional regulatory information concerning the responsibilities of the Master may be found in Subchapter U, 46 CFR.

4.3 Chief Scientist / Designated Person In Charge

Vessel usage for research will require that one member of the scientific party be designated chief scientist. Rarely, co-chief scientists may be designated, but in such cases one should be clearly identified as spokesperson. This is to avoid placing conflict resolution demands from scientists on the Vessel Operator/Master. The chief scientist is responsible for the coordination and execution of the entire scientific mission, not just their own portion of it. By custom, the personal and professional conduct of the scientific party onboard ship and ashore is the responsibility of the chief scientist, under the overall control of the Vessel Operator/Master.

In matters of safety, the chief scientist must always defer to the Vessel Operator/Master in the event of dispute. In many cases, safety matters are common knowledge, and not unique to research vessels. In other cases, there may be safety hazards unique to the research of which the vessel's crew may not be aware. In such instances, the chief scientist has a special responsibility to assure safety, and consult with the Vessel Operator/Master as necessary. (46 CFR 19415-3; 195.09)

4.4 Teaching/Training Representative

Each academic department that utilizes vessels for teaching and training purposes, including the Texas A&M Maritime Academy, shall coordinate the training schedule for vessel use within the department. The teaching/training representative will be responsible for coordinating all vessel activities with the Vessel Operations Manager including scheduling of vessel use, the filing of float plans and maintenance, if applicable.

4.5 Each Individual

The operation of a vessel entails certain unavoidable risks. Anyone aboard a vessel should be aware that risks exist and take prudent action to minimize them. Each individual has an inherent responsibility for his/her own personal safety and health as well as the safety and health of those with whom they are working in the marine environment.

Whether engaged in research, teaching, training or recreational activities, each person aboard the vessel must adhere to all USCG, State Law, TAMU System Policies, University Rules, and TAMUG procedures. Failure to do so could result in a loss of your ability to operate a TAMUG vessel.

5 General Safety Requirements

5.1 Compliance with Safety Regulations

Attention to personal safety shall be paramount in all TAMUG activities to assure maximum practical protection for personnel and to prevent unnecessary exposure to injury and health hazards. In addition to safety requirements set forth in these Operation and Safety Procedures, all TAMUG personnel are to comply with established safety policies and regulations as set forth in the University's Risk Management Standards. These policies can be found at: http://policies.tamus.edu/24-01.pdf

All persons will be responsible for warning others when it is believed that they are endangered by known hazards or by their failure to comply with applicable safety and health precautions. Safety and health precautions must not be subordinated or disregarded because of the urgency of a particular job.

5.2 Use of Drugs and Alcohol

Illegal drugs and alcohol are not permitted on University vessels at any time. The Texas A&M University System is committed to maintaining an illegal drug and alcohol-free workplace and a safe and healthy work environment for all students, faculty, researchers and employees. Consequently, all persons embarked are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of illegal drugs or controlled substances onboard vessels or in other University workplaces.

The ability to perform safety sensitive duties can be compromised by legal drugs. Both over-the-counter medications as well as prescription medications are known to impair performance. Persons using prescription medications and who will be involved in performing safety sensitive duties are to adhere to the guidelines set forth in each drug information card with the prescription.

In the event a "serious marine incident" (as defined in 46 Code of Federal Regulations Parts 4.03, 4.05 and 4.06), occurs on one of the University's USCG inspected vessels, TAMUG, the USCG and other law enforcement officers have the authority to require crewmembers and all embarked personnel, (including scientific personnel), submit to drug and alcohol testing.

34.02.99.M2 Substance Abuse Prevention Rule for DOT-Regulated Employees)

No person under the influence of illegal drugs or alcohol is to operate a boat under ANY circumstances. Violators of this rule may have their boat operation privileges suspended permanently.

5.3 Personal Responsibility in Securing Knowledge of Safe Boating Practices

The first priority in all field operations is the safety of personnel. The presence of inherent risks in all vessel activities requires that all individuals working onboard vessels accept personal responsibility in obtaining knowledge in safe boating practices. All TAMUG marine science personnel engaged in vessel activities, regardless of vessel operator status, should participate in boating safety programs offered at TAMUG.

5.4 Use of Personal Flotation Devices (PFDs)

A PFD is required:

On any person working on a vessel of less than 30ft

At all times when a person is on an open deck working equipment or handling lines of any size vessel.

Anytime while on any vessel outside the Galveston jetties a PFD must be worn on an open deck at night.

At all time while engaged in working with equipment in the water from land, pier or dock.

A PFD is USCG approved flotation device or Approved Automatic Inflatable Life Jacket personal flotation device (APFD) or an approved float jacket. Manually inflated devices do not meet this requirement. The University assumes no responsibility related to the operation of personal automatic inflation devices. Work Vests may be substituted for inshore work but their use must be approved by the Vessel Operations Director.

Weak swimmers and non-swimmers shall identify themselves to the Vessel Operator/Master and fellow crewmembers. Weak swimmers and non-swimmers must wear personal flotation devices that offer inherent flotation. Use of automatic inflated devices for weak and/or non-swimmers is especially prohibited.

All PFDs shall be properly secured to prevent the jacket from slipping off the individual when unexpectedly entering the water. University personnel frequently involved in vessel field activities should be provided a PFD for personal use via funds from their departments or principal investigators. Ownership or assignment of personal safety equipment promotes interest in maintaining the gear in good condition as well as assuring proper fit.

5.5 Two-Person Procedure

At least two persons are required to be onboard any boat involved in TAMUG activities except in these circumstances: launching/retrailering the boat or motoring in the TAMUG boat basin.

The Vessel Operations Director or his/her designated representative may approve single-handed operation when warranted by special circumstances. During such operation, the engine safety lanyard must be appropriately attached to the Vessel Operator/Master.

When any TPWD registered vessel is operated in coastal waters, two Vessel Operators/Masters endorsed to operate in these waters must be present. The manning requirements for any USCG inspected vessel must always be met.

5.6 First Aid and Cardio-Pulmonary Resuscitation Certification

Vessel Operator/Master must maintain current certification in Adult/Child First Aid and CPR/AED as a prerequisite to operating TAMUG vessels. Vessel Operator/Master bear the responsibility for the safety of all onboard personnel and therefore are required to render medical assistance in the case of an injury or illness. The Vessel Operator/Master, governed by one's own conscience, should seek a level of First Aid training that will allow self-confidence in the ability to provide competent medical intervention when necessary. All TAMUG vessels shall be provisioned with first aid supplies.

5.7 Safety Briefing

It is the responsibility of all Vessel Operators/Masters to present a safety briefing to all onboard personnel prior to getting underway. This safety briefing shall include fieldwork goals, intended route of travel, location and use of safety, communication and navigational aids and discussion of safe practices while underway, including wearing of PFDs and person overboard response. **(See Appendix G)**

Discussion should also be directed toward the use of sunscreens, eye protection, the wearing of appropriate footwear as well as the donning of seasonal appropriate apparel for protection from the elements. A review of basic vessel operating procedures shall be provided if requested by new field personnel. This briefing shall also afford an opportunity for embarked personnel to address personal concerns. Vessel Operators/Masters must also ensure that all personnel are instructed in safe methods of performing particular tasks prior to initiating sampling. Efforts must be expended to confirm that each person has a clear understanding of his/her specific role and responsibilities during data collection activities and feels comfortable with assigned tasks.

TAMUG's USCG inspected vessels shall comply with safety drills as required by 46 Code of Federal Regulations, Subpart 28.270. Drills shall be conducted at least once every 3 months and documented in the vessel's official log. Pre–departure safety orientations shall be provided to embarked personnel on all vessels. Attendance shall be documented. Information regarding agenda of safety briefing can be found in section 10.11 of this document.

5.8 Visitors and Volunteers/Liability Release Forms Required

Liability Release forms must be completed prior to embarking, non-employees, or non TAMUG students on University vessels.

Liability releases are available on the Vessel web page under vessel operations.

http://www.tamug.edu/VesselOperationsOffice/Forms.html

When liability releases must be signed at a remote location, the information should be transmitted to Vessel Operations prior to getting underway. Access to this information will be essential should an unforeseen emergency occur during the day's activities.

5.9 Vessel Manifests

If not included in the float plan of the vessel that is filled prior to departure a manifest of all embarked persons must be created with the names and emergency contacts of each person listed. This manifest must be left with Vessel operations prior to departure.

5.10 Risk Management – Environmental and Personnel Considerations

Without pause, Vessel Operators/Masters must be vigilant and proactive in the recognition and assessment of inherent risks ever present in marine field activities. This is an ongoing process; reassessment should be repeated throughout the day's activities. The following is a list of factors to be considered:

Work to be performed

Scientific gear requirements, familiarity with use

Fuel requirements

Navigational requirements

Water depth/bathymetry

Crew health and welfare, limitations of the crew

Hours of operation

Weather, exposure to the elements

Vessel traffic, maritime restrictions

For trailerable vessels – familiarity with tow vehicle and trailer

This limited list is an example to help identify potential areas of risk in order to mitigate or eliminate them. Although this can be a long and arduous checklist, an experienced Vessel Operator/Master feels comfortable making decisions to manage the risks involved with his/her activity. A new Vessel Operator/Master gains this knowledge from participating in field activities under the guidance of an experienced mentor.

5.11 Work Clothing

Compliance with these procedures may not always be easy or necessarily accommodate the clothing that some individuals would prefer. Nevertheless, the safety of life and limb takes precedence over convenience and matters of personal taste.

Personal foul weather gear and flotation apparel worn during field activities shall be of a **bright** color in order to provide an easy target for rescuers should a person fall overboard. Dark colors, such as green, dark blue, brown and black, do not meet this requirement. In any unexpected person overboard incident, the ability to quickly locate the victim, and timeliness in retrieval of the victim, may dictate the difference between death and survival.

Hand protection should be worn whenever field requirements necessitate the handling of materials with potentially sharp surfaces or which may prove abrasive to the handler (e.g., cables).

All personnel onboard vessels shall wear hard hats during operations where there is danger of head injury from impact, falling objects, or risk of cable failure. Hard hats shall also be worn by operators of material handling equipment, including forklifts and cranes, during offloading and loading of gear onboard vessels. All personnel assisting in these activities shall also wear appropriate protective headgear.

Appropriate footwear must be worn onboard vessels and while traversing marina grounds. The season may dictate the type of soles or the degree of comfort required, but going bare footed or the wearing of open toed shoes, sandals, or “flip flops” is specifically forbidden. The wearing of closed toed footwear is especially important for persons wading or working in marsh zones or beaches where there is potential for material on the bottom that might lacerate unprotected feet.

5.12 SCUBA Diving

All diving operations conducted from a TAMUG vessel, at a minimum, will comply with the standards of the American Academy of Underwater Sciences and the TAMUG Diving Safety Manual. The Dive Safety Manual can be found at http://www.tamug.edu/diveprogram/

OSHA defines scientific diving in 29 CFR 1910.402 as "diving performed solely as a necessary part of a scientific, research, or educational activity by employees whose sole purpose for diving is to perform scientific research tasks..."

Whenever diving is conducted from a TAMUG vessel, the diving occurs under TAMUG auspices and the diving activity (SCUBA) must be noted on the vessel's float plan. The designated lead diver will be in charge of all diving operations. A TAMUG Vessel Operator/Master must remain onboard at all times during diving operations.

5.13 Compressed Gas Cylinders (SCUBA and Medical)

Self-Contained Underwater Breathing Apparatus (SCUBA) cylinders should be secured at all times to prevent damage to either the cylinder or its surroundings.

Emergency medical oxygen cylinders should be stored in their protective cases, and should never be deployed in the presence of petroleum products. Gas cylinders of any type must be kept away from excessive heat (>125 deg. F). All cylinders must be secured to prevent cylinder damage.

5.14 Use of Chemicals Onboard TAMUG Vessels

The use of chemicals onboard vessels introduces a wide range of safety concerns that require risk management planning prior to getting underway. Responsible transport, handling, use, and disposal of wastes must be addressed to ensure that personal and environmental safety is maintained.

The work environment onboard a vessel often lacks the availability of fixed safety equipment including eye wash stations and fume hoods, as well as quick access to emergency medical services. The movement of a vessel, in and of itself, presents a hazard. Responsible risk management by individuals using chemicals onboard vessels will include a review of the University's Chemical Hygiene Plan. Consideration should be directed toward how each guideline is challenged by the environment found onboard vessels and then mitigating these risks by incorporating measures to address these safety concerns.

Material Safety Data Sheets (MSDS) are required at the work station; it is the researcher's responsibility to provide this information.

The University's Chemical Hygiene Plan may be found at:

https://ehsd.tamu.edu/EHS%20Helpful%20Docs/Prudent%20Practices%20in%20the%20Laboratory.pdf

5.15 Non-Emergency Breakdown Tow of TAMUG Vessels

In the normal course of operations we recognize that mechanical failure does occur. If you are on the water and in distress contact the USCG via VHF CH. 16. For this reason TAMUG Vessel Operations has an account with Sea-Tow for each boat. If you are on the water and **NOT** in distress, contact **Sea-Tow** for commercial assistance towing on VHF CH. 16 or 281-557-4117 and Vessel Operations to inform them of your situation. If the breakdown is after hours contact the Campus Police at **409-771-5185** and they will contact the appropriate people.

Sea Tow Galveston Bay

281-557-4117

galveston@seatow.com

Vessel Operations Department

Texas A&M University at Galveston

Vessel Operations Manager Capt. Steve Brown

Phone: 409-740-4964

Email: browns@tamug.edu

If you **ARE** in distress, Contact the **USCG** via VHF CH. 16.

6 Float Plans

Float plans are required for all marine research, applicable training and educational activities conducted under the auspices of TAMUG involving the use of vessels, without regard to the ownership of the vessel. This information is imperative in order for the University to be aware of the location of TAMUG personnel in case of an emergency. Three actions will enhance the float plan's overriding purpose, which is to contribute toward the safety of all individuals involved in marine activities. These actions are:

• Submitting baseline information relevant to the day's intended activities.

• Providing updated or modified information to land-based personnel when original information is no longer accurate.

• Closing the float plan upon termination of day's field activities or arrival at the end-of-day destination.

6.1 Float Plan Format for All Vessels Provide the Following Information:

A. Vessel Name/Date/Departure Time.

B. Location of sampling site(s).

C. Weather considerations.

D. Activities included in the day's field effort: trailering, scuba

E. Names of personnel onboard.

F. Expected time of return or arrival at destination at end of day.

G. Name and phone number of the land-based contact for closing float plan if return is after 4:30 p.m.

H. Listing of available electronics for communication/navigation. A VHF radio must be present during all vessel field activities**.** Hand-held VHF radios may be obtained from the Vessel Operations Office prior to departure for field activities. A cell phone must be present during all vessel field activities. It is recommended that communication options be enhanced by the chief scientist providing "project" cell phones for field personnel. Cell phone numbers must be recorded on the float plan. Vessel Operations Department provides a limited number of cell phones for projects involved in field operations on an infrequent basis.

I. Reminder to secure signed Liability Release Forms.

J. Pre-departure checklist of vessel equipment, along with checking equipment operation and documenting observed deficiencies.

K. Signatures indicating acceptance of responsibility for the operation of University owned vessels and/or trailering operation for the day's field activities. **These signatures may not be delegated.**

6.2 Submission of the Float Plan

It is the responsibility of each Vessel Operator/Master to activate their float plan prior to each day's voyage.

A vessel float plan must be completed for every voyage of any applicable TAMUG vessel. This is for your safety so that we know where you are, or are expected to be at all times.

Instructions for float plan:

Fill out the online form completely!

Once you hit "submit" the form will be emailed to Campus Police and the Vessel Operations Department.

If you file a float plan and need to amend it please file another plan and under additional information indicate that it is an amendment to your original plan.

On day and time of departure, please call Campus Police at 409-740-4545 extension 2 and indicate that you are activating the float plan as submitted.

Upon return, call Campus Police at 409-740-4545 extension 2 (after hours 409-771-5185) and indicate that you have returned safely.

Failure to indicate your return will activate an emergency response to look for you! Any costs incurred to look for people who did not call in will be charged to the department operating the vessel!

The float plan can be submitted online at
http://www.tamug.edu/VesselOperationsOffice/FloatPlan.html

Vessels departing from a location remote from the University's facilities and who will have guests onboard, who are not employed or enrolled by TAMUG, must provide identifying information, including name, agency, and emergency contacts (secured on the liability release form), prior to the vessel's underway activity for the day. The location for the emergency and liability release form is http://www.tamug.edu/VesselOperationsOffice/Forms.html

6.3 Classes, Labs, and Club Sports with multiple trips.

Throughout the course of a semester or year, classes, labs and club sports may make multiple repetitive trips. In the event of this occurrence only one float plan with all the necessary information is needed. Attached to the float plan will be the schedule of those trips and any change in information that may occur between the trips.

Be sure to update any personnel information when activating the float plan for the day

Be sure to check and make sure no Adverse Weather Exemption is required prior to your trip

6.4 Trips underway for multiple days without mooring at night.

As necessity dictates, vessels may be on multiple day underway trips in which mooring is not practical or necessary. For such eventualities the following must be adhered to in addition to the standard float plan:

A detailed voyage plan must be submitted to the Vessel Operations Department, indicating the route the vessel intends to take, with expected position locations every 12 hrs

All vessels must be equipped with a GPS geo-transponder unit so that shoreside personnel can monitor progress in real time

A satellite phone must be onboard

A qualified Vessel Operator/Master and required number of crew must be onboard for each watch

A watch bill must be created and submitted with the voyage plan

A station bill must be created, if one doesn't exist already, and drills held accordingly

A position report must be made at 0800 and 2000 detailing the current position, current fuel onboard (if applicable) fuel burned (if applicable) current weather, vessel condition, distance to destination, distance traveled, speed made good since last report

6.5 Updating Float Plan Information

It is not unusual for field activities to encounter circumstances that contribute to delays in maintaining the original intended field schedule. Once it becomes apparent that the estimated time of return will not be possible, the Campus Police **(409-740-4545 extension 2)** or the shore-based responsible person should be contacted. If at all possible, change in time of return should be reported to the Campus Police prior to 4:30 pm in order to document changes to the original float plan.

6.6 Closing the Float Plan

It is imperative vessel operator, as well as TAMUG personnel onboard non-TAMUG vessels, close out their float plan at the end of each day's activities by calling the campus police at (409-740-4545 extension 2).

The Vessel Operator/Master shall provide emergency contact numbers to individuals accepting the commitment to remain vigilant until the field crew is reported to be off the water. When two hours have elapsed beyond the estimated time of return**,** individuals who have agreed to serve as "contacts" for the report of safe return of persons involved in field activities should notify the Vessel Operations Director or the Campus Police utilizing emergency phone numbers provided previously by the vessel operator.

6.7 Float Plan – Non-TAMUG Owned Vessels with Exception of MARAD Vessels

Float plans are required for all marine research, applicable training and educational activities conducted under the auspices of TAMUG involving the use of vessels, without regard to the ownership of the vessel. When TAMUG personnel are involved in marine activities, conducted under the auspices of the University, onboard non-TAMUG owned vessels, the submission of an "underway float plan" is required. In addition to monitoring the safe return of individuals involved in vessel activities, information provided on float plans will aid communication and support efforts in the case of a marine, individual, or family emergency. Float plans for non-TAMUG owned vessels should be filled out on the same float plan form are available on the Vessel Operations Department webpage: http://www.tamug.edu/VesselOperationsOffice/FloatPlan.html

7 First Aid Kit Requirements for all Vessels

7.1 General Description

This procedure describes the requirements to carry a first aid kit onboard all vessels.

7.2 Responsibilities

It is the responsibility of Vessel Operations Department to provide an adequate first aid kit onboard the vessel at all times. It is also the responsibility of the Vessel Operations or Vessel Operator/Master to ensure that the kit is maintained with the proper contents at all times.

7.3 References

46 CFR 184.710, 160.041

7.4 Requirements

A vessel must carry a first aid kit approved under 46 CFR 160.041 series, or other standard specified by the Vessel Operations Department.

For equivalent kits, the contents must be stowed in a suitable watertight container that is marked, "First Aid Kit".

A first aid kit shall be easily visible and readily available to the crew.

Note:

Manufacturers of "equivalent" kits may also mark them with the following or similar wording:

"This First Aid Kit meets the USCG's minimum requirements for small passenger vessels in 46 CFR 121.710 and 184.710."

"Equivalent" kits are **NOT** permitted to be marked "USCG Approved."

7.5 Procedures

Ensure that:

kit is stowed in an appropriate watertight container clearly marked “First Aid Kit”

kit is readily accessible to crew

kit is maintained with all the required contents at all times

detailed instructions for the use of each item are available

When a medical emergency occurs that is beyond the capability of the Vessel Operator/Master, immediately notify all of the following:

USCG Marine VHF FM ch. 16, 5a

Call 911 from cell or sat phone

Campus Police at 409-740-4545 extension 2 or (after hours 409-771-5185)

Executive Director; Allan Post 409-392-5701

8 Weather Conditions

The use of a vessel is contingent upon reasonable weather conditions for that vessel, the nature of the work, and the experience of the Vessel Operator/Master. Adverse weather can have negative impacts upon vessel operation. Factors such as fog, lightning, strong tidal currents and high wind, among others, may interfere with safe boating. Weather conditions can change rapidly in and around the Galveston Bay and near-shore waters. Even the best forecaster can be surprised at the unpredictability of changing weather patterns. It is imperative that the Vessel Operator/Master remains alert to sudden weather or wind changes and obtains weather updates on the VHF radio. When confronted with impending severe weather, priority must be directed toward personnel and vessel safety. Seek safe haven! It is the responsibility of the Vessel Operator/Master to be prepared with navigational information, such as charts or possession of local knowledge, to allow transit to a safe harbor.

8.1 Weather Considerations – Trailerable Vessels

These procedures set specific thresholds for adverse weather conditions to limit the potential for negative impacts upon the safety of field activities. Responsibility for monitoring weather conditions prior to departure and during operations always resides with the Vessel Operator/Master. It is reasonable to expect that weather observations should begin 48 hours prior to the scheduled activity and shall include the following factors: predicted weather, wind speed, and sea conditions. This information may be accessed at numerous resources including:

The National Weather Forecast Website at: **http://www.srh.noaa.gov/hgx/**

Galveston Bay Operational Forecast System (GBOFS) at:
http://tidesandcurrents.noaa.gov/ofs/gbofs/gbofs.html

NOAA National Buoy Center web page at: www.ndbc.noaa.gov

8.2 Adverse Weather Conditions

The Exec. Director has the authority to issue the requirement, due to prevailing or expected adverse weather, for an Adverse Weather Exemption or to cease vessel activity. Notification of this requirement will be made through text and email to all Vessel Operator/Master using the Sea Aggie Alert emergency communication system.

When any of the adverse weather conditions listed below exists in the area of planned operations, the Vessel Operator/Master shall postpone or cancel operations until favorable conditions prevail.

1. Small craft advisories posted for the waters of intended field operations when operating a TPWD registered vessel.
2. Winds greater than 20 knots.
3. Wave heights in excess of 2 feet (4 ft for vessels over 20ft)
4. Visibility less than 0.25 mile in the area of operations.

For example, vessels may not depart the TAMUG marina when you cannot see the American National building from campus. Factors restricting visibility may include fog, rain, or snow.

8.3 Adverse Weather Exemption

Expected weather conditions are predicted for broad geographical areas. Small craft warnings may also be issued for wide areas. When a specific field site may not be adversely affected by predicted weather, a Vessel Operator/Master who believes that planned field activities will be sheltered, or can be altered to enable safe operations, may formally request an Adverse Weather Exemption under the terms of Section 9.5 of this procedure.

When an Adverse Weather Exemption is granted under the authority of the Vessel Operations Director, the Vessel Operator/Master may proceed with the planned field activity so long as the Vessel Operator/Master believes the mission can be accomplished safely. Once an Adverse Weather Exemption has been granted, it is especially important for a Vessel Operator/Master to understand the responsibility for the safety of personnel, and the final assumption of risk, predicated on the decision to proceed, remains solely with the Vessel Operator/Master.

8.4 Weather Advisory Panel

The Vessel Operations Director may determine that, by their performance as Vessel Operator/Master, certain individuals have consistently demonstrated both the knowledge and sound risk management practice to judge whether it is prudent to proceed with scheduled field activities in the face of adverse weather conditions.

The Vessel Operations Director may authorize such individuals as his/her designees to decide whether or not a specific Adverse Weather Exemption is appropriate. These designees shall constitute the Weather Advisory Panel. The Vessel Operations Director shall issue written authorizations to such designees on an annual basis. The Vessel Operations Director shall accept unconditionally the full responsibility for each Adverse Weather Exemption determined by his formally authorized designees.

The Weather Advisory Panel may assist the Vessel Operations Director in judging the potential impacts of adverse weather conditions upon specific field activity. When two members of the Weather Advisory Panel agree that need

for an Adverse Weather Exemption is needed or that an Adverse Weather Exemption may be granted for a specific field activity, their decision to permit a Vessel Operator/Master to proceed with that field activity shall carry the full authority of the Vessel Operations Director. Contact information for members of the Weather Advisory Panel shall be listed on the Vessel Operations home page:

http://www.tamug.edu/VesselOperationsOffice/Forms.html

8.5 Requesting an Adverse Weather Exemption

Vessel Operator/Master will routinely monitor weather forecasts prior to the day of scheduled field activities. When it appears that adverse weather factors may interfere with field activities, Vessel Operators/Masters are encouraged to initiate contact with the Vessel Operations Director or a member of the Weather Advisory Panel on the day prior to the scheduled vessel use. Waiting until the scheduled date to initiate a request for an Adverse Weather Exemption may compromise field plans.

When a Vessel Operator/Master believes that an Adverse Weather Exemption is appropriate, a formal request shall be required. Brief details pertaining to the site of the fieldwork, vessel type, nature of the sampling, and Vessel Operator/Master shall be submitted by entering the required information electronically on the Exemption Request form (Appendix H) available on Vessel Operations home page.

The Vessel Operator/Master shall next contact either the Vessel Operations Director or, in his/her absence, a member of the Weather Advisory Panel. The Vessel Operator/Master shall orally provide such additional information as may be required for further consideration. Then, the Vessel Operator/Master shall stand by while the panel member independently polls other panel members to determine the basis for granting an Adverse Weather Exemption. Each request for an Adverse Weather Exemption shall be judged on a case-by-case basis. Agreement of two members of the Weather Advisory Panel will be required for an Adverse Weather Exemption to be granted for vessel activities departing from TAMUG.

Once a decision has been rendered it shall be final and shall have the unconditional support of the Vessel Operations Director. “Shopping” for an Adverse Weather Exemption will not be condoned. Once a request for an exemption has been denied, the Vessel Operator/Master shall not contact another member of the Weather Advisory Panel to seek the exemption. Once either the Vessel Operations Director or two members of the Weather Advisory Panel have rendered a decision, their next responsibility shall be to formally document the decision by closing out the electronic Adverse Weather Exemption form. Including the following info:

Adverse Weather Exemption Request: _____

Requested by (Vessel Operator): _____

Email: _____ Phone Number: _____

Date of Field Work: _____

Proposed Departure Time: _____

Sampling Location (be specific): _____

Vessel Type: _____

Proposed Field Activity: _____

Predicted: _____

Wind Speed: _____ Knots Direction: _____ Wave Heights: ft. _____

High Tide (hh:mm am/pm) _____ Low Tide (hh:mm am/pm) _____

Adverse Weather Concerns: _____

Basis for Exemption Request: _____

Note: Members of the Weather Advisory Panel may not act on their own application to an Adverse Weather Exemption Request; they must contact the Vessel Operations Director or another member of the Advisory Panel.

The request for Adverse Weather Exemptions can be filled out online at:

http://www.tamug.edu/VesselOperationsOffice/Forms.html

8.6 Mandatory Procedures for Vessel Operations Conducted Under an Adverse Weather Exemption

The Vessel Operator/Master who has been granted an Adverse Weather Exemption shall report this authorization on the Daily Float Plan filed prior to departure. Prior to a vessel departing the University under an Adverse Weather Exemption, a response plan must be enacted by the Vessel Operations Department. This plan will delegate responsibilities to specific individuals available to monitor the status of the field activity and to render assistance or affect a rescue during subsequent field activities. This individual(s) shall be identified on the Daily Float Plan.

Mandatory communications shall occur as follows:

At minimum, contact between the Vessel Operator/Master and the Vessel Operations Department shall occur at three specific times during the course of field activities.

Initially, when the decision is made by the Vessel Operator/Master to proceed by water to the location of field activities.

Next, a check-in call will be required upon arrival at the sampling site to report whether or not data collection can be safely accomplished.

When the vessel is secured and all personnel are off the water.

It shall remain the responsibility of the Vessel Operator/Master to initiate each of these calls in a timely manner.

9 Voyage Plans

9.1 Purpose:

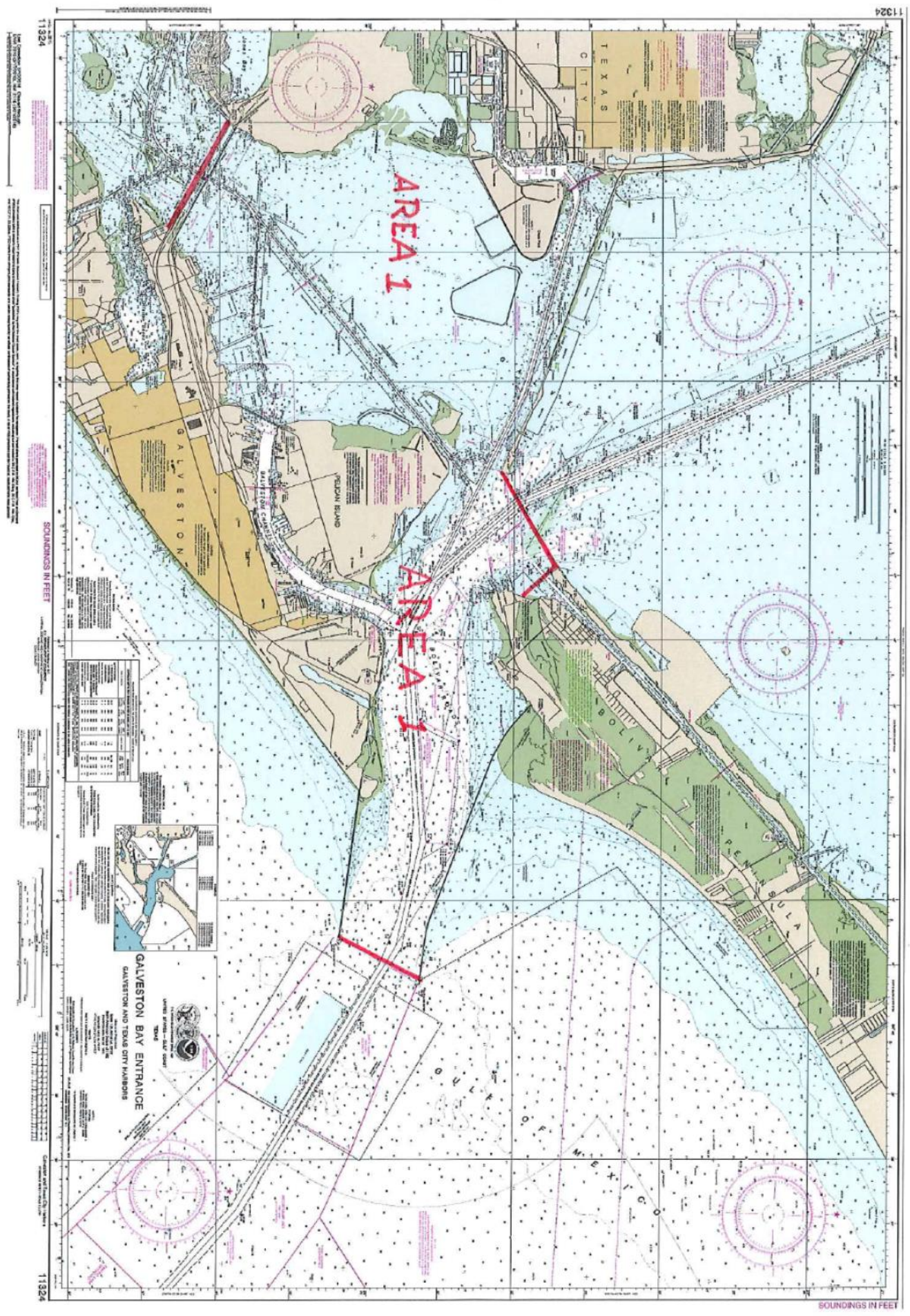
Outline procedures for the operators of all Texas A&M University at Galveston (TAMUG) vessels to make them aware of potential hazards to vessels, and personnel while vessels are away from TAMUG's Normal Operating Area.

9.2 Scope:

This instruction covers the operation of all vessels

9.3 Operating Areas:

- **Area 1**: Our normal operating area as defined as inshore of the Colregs Demarcation line at the Galveston jetties, East of the Galveston Island Causeway, south of a line from the south tip of the Texas City Dike to Bolivar ICW buoy 18, and west of a line intersecting Bolivar buoys 17 and 18.
  Cert. Requirements: Current CPR and 1st Aid, TAMUG Safe Powerboat Handling Training, Boating experience questionnaire, drug test, Background check (if required)
  Document Submission Requirements: Float Plan prior to trip, TripDirect reservation 1 week prior to trip
- **Area 2:** All waters outside area 1 but inshore of the Colregs Demarcation line.
  Cert. Requirements: Current CPR and 1st Aid, TAMUG Safe Powerboat Handling Training, Boating experience questionnaire, drug test, Background check (if required)
  Document Submission Requirements: Float Plan prior to trip, TripDirect reservation and Voyage Plan 1 week prior to trip.
- **Area 3:** All waters seaward of the Colregs Demarcation line
  Cert. Requirements: Current CPR and 1st Aid, TAMUG Safe Powerboat Handling Training, Offshore Operator Endorsement, Boating experience questionnaire, drug test, Background check (if required)
  Document Submission Requirements: Float Plan prior to trip, TripDirect reservation and Voyage Plan 1 week prior to trip


AREA 1
AREA 1
TEXAS CITY
GALVESTON
PELICAN ISLAND
GALVESTON CHANNEL
BOLIVAR PENINSULA
GULF OF MEXICO
GALVESTON BAY ENTRANCE
GALVESTON AND TEXAS CITY HARBORS
SOUNDINGS IN FEET
SOUNDINGS IN FEET
11324
11324

9.4 Operating Outside Area 1:

When intended use of the vessel extends past the boundary lines, the vessel Master/operator is required to provide a detailed Voyage Plan one week prior to the scheduled date of departure. The Voyage Plan will be submitted to the Vessel Operations Manager or Executive Director of Vessel Operations for review and approval.

9.5 Vessel Operations Master/Operator Voyage Plan

Submitted by _____ Date _____ Approved by _____ Date _____

Date and times of voyage _____

Vessel _____

Master/Operator Name _____

Experience of operator on route requested (Circle one)

Beginner Intermediate Advanced Expert

Include printed chartlet of area of operations with route and stations identified (drawn)on the chart

For chartlet use http://www.nauticalchartsonline.com/charts/NOAA/Gulf-Coast

Include Latitude (Lat.) and Longitude (Long.) of stations

Include estimated times for launch/ recovery/ underway/ mooring

What is the predicted weather for the voyage period? Can the vessel handle expected conditions?

_____

_____

Steps taken to mitigate weather impact _____

_____

What are the predicted water conditions? Will tides and currents affect your plan s?

_____

_____

What is the expected vessel traffic during voyage?_____

_____

What are potential hazards along your route? _____

_____

What are harbors of safe refuge along the route? _____

_____

Where can you get fuel if needed along the route? _____

Where can you get medical attention and how if needed? _____

_____

Is this voyage covered in our Sea Tow membership (circle one) Yes No

The following is applicable depending on route

List of bridges with vertical and horizontal clearances _____

Bascule, Lift, Draw, and Swing bridge operation parameters and restrictions

_____

List of locks and their operation parameters and restrictions

_____

VHF channel for each bridge and lock if applicable _____

A copy of this voyage plan must be on the vessel for the voyage approved.

The master will be imaged and filed

A thorough review of the waterways in which operations will take place is highly recommended for the safety of the people on board and the vessel itself. Information about all navigable waterways can be found in;

Notice to Mariners (msi.nga.mil/NGAPortal)
Local Notice to Mariners for Eighth District Gulf Coast (www.navcen.uscg.gov)
U.S. Coast Pilots 5 (www.nauticalcharts.noaa.gov/nsd/coastpilot_w.php?book=5)
Waterway Guide – Southern- Florida and Gulf Coast to Texas

10 Drug and Alcohol Procedures for Texas A&M University at Galveston vessels

Texas A&M University at Galveston (TAMUG) is firmly committed to ensuring a safe and healthy work environment for all crewmembers, students, customers and the public in general by maintaining a workplace that is free of drug and alcohol abuse.

10.1 PROCEDURE

In compliance with the federal Drug-Free Workplace Act, the U.S. Coast Guard ("USCG") regulations, 46 CFR Part 16; 46 CFR Part 4, and the Department of Transportation's (DOT) drug and alcohol testing regulations (49 CFR part 40) and TAMU Rule 34.02.01M1Substance Abuse Prevention the TAMUG MESSO Vessel Operations has established these Drug and Alcohol procedures for individuals serving in safety/security sensitive positions on vessels within the TAMUG fleet.

Under TAMUG's independent authority, the Executive Director of MESSO shall determine which of TAMUG's vessels require that the Operator in Charge must possess appropriate USCG licensure. Drug and alcohol testing is an integral part of our policy and program. Job applicants applying for a position that has been identified as a safety sensitive position are required to comply with these procedures as a condition of employment and by crewmembers as a condition of continued employment.

Crewmembers subject to TAMU Rule 34.02.01.M1 are also subject to all conditions of employment with the University.

It is TAMUG MESSO Vessel Operations intention to comply fully with the USCG's and DOT's regulations governing drugs and alcohol use and testing. In the event the USCG's or DOT's regulations are amended, the applicable term(s), condition(s), and or requirement(s) of these procedures shall be deemed to have been amended automatically at the time, without the need for redrafting in order to reflect, and be consistent with, the USCG's and DOT's regulations. In such case, TAMUG MESSO Vessel Operations reserves the right to apply the amended requirements immediately, and without giving prior notice to crewmembers subject to the Regulations, unless such notice is required by the USCG or DOT.

To insure full compliance with USCG and DOT's regulations governing drug and alcohol testing for marine operations, TAMUG MESSO Vessel Operations will secure consultation and program management assistance from nationally recognized providers of drug and alcohol testing programs.

10.2 DEFINITIONS

CrewmemberAs defined by 46 CFR 16.105, and includes an individual who is engaged or employed in a safety sensitive position on board a vessel owned in the United States that is required by law or regulation to engage,

employ, or be operated by an individual holding a license, certificate of registry, or merchant mariner's document issued under 46 CFR.

Designated Crewmember Representative (DER) An crewmember authorized by the employer to take immediate action(s) to remove crewmembers from safety-sensitive duties, or cause crewmembers to be removed from these covered duties, and to make required decisions in the testing and evaluation processes. The DER also receives test results and other communications for the employer, consistent with the requirements of this part.

Embarked Personnel Those individuals, including scientific personnel, who are aboard a vessel and are not designated as crewmembers. Embarked personnel are only required to be drug tested in the cases of reasonable cause or post-accident.

Marine Casualty or Accident Any casualty or accident involving any vessel other than public vessels if such casualty or accident occurs upon the navigable waters of the U.S., it's territories or possessions or any casualty or accident wherever such casualty or accident may occur involving any U.S. vessel which is not a public vessel; includes any accidental grounding, or any occurrence involving a vessel which results in damage by or to the vessel, its apparel, gear, or cargo, or injury or loss of life of any person; and includes among other things, collision, stranding, grounding, foundering, heavy weather damage, fire, explosion, failure of gear and equipment and any other damage which might affect or impair the seaworthiness of the vessel; and includes occurrences of loss of life or injury to any person while diving from a vessel and using underwater breathing apparatus.

Medical Review Officer (MRO) A licensed physician (medical doctor or doctor of osteopathy), with toxicology and substance abuse expertise who functions independently of the testing laboratory and meets the qualifications established in 49 CFR Part 40, of the US DOT regulations. The MRO is responsible for receiving laboratory results generated by an employer's drug testing program and evaluating medical explanations for certain drug test results.

Operation Operation means to navigate, steer, direct, manage or sail a vessel, or to control, monitor or maintain the vessel's main or auxiliary equipment or systems. As defined in 46CFR Part 16.105 "operation" includes a long list of activities and include but not limited to: determining the vessel's position, piloting, directing the vessel along a desired track line, maintaining a lookout; operating deck machinery including winches, windlasses, and lifting equipment; lifesaving equipment and appliances; firefighting systems and equipment; and navigation and communication equipment; and also mooring, anchoring, and line handling; assembling or disassembling of tows.

Safety Sensitive Positions Positions where an individual engaged or employed on a vessel operated by a USCG licensed operator, is required to perform one or more safety sensitive duties on either a routine or emergency only basis. Any person filling a safety sensitive position is subject to U.S. Coast Guard drug and alcohol testing. Vessel crewmembers are considered to serve in safety sensitive positions.

Scientific Personnel: As defined by 33 CFR 188.10-71, an individual who is aboard a vessel "solely for the purpose of engaging in scientific research, or in instructing or receiving instruction".

Serious Marine Incident Any marine casualty or accident as defined in 46 CFR 4.03-1 and 46 CFR 4.05-1, which is required to be reported to the Coast Guard which results in any of the following:

- one or more deaths;
- an injury to a crewmember, passenger, or other person which requires professional medical treatment beyond first aid, in the case of a person employed on board a vessel in commercial service, which renders the individual unfit to perform routine vessel duties;
- damage to property in excess of $100,000;
- actual or constructive total loss of any vessel subject to inspection under 46 U.S.C. 3301;
- actual or constructive total loss of any self-propelled vessel, not subject to inspections under 46 U.S.C. 3301, of 100 gross tons or more;
- a discharge of oil of 10,000 gallons or more into navigable waters;
- a discharge of reportable quantity of hazardous substance into navigable waters or the environment, whether or not resulting from a marine accident.

10.3 PROHIBITED CONDUCT

Prohibited Conduct Concerning Crewmember's Use of Drugs and Alcohol:

- Crewmembers are prohibited from reporting for duty or remaining on duty when using any controlled substances or drugs, except when the use is pursuant to the instructions of a medical doctor who has advised the crewmember that the substance will not adversely affect the crewmember's ability to safely perform his/her duties.

- Crewmembers are prohibited from reporting for duty, or remaining on duty, with an alcohol concentration of 0.02 or greater.
- Crewmembers are prohibited from performing safety-sensitive functions within 4 hours after consuming any alcohol. On-call crewmembers who are not at work, but could be called to perform safety-sensitive functions, are subject to this pre-duty prohibition.
- Crewmembers may not "refuse to submit" to any drug or alcohol test required under the USCG's and DOT's drug and alcohol rules
- Crewmembers are prohibited from performing or continuing to perform a safety-sensitive function if they have tested positive for controlled substances or alcohol, or refused to provide a specimen.
- During a crewmember's workday, a crewmember is prohibited from engaging in the unlawful or unauthorized manufacture, distribution, dispensation, sale, purchase, solicitation, transfer, possession, use or transport of controlled substances or alcohol. This prohibition does not include the authorized distribution, dispensation, sale, purchase, solicitation, transfer, possession, use or transport of alcoholic beverages in connection with University- sponsored functions or events or service to our customers.
- Crewmembers are prohibited from failing to stay in contact with the University or its medical review officer while awaiting the results of a drug test.

Refusal to Submit to Testing: The following crewmember conduct will be considered as a refusal to submit to a test:

- Refusing to complete the chain-of-custody form or any other required drug or alcohol testing form(s);
- Refusing to provide a urine sample, or breath or saliva specimen for testing;
- Failing to provide an adequate amount of urine or breath for testing, without a valid medical explanation;
- Failing to promptly notify the University that the crewmember was involved in a serious marine incident or not being readily available for testing after an incident (except as necessary to obtain assistance or medical care);
- Refusing or failing to report directly to the collection site after being notified of the need to submit to a test;
- Failure to co-operate with the collection process or delaying the collection, testing, or verification process;
- Adulterating or substituting a urine sample or attempting to adulterate or substitute a urine sample; or

- Otherwise engaging in conduct that clearly obstructs the testing process.

Consumption of Food or Food-Products Containing Hemp: The consumption of food and food- products containing hemp (for example, "Seedy Sweeties" and hemp oil) may cause a crewmember to test positive for marijuana. A test result that is positive as a result of a crewmember's consumption of food or food-products containing hemp will be reported as a positive test.

Prohibition on Supervisor or Manager Permitting a Crewmember to Work: No supervisor or manager who has actual knowledge that a crewmember has engaged in or is engaging in prohibited conduct shall permit the crewmember to work or continue working under such circumstances. Any crewmember who has been directed not to work or directed to stop working under such circumstances must immediately comply.

Prohibition against Working While Using Any Drug Medications Which Can Affect Safety or Performance:

- Except as otherwise provided in this section, the lawful use of any medication (therapeutic drugs) while performing a safety-sensitive function is prohibited to the extent such use may affect the crewmember's ability to perform his/her job duties safely.

- A crewmember who will use, or who is using, any medication that contains a controlled substance has an obligation to inquire and determine whether the medication the crewmember is using, or may use, could affect the crewmember's ability to perform his/her job duties safely.
- If the crewmember is or will be using any such drug medication, the crewmember is required to obtain from the crewmember's licensed medical practitioner a written statement which provides that the medication will not interfere with the crewmember's ability to safely and efficiently perform the crewmember's job duties or provides the work restrictions, if any, which the crewmember is subject to for the period of time the crewmember is taking the medication.
- In the event an crewmember is using or will be using drug medication which will interfere with or adversely affect the crewmember's ability to do his or her job duties, such information must be reported to the crewmember's immediate supervisor prior to commencing any safety- sensitive functions, without disclosing the identity of the substance. The crewmember must also have the medication available for review by the University's MRO in its original container, which must identify the medication dosage and other pertinent information about the medication.

- A crewmember may continue to work, if the University's MRO and the licensed medical practitioner have determined that the medication will not adversely affect the crewmember's ability to safely and efficiently perform the crewmember's safety-sensitive functions, or they have determined that a reasonable accommodation can be made concerning the crewmember's medication. A crewmember will not be permitted to perform his or her safety-sensitive functions unless such a determination or reasonable accommodation has been made.

- A crewmember may consume a legal non-prescription drug provided the drug does not cause the individual to be intoxicated. (33CFR 95.045) If there is any doubt the non-prescription drug may cause intoxication the individual shall contact their immediate supervisor prior to assuming any safety sensitive functions. The crewmember must also have the medication available for review by the University's MRO in its original container, which identifies the dosage and other pertinent information about the medication.

10.4 REQUIRED TESTS TO ADDRESS USCG AND DOT REGULATIONS

As required by the USCG's and DOT's regulations, the University will conduct drug and alcohol tests under the conditions and circumstances described below.

- Prior to employment or re-employment, promotion, demotion, reallocation, or transfer into a safety sensitive position.
- Random drug and alcohol testing.
- Reasonable cause/suspicion of alcohol or drug use.
- Post-Accident or Incident
- Return to Duty
- Follow Up testing

10.5 Pre-Employment Drug Testing and Past Test Results Information:

All applicants who have received a conditional offer of employment, and all existing crewmembers whose transfer to a "safety sensitive" position has been conditionally approved, are required to submit to a pre-employment drug test and must receive a negative test result as a condition of employment.

Such tests will be conducted prior to the time the applicant is hired or transferred.

In addition to a pre-employment drug test, United States Department of Transportation and USCG's regulations require the University to obtain the following specific information concerning an applicant's past drug and alcohol tests from an applicant's former employer/s during the previous two years:

- Alcohol tests with results of 0.04 or greater;
- Drug tests whose results were verified positive;
- Refusals to be tested (including adulterated or substituted samples);
- Other violations of DOT drug and alcohol testing regulations;
- Information obtained from previous DOT employers of a drug and alcohol rule violation;
- Documentation, if any, of completion of the return-to-duty process following a rule violation.

All such information will be obtained in a confidential manner and the University will maintain a written confidential record with respect to each former employer contacted. If the University learns from the crewmember's previous employer that the crewmember had an alcohol test result of 0.04 or greater, a verified positive drug test, or refused to be tested, the crewmember either will be ineligible to perform a safety sensitive function for the University, or if hired, the crewmember will be terminated, unless the University obtains evidence that the crewmember has complied with the referral and rehabilitation requirements set forth in 49 CFR part 40 of the regulations.

10.5.1 Random Drug and Alcohol Testing:

- Each year the University will administer random drug tests. These tests may be conducted at any time, will be unannounced and will be spread reasonably through the year.

- Crewmembers will be selected for testing by using a computer-based random number generator that is matched with the crewmembers' social security numbers, or other comparable identification numbers that will ensure that each crewmember has an equal chance of being tested each time selections are made.

- Each crewmember who is notified of selection for random drug testing *must proceed to the collection-testing site immediately*. Crewmembers who do not proceed to the test site immediately upon notification of the test shall be considered to have refused to submit to the test. An annual testing rate of 50 percent of marine operations safety sensitive personnel will be performed.

10.5.2 Reasonable Cause Drug and/or Alcohol Testing:

Any crewmember or embarked personnel must submit to a reasonable suspicion drug and/or alcohol test whenever a manager or supervisor has reasonable suspicion to believe that the individual has violated the drug or alcohol prohibitions. The determination of a need for reasonable suspicion testing is based on the reasonable, specific observations by at least one trained supervisor.1

Examples of behaviors that alone or in combination may create a reasonable suspicion of alcohol or drug use include but are not limited to:

Unexplained inability to perform normal job functions Slurred speech

Smell of alcohol or drugs on breath

Unusual lack of physical coordination or loss of equilibrium

---

1 Federal regulations require training on alcohol misuse and controlled substances use before a person can be designated to determine whether reasonable suspicion exists to require a crewmember to undergo alcohol or controlled substances testing. (USCG - 46 CFR Part 16.401)

Unexplained inability to think or reason at the crewmember's normal level, unexplained hyperactivity, depression, or withdrawal

Bizarre behavior or ideation Possession of alcohol or illegal drugs

Presence of alcohol, alcohol containers, illegal drugs, or drug paraphernalia in an area subject

to the crewmember's control.

Whenever possible, the physical, behavioral, or performance indicators should be based on the observation of the individual by two persons in supervisory positions. The individual's behavior is documented by the supervisor who first observed the behavior and, when possible, by a second supervisor.

A crewmember who is directed to take a reasonable suspicion drug and/or alcohol test must submit to the test as directed. The supervisor or manager may accompany the crewmember to the collection/test site, preferably in a state owned vehicle.

Should the crewmember refuse to submit to reasonable cause testing, this refusal should be thoroughly documented and reported to the Coast Guard as appropriate. Any crewmember suspected of being under the influence of a dangerous drug or alcohol should be removed from safety sensitive operations.

In accordance with System Regulation 34.02.01 – Drug and Alcohol Abuse and Rehabilitation Programs, Office of General Council is to be advised prior to testing anyone due to reasonable suspicion at 979-458-6120

10.5.3 Post-Accident or Incident Testing:

At the time of occurrence of a marine casualty or accident the University shall make a timely, good faith determination as to whether the occurrence currently is, or is likely to become, a serious marine incident. When the University determines that a casualty or incident is, or is likely to become a serious marine incident, crewmembers and embarked personnel directly involved in the incident shall be tested for drugs and alcohol. This determination should be based on the operation being performed at the time of the accident, and what personnel could have or should have had a role in that operation. The identified individuals shall provide urine, blood, saliva, and/or breath specimens as required by the University or law enforcement officers. A law enforcement officer has the authority to further name personnel as being directly involved in the incident and as such, direct them to submit to drug and alcohol testing. The University shall complete Form CG-2692B (Report of Required Chemical Drug and Alcohol Testing Following a Serious Marine Incident).

Post-Accident Testing Procedures: Crewmembers and embarked personnel subject to post-accident testing must remain readily available for such testing or else will be deemed to have refused to submit to such testing. However, this "readily available" requirement does not require the delay of necessary medical attention for injured people, or prohibit an individual from leaving the scene of the accident for the period necessary to obtain assistance in responding to the accident or to obtain necessary emergency care. Once emergency concerns have been met Federal law requires: (46CFR Part 4.06- 10)

Alcohol Test:

- Must be conducted within 2 hours of the serious marine incident.
- The only acceptable test methods are a breath test, saliva, or blood test. Only qualified medical personnel may collect blood specimens. A urine test for alcohol is not acceptable.
- Crewmembers or embarked personnel directly involved in a serious marine accident are prohibited from consuming alcohol for a period of 8 hours following the accident.

Drug Test:

- Must be conducted as soon as practicable but not more than 32 hours following a serious marine incident.

- Only a DOT 5 – panel test of a mariner's urine specimen is acceptable. A blood test for drugs is not acceptable.

10.6 DRUG AND ALCOHOL TESTING PROCEDURES

As required by the United States Department of Transportation and the USCG rules, the University's drug and alcohol testing procedures comply with the Federal Procedures For Transportation Workplace Drug and Alcohol Testing Programs, 49 C.F.R. Part 40, as amended. These procedures ensure the integrity, confidentiality and reliability of the testing processes, safeguard the validity of the test results and ensure that these results are attributed to the correct crewmember. Further, these procedures minimize the impact upon the privacy and dignity of persons undergoing such tests. The following provides a summary of the federal procedures.

10.6.1 Drug Testing Procedures:

All urine specimens are analyzed for the following drugs:

- Phencyclidine (PCP)
- Amphetamines
- Marijuana
- Cocaine
- Opiates

Chain-of-custody and laboratory: All drug tests conducted shall be performed by laboratories certified by the Department of Health and Human Services ("DHHS"). The University will only use collection sites that adhere to DOT collection and handling procedures as outlined in 49CFR Part 40. The most current Federal Chain of Custody documentation will be required.

Confirmation and review of drug test results: All positive drug test results will be confirmed by gas chromatography and mass spectrometry (GC/MS). All confirmed positive drug test results will be reviewed by a Medical Review Officer (MRO) to determine whether there is any legitimate explanation for the positive test result. This review may include a medical interview, review of the applicant's or crewmember's medical history, or review of any other relevant biomedical factors and all medical records made available by the tested individuals.

Individuals testing positive will be given the opportunity to discuss with the MRO any legitimate explanation for the positive test result. If, after speaking with the crewmember, the MRO determines that there is a legitimate medical explanation for the confirmed positive test result, the MRO will report the test result as "negative" to the Program Administrator or a designated representative. If the MRO determines that there is no legitimate explanation for the confirmed positive test result, the result will be reported as a "verified positive test result" by the MRO.

Right to have split-sample analyzed: All applicants and crewmembers whose primary urine sample is verified positive have the right to request that their split-sample be analyzed in a different DHHS/SAMSHA certified laboratory for the presence of the drug(s) for which a positive result was obtained. The request must be made to the MRO within 72 hours of being notified by the MRO of a verified positive test result. All split specimen tests are performed using "Level of Detection (LOD)" testing procedures as required by the regulations. The purpose of the split specimen test is to determine any presence of the drug without regard to the "cut-off" levels used during routine testing. If the split-sample fails to reconfirm the presence of the drug(s) found in the primary sample, or if the split-sample is unavailable, or inadequate for testing, or untestable, the MRO shall cancel the test and report the cancellation and the reasons for it to the Program Administrator or a designated representative and the tested individual. However, if the split-sample reconfirms the presence of the drug(s) or drug metabolite(s), or adulterant, the MRO will notify the Program Administrator or a designated representative and the tested individual of the test results.

Inability to provide adequate amount of urine sample: Applicants and crewmembers must provide a urine sample of at least 45 milliliters of urine for a drug test. If the tested individual is unable to provide such a quantity of urine, then the tested individual will be urged to drink up to 40 ounces of fluids for a maximum of three (3) hours. If an applicant refuses to co-operate with the collection procedures or refuses to provide a new urine sample, within the three (3) hour time limit, this will constitute a refusal to submit to a test.

Altered or substituted urine samples: Procedures for collecting urine samples allow an individual privacy unless there is a reason to believe that a particular individual has altered or substituted, or attempted to alter or substitute, the sample, as defined in the Federal Procedures For Transportation Workplace Drug Testing Programs, 49 C.F.R. Part 40. In such cases, a second sample shall be obtained as soon as possible under the direct observation of a same gender observer.

10.6.2 Alcohol Testing Procedures:

How test will be performed: Individuals trained in the use of either Saliva Alcohol Screening Devices (ASD) or other non-evidential screening tests ("STT") or evidential breath testing ("EBT") devices will perform alcohol testing. The University shall ensure that persons performing the tests have received appropriate training and are proficient in operation of the testing device utilized. All testing devices must be approved and listed with the National Highway Transportation Safety Administration "Conforming Product List" for Alcohol Testing.

Inability to provide adequate amount of specimen for alcohol testing: If a crewmember fails to provide or claims that he or she is unable to provide a sufficient amount of breath to permit a valid breath test because of a medical condition, the University will require the crewmember to be evaluated by a physician selected by the University. If the University selected physician and the program's MRO determine that the crewmember's alleged medical condition could not preclude the crewmember from providing an adequate amount of breath, this will constitute a refusal to test and the crewmember will be terminated.

10.6.3 Return to Duty Procedures

The University is not obligated, and by inclusion of this provision in this procedure does not undertake to any obligation to reinstate or rehire any crewmember who violates any USCG, DOT or University prohibition or requirement concerning drugs or alcohol. Following a positive drug test, or an alcohol violation, a crewmember must complete the following steps prior to being returned to a safety sensitive position with the University:

- At the crewmembers' expense, must submit to an evaluation by a qualified Substance Abuse Professional (SAP), as defined by 49 CFR Part 40.
- At the crewmembers' expense, attend and complete any and all treatment as required by the SAP.
- At the crewmembers' expense, submit to a return to duty evaluation by the same SAP.
- Provide a negative Return to Duty drug and/or alcohol test as required by the SAP. Following any return to duty, in addition to the above requirements, the crewmember must also:
- Comply with any and all "follow-up" care as required by the SAP.
- Submit to any, and all, "follow-up" testing as required by the SAP. Follow-up testing shall be prescribed by the SAP and shall be unannounced tests to the crewmember. At the time the crewmember is notified of the request for a "follow-up" test, the crewmember must immediately proceed to the collection site and provide the specimen/s required. Any delay in proceeding directly to the collection site shall be deemed a "refusal to test."

10.7 CONSEQUENCES FOR POLICY VIOLATIONS

The consequences discussed below apply to applicants, crewmembers, or embarked personnel:

Automatic Removal from Safety-Sensitive Functions: USCG and DOT regulations require crewmembers who violates the University's policy on Alcohol and Other Drugs in any way to be immediately removed from their

safety-sensitive functions. Such crewmembers are prohibited from performing, or being permitted to perform, a safety-sensitive function.

Refusal to Submit: Crewmembers who refuse to submit to testing and who meet the definition of crewmember will be reported to the U.S. Coast Guard in accordance with 46CFR part 16.

In the case of a Serious Marine Incident, embarked personnel employed by the University, who refuse to submit to testing will be documented in the vessel's daily log and reported, in writing, to the U.S. Coast Guard, MESSO Executive Director, and the University's Human Resource Department. In addition, the individual will not be allowed back aboard the vessel on subsequent voyages, unless cleared by the University.

In the case of a Serious Marine Incident, embarked personnel not employed by the University, who refuse to submit to testing, will be documented in the vessel's daily log and will be reported to the U.S. Coast Guard, MESSO Executive Director, and the individual's employer will also be notified in writing. In addition, the individual will not be allowed back aboard the vessel on subsequent voyages, unless cleared by the University. Applicants who refuse to submit to a test will be ineligible for employment with the University.

Positive Test Results:

Applicants: All applicants who receive a verified confirmed positive drug test result will be ineligible for employment with the University.

Crewmembers:

- **Temporary suspension:** Any crewmember who is required to submit to a reasonable suspicion drug or alcohol test will be temporarily suspended.

- **Positive alcohol test results of 0.02 or greater but less than 0.04:**

A crewmember who receives an alcohol test result of 0.02 or greater, but less than 0.04, **for the first time**, will be placed on leave without pay for a minimum of 24 hours. A second result in this range will result in immediate suspension from work and possible further discipline.

- **Confirmed positive drug test and alcohol test results of 0.04 or greater:**

If a crewmember receives a confirmed positive drug test or an alcohol test result of 0.04 or greater, **for the first time**, the crewmember will be subject to disciplinary actions, which alone may warrant termination. Any crewmember holding a USCG license or document and who tests positive for dangerous drugs will be reported to the USCG Officer in Charge, Marine Inspections, Texas City, Texas. The infraction may be referred to University Police for criminal charges or prosecution

Embarked Personnel:

- Embarked personnel who receive a positive drug test result will not be allowed aboard the University's research vessels for future cruises, unless cleared by the MESSO Executive Director.

10.7.1 Other Policy Violations:

Crewmembers who commit violations other than consequences addressed under Refusal to Submit for Testing, or conditions stipulated under Positive Test Results, will be subject to disciplinary actions, which alone may warrant termination. Applicants who violate these procedures will be ineligible for employment with the College.

Potential Forfeiture of Workers' Compensation and/or Unemployment Compensation Benefits: Violations of USCG's or DOT regulations and/or the requirements of these procedures constitute gross and willful misconduct. In addition to the discipline and other consequences imposed by USCG and the University, such gross and willful misconduct may also result in the denial of unemployment compensation under the applicable state law. In addition, crewmembers who are injured as a result of a violation of USCG's or DOT regulations and/or the University's safety rules (including but not limited to the conduct prohibited under these procedures) may also forfeit workers' compensation benefits under the applicable state law.

10.8 NOTIFICATION OF TEST RESULTS

Applicants will be notified of the results of a pre-employment drug test, if the applicant requests his/her test results within 60 days of being notified of the disposition of the employment application. Crewmembers will be advised of drug test results that are verified positive and the drug or drug(s) for which a positive result was verified. Crewmembers will be notified of the results of their alcohol tests immediately after the administration of the screening test and, if necessary, the confirmatory test.

10.9 EXPENSES AND COMPENSATION FOR TESTS

The University will pay for drug and alcohol tests and related expenses as follows**:**

- The University will pay for all drug and alcohol tests required to be taken by crewmembers or applicants including confirmation tests.

- Any requested confirmation test by other than the University's contracted testing laboratory must be by a certified laboratory approved by the MRO and paid for by the crewmember or applicant requesting it. The University will reimburse the individual if the original testing result is unable to be confirmed.

- All time spent by crewmembers providing a specimen, including travel time to and from the collection site, will be considered as on-duty time. The crewmember will receive his or her regular compensation.

10.10 RECORDKEEPING, ACCESS TO RECORDS AND CONFIDENTIALITY OF TEST RESULTS

MESSO Vessel Operations will maintain records related to its drug and alcohol testing program as required by the USCG and DOT regulations. These records will be maintained in a secure location with controlled access and will not be released to any person except as required by law or expressly authorized by the crewmember.

The laboratory may disclose drug test results only to the MRO. The MRO, STT and BAT may disclose test results only to the individual tested, designated College representatives, a treatment program, federal or state authorities, or a court of law or administrative tribunal to the extent required by law.

10.11 SELF-IDENTIFICATION OF SUBSTANCE ABUSE PROBLEM

Consistent with TAMU Rule 34.02.01.M1 section 6 who voluntarily self-identifies himself or herself as having a drug or alcohol problem and requests assistance for such a problem will be referred to an crewmember assistance professional for an evaluation and, if recommended, an appropriate counseling, treatment or rehabilitation program. The cost of the counseling, treatment or rehabilitation is the crewmember's responsibility.

This request must be made before the crewmember is directed or otherwise required to submit to a drug or alcohol test.

Employee Assistance Program

EAP can help!!!!

The Employee Assistance Program (EAP) provides a variety of counseling services including:

- assessment of individual, couple or family problems
- referral to sources of help or care, based on your specific needs, locations and preferences
- short-term counseling, when the problem is one the EAP office can rapidly address

Eligibility

All retirees, employees (including faculty, staff and house staff) and their immediate family members (residing in the same household) are eligible to use the EAP.

Confidentiality

All EAP contacts are held in strict confidence as protected by law. EAP records DO NOT become part of personnel or medical records.

Cost

All contacts with the EAP are free. If a referral is necessary, EAP counselors make every effort to locate treatment within the financial means of the employee.

Appointments

The EAP is available when you need it, 24 hours a day, 365 days a year. Deer Oaks EAP will also coordinate with Texas A&M's Healthcare Plans, for cases that require treatment, under your medical benefit.

For more information or to obtain a referral (to a provider near you), please call Deer Oaks toll-free at 1-888-993-7650. Online tools are accessible at www.deeroakseap.com using login and password "tamug".

Supervisors can also make appointments for their employees and are encouraged to inform employees about EAP services. Managers can consult EAP counselors to discuss appropriate and supportive responses for employees.

How Do I Know I Need the Services of the EAP?

If you think it could be a problem, then it probably is. Talk to us and see how we can help.

Questions concerning coverage may be directed to:

Tina Pennington

Senior Human Resources Representative

Email: penningt@tamug.edu Phone: 409-740-4534 Room: PMEC, Suite 123

10.12 CONTACT FOR QUESTIONS REGARDING PROCEDURE

College contact: Questions regarding these procedures as enforced by the University:

Executive Director of MESSO – Capt. Allan Post, 409-740-4477

11 USCG Inspected Vessel Operations

11.1 Introduction

This section contains details and definitions of many of the operating procedures in place for the operations of USCG inspected vessels. Specific instructions for every operation are not provided. The procedures are concise and provide documentation in manageable proportions, which can be readily understood by all relevant personnel. Only qualified persons should be assigned to specific tasks.

11.2 Scheduling a Vessel

Scheduling of all TAMUG vessels is initiated by completing the "Vessel Request Forms" found on the Vessel Operations Department home page: http://www.tamug.edu/VesselOperationsOffice/Forms.html

Researchers are in charge of the schedules of the vessels assigned to their individual research office

Texas Maritime Academy staff are in charge of the schedules of the vessels assigned to their office

All other vessels will be scheduled by the Vessel Operations Department

ALL APPLICABLE VESSEL SCHEDULES MUST BE COPIED TO THE VESSEL OPERATIONS DEPARTMENT FOR SAFETY AND ADMINISTRATIVE RECORDS

Confirmation by email of a vessel request will be sent to the requester once the vessel has been scheduled for use. Vessel users needing immediate access to "present, real-time" vessel availability should contact the Vessel Operations at 409-740-4804 or visit the Vessel Operations Department.

11.3 TAMUG Work Time Guidelines

# Consecutive Work Days For Vessel Operator/Master & Crew	Maximum Daily Hours [a,b]	Required Non-underway Days Immediately Following Work Block
1 day	**12 hrs**	**1 day**
2 days	**12 hrs**	**1 day**
3-5 days	**10 hrs**	**2 days**
>5 days	**8 hrs**	**1 day**

a = Daily Hours include: vessel underway/anchored time; vehicle travel time; prep and clean-up time.

b = If any one day exceeds this limit, then procedure defaults to next higher rating.

For trips extending multiple days or overnight, see section 7.4 of this document.

The Exec. Director, or his/her designee, has the authority to review all TAMUG proposed field operations and to modify or stop any operation where identified risks cannot be mitigated to an acceptable level of responsible and safe operation.

11.4 Vessel Operations Overview

Part 1 is a general section containing generic safety management procedures. The implementation of the procedures in Part 1 will ensure that effective internal measures are in place for a wide range of safety management elements, including internal inspections, risk reduction, and control of hazardous activities, and permits to work.

Part 2 contains vessel specific safety management procedures necessary prior to the vessel getting underway.

Part 3 contains vessel specific safety management procedures necessary while the vessel is underway.

11.5 PART 1.

11.6 USCG Certificate of Inspection (COI)

11.6.1 General Description

This procedure details the process to apply for and renew the Certificate of Inspection (COI). The vessel may not operate without having onboard a valid USCG COI.

11.6.2 Responsibilities

The Vessel Operations Department is responsible for:

obtaining or renewing the Certificate of Inspection;
understanding the requirements for the Certificate; and
ensuring that the condition of the vessel and its equipment is satisfactory to pass the inspection for certification.

11.6.3 Definitions

OCMI - Officer in Charge, Marine Inspection

11.6.4 References

46 CFR 176

Form CG 3752, "Application for Inspection of U.S. Vessel" can be found at any USCG Marine Safety Office or Marine Inspection Office.

11.6.5 Procedures

The COI must be renewed every three years. To obtain or renew COI:

ensure that the vessel is in full compliance to successfully pass the inspection process;
complete an application on Form CG 3752, "Application for Inspection of U.S. Vessel;"
submit the application to the USCG OCMI of the marine inspection zone in which the inspection is to be made;

contact the cognizant OCMI to arrange for an inspection to be conducted at a time and place acceptable to the OCMI;
conduct all tests as required by the marine inspector; and
display COI and certification expiration date sticker(s) in an area readily visible to passengers.

Application for initial inspection for new construction or conversion:

complete an application on Form CG 3752, "Application for Inspection of U.S. Vessel;"
submit the application prior to the start of the construction or conversion;
submit the application to the USCG OCMI of the marine inspection zone in which the inspection is to be made; and
submit plans, manuals, and calculations indicating the proposed arrangement, construction, and operations of the vessel, in accordance with 46 CFR 177.202, to the cognizant OCMI.

The following vessel(s) operate(s) in the following Marine Inspection Zone(s):

Vessel Name:	
MSO Office Address:	3101 FM 2004 Texas City, TX 77591
Phone Number:	409-978-2736

11.7 USCG required onboard documents

11.7.1 General Description

This procedure describes the certificates and documentation required for all TAMUG vessels to operate in U.S. and international waters.

11.7.2 Responsibilities

The Vessel Operations Department is responsible for ensuring that necessary certificates and documents are provided and maintained onboard the vessel.

11.7.3 References

All the following references can be found in 46 CFR or NFPA 10.

Displaying Certificates	176.302

Crew and Passenger Lists	185.502
Crew Licenses	185.402
Voyage Plan	185.503
Official Logbook for Foreign Voyages	185.280
Crew Training Log	185.420
Station Bill	185.514
Fire, Abandon Ship, and Man Overboard Drill, and Training Log	185.520 185.524
Fire Extinguisher Servicing Log	FPA 10, Chapter 4
EPIRB Testing Logbook	185.728

11.7.4 Requirements

The following certificates and documents must be maintained onboard the vessel:

Certificates

Certificate of Inspection (COI) (see OP1.1)

Documents

crew and passenger lists (if applicable)

crew licenses (a copy will suffice if original is kept secure on campus)

official logbook

crew emergency procedure training documentation

station bill (if applicable, see CFR 185.514)

documentation for the required servicing of fire extinguishers

manufacturer's instructions for onboard maintenance of survival crafts, rescue boats, and launching appliances, manufactured on or after March 11, 1996; or a shipboard planned maintenance program

Emergency Position Indicating Radio Beacons (EPIRB) testing documentation

Operational and Safety Procedures manual

11.7.5 Procedures

Displaying Certificates:

Display the COI under a suitably transparent material in a conspicuous place on the vessel, where easily observed by passengers.

2. The Vessel Operations Department shall ensure that the following certificates are:

obtained;
validated;
retained; and
renewed at the appropriate dates.
Certificate of Inspection

Certificate of Documentation

Stability Letter (if applicable)

3. The Vessel Operator/Master shall ensure the following records are--

kept onboard; and
updated at the appropriate dates.

Crew and Passenger Lists and Passenger Count

Keep a correct list of the names of all persons that embark on and disembark from the vessel (available in the float plan):

prepare prior to departing
communicate verbally or in writing ashore at vessel's normal berthing location
make available to USCG upon request

Keep a correct and written count of all passengers who embark on and disembark from the vessel:

communicate the count verbally or in writing ashore at vessel's normal berthing location prior to departing
make available to USCG upon request

Crew Licenses

ensure that each licensed individual employed upon the vessel has his or her license onboard and available for examination at all times (a copy will suffice if the original is kept on campus).

Float Plan

Prepare and maintain a float plan --

prepare prior to departing
communicate verbally or in writing ashore at vessel's normal berthing location
make available to the USCG upon request

Official Logbook

Prepare and maintain a log book that contains the following information –

Names of Vessel Operator/Master, crew and passenger count for voyage
Time and place of departure,
Times and location of sampling locations or activities as applicable
Time and location of mooring
Weather conditions, winds, seas, precipitation, cloud cover
Marine casualty: Statement about casualty and circumstances under which it occurred;

Crew Emergency Procedure Training Log

Prepare and maintain a log book that contains the following information:

Date of training and
General description of training topics.

Station Bill (if applicable, see CFR 185.514)

Prepare and post station bill that specifies the special duties and duty stations of each crew member for various emergencies.

For the proper handling of a particular emergency, the duties must include at least the following:

Close hatches, air intakes, watertight doors, vents, scuppers, and valves for intake, and discharge lines that penetrate the hull.
Stop fans and ventilating systems.
Operate all safety equipment.
Prepare and launch survival craft and rescue boats.
Extinguish fires.

Muster passengers to their appointed stations and controlling the movement of passengers in passageways and stairways.

Fire, Abandon Ship and Person Overboard Drill and Training Log

Prepare and maintain a log documenting the following information:

Date of drill and training.
General description of drill scenario and training topics.

Fire Extinguisher Servicing Log or Tag

Record date of servicing.

EPIRB Testing Log

Document the following information for the monthly testing of each EPIRB, (except EPIRB in an inflatable Liferaft):

date of test,
results of test, and
any action needed to be taken.

4. The Vessel Operations Department shall ensure the following publications are kept onboard and updated at the appropriate dates:

light list,
tide tables,
current tables,
navigational charts,
coast pilot

(extracts of the above publications may be provided in lieu of the entire publication.)

11.8 Discharge of Oils and Garbage

11.8.1 General Description

AT NO TIME MAY ANY TAMUG VESSEL DISCHARGE ANY OIL OR GARBAGE INTO THE WATER. ALL OIL AND GARBAGE MUST BE PLACED INTO PROPER RECEPTACLES SET UP AT TAMUG VESSEL.

Responsibilities

It is the Vessel Operator's/Master's responsibility to ensure that all crew members are familiar with this procedure and all regulations are enforced.

11.9 PART 2

11.10 PROCEDURES PRIOR TO GETTING UNDERWAY

11.10.1 General Description

This procedure describes the requirement for ensuring that the vessel is in compliance with the stability requirements as stated on the Certificate of Inspection before getting underway.

11.10.2 Responsibilities

It is the Vessel Operator's/Master's responsibility to determine the vessels compliance with all applicable stability requirements

11.10.3 References

46 CFR 185.315, 185.340

CHECKING STABILITY

Requirements

It is the Vessel Operator's/Master's responsibility to:

determine the vessel's compliance with all applicable stability requirements in the vessel's Certificate of Inspection, and

Verify compliance with the stability requirements (applies to after loading and prior to departure and at all other times necessary to assure the safety of the vessel). The vessel may not depart until it is in compliance with these requirements.

11.10.4 ASSESSMENT OF WEATHER CONDITIONS

General Description

The vessel will be required to operate in constantly changing environments. It is important to constantly monitor the changing weather conditions and be aware how the weather can dramatically affect the vessel's behavior.

It is the ultimate responsibility of the Vessel Operator/Master to constantly monitor and assess the weather conditions unless a lookout has specifically been assigned to this task. Crew members are also expected to monitor and assess the changing conditions of the weather.

Responsibilities

References

46 CFR 185.304

Requirements

The Vessel Operator/Master shall operate the vessel keeping in mind the safety of the passengers and crew foremost in mind by directing the vessel in order to prevent a casualty. Special attention should be paid to the prevailing visibility and weather conditions.

Procedures

The Vessel Operator/Master shall follow the procedures for weather outlined in Chapter 7. Part B.

11.10.5 FLOAT PLANS

The Vessel Operator/Master of the vessel shall prepare a float plan in accordance with Chapter 7 of this Procedure:

11.10.6 Passenger Count and Safety Briefing

General Description

Loading, counting, and safety orientation are all part of loading and discharging passengers. Passengers do not include cadets of the Texas A&M Maritime Academy engaged in training.

References

46 CFR 185.506, 185.504

Requirements

It is the responsibility of the Vessel Operator/Master to:

keep a correct, written count of all passengers that embark on and disembark from the vessel.
communicate the count to a designated person ashore in accordance with the float plan.
ensure the passenger count is available to the USCG upon request.
ensure that all passengers receive a safety orientation providing instructions for an emergency.

Procedures

Passenger List

Keep a correct list of the names of all persons that embark on and disembark from the vessel in accordance with the float plan.

Prepare the list prior to departing and communicate the passenger list to a designated person ashore at vessel's normal berthing location in accordance with the float plan.

Make the passenger list available to USCG upon request.

Passenger Count

Keep a correct, written count of all passengers that embark on and disembark from the vessel.

Prior to departing on a voyage, verbally or in writing communicate the passenger count ashore at the vessel's normal berthing location in accordance with the float plan

Make the passenger count available to the USCG upon request.

Passenger Safety Orientation

Before getting underway, give each passenger, or place near each seat, a card or pamphlet that has the following information:

The location of emergency exits, survival craft embarkation areas, and ring life buoys;

The stowage location(s) of life jackets;

Either:

The proper method of donning and adjusting life jackets of the type(s) carried on the vessel including an illustration of the proper donning of a lifejacket, or

That passengers may contact a crew member for a demonstration as appropriate, prior to beginning an oceans or coastwise voyage;

The location of the instruction placards for life jackets and other lifesaving devices;

That all passengers will be required to don life jackets when possible hazardous conditions exist, as directed by the master; and

Make a short safety announcement, stating the following:

Passengers should follow the instructions of the crew in an emergency.

Give locations of life jackets onboard.

Ensure that any passengers who board the vessel on a voyage **after** the initial safety announcement has been made are also informed of the required safety information.

On a vessel on a voyage of **more** than **24 hours** duration, passengers shall be requested to don life jackets and go to the appropriate embarkation station during the safety orientation. If only a small number of passengers embark at a port after the original muster has been held, these passengers must be given the passenger safety orientation required by (1) or (2) of this section if another muster is not held.

11.11 PART 3.

11.12 UNDERWAY PROCEDURES

General Description

This procedure describes the arrangements for navigating bridge watchkeeping when at sea and the allocation of responsibilities to shipboard personnel. This procedure demonstrates that the watchkeeping arrangements are adequate to ensure that sea passages are executed in a safe manner and in compliance with statutory requirements and relevant guidelines.

Responsibilities

The Vessel Operator/Master is responsible for ensuring that the watchkeeping arrangements described in this procedure are followed by the crew. He or she is also responsible for issuing specific instructions and night orders when he or she considers it appropriate to do so.

The Watchkeeping Lookout is responsible for keeping a proper lookout. The Watchkeeping Lookout reports to the Vessel Operator/Master.

References

The requirements for the maintenance of a proper lookout are specified in Rule 5 of the International Regulations for Preventing Collisions at Sea, 1972, and Rule 5 of the Inland Navigational Rules Act of 1980 (33 U.S.C. 2005).

Procedures

The watchkeeping arrangements when the vessel is at sea are as follows:

Master – On Bridge in Command

Deckhand – Assist as Directed

The Vessel Operator/Master is in charge of the navigational watch at all times.

Relevant procedures and instructions for the maintenance of a safe navigational watch are to be observed at all times.

11.12.1 SPECIAL REQUIREMENTS FOR BAD WEATHER AND FOG ENCOUNTERED AFTER DEPARTURE

General Description

Bad weather and fog pose particular threats to the vessel and the safety of its crew and passengers or embarked personnel. Vessels should not be operated beyond their operating limits and crew should not operate beyond their capabilities. This procedure deals with the preparations for operating in rough weather and reduced visibility.

Responsibilities

The Vessel Operator/Master shall be familiar with the content of and make certain that the crew is familiar with the instructions containing the actions to be taken in the event of heavy weather. The Vessel Operator/Master has overriding authority to make decisions with regard to safety. This includes making certain that all crew members are familiar with their duties during an emergency and the issuance of clear instructions to the crew and embarked personnel during an emergency.

References

46 CFR 185.510, 46 CFR 185.512

Requirements

The Vessel Operator/Master is required to be familiar with and to ensure that crew members are familiar with all emergency procedures. The emergency procedures for fog and bad weather should include at least the instructions below.

Procedures

Preparations for Rough Weather

Secure all hatches; close all ports and windows.

Pump bilges dry and repeat as required.

Secure all loose gear; put away small items and lash down the larger ones.

Break out life preservers and have everyone onboard wear them *before* the situation worsens.

Break out emergency gear that you might need – hand pumps or bailers, sea anchor or drogue, etc.

Check position if possible and update the plot on your chart.

Make plans for altering course to sheltered waters, if necessary.

Reassure your crew and passengers; instruct them in what to do and what not to do.

Operating in any conditions where visibility is reduced for any reason:

Maintain a speed that will enable you to take proper action to avoid a collision and stop within a distance appropriate to the prevailing circumstances and conditions.

Display the proper navigation lights and sound appropriate sound signals.

Employ all available navigation aids.

Station a lookout well forward and away from the engine sounds and lights, to listen and look for other signals.

Watch for aids to navigation which do not have audible sound devices.

Lay charts with the main course, time, and speed plotted on them.

Plot navigational fixes, record times, and positions regularly.

Anchor to await better visibility, especially if transiting congested areas or narrow channels.

11.13 EMERGENCY PREPAREDNESS

Procedures

It is a TAMUG procedure to ensure that the emergency preparedness of the University and of each vessel is in accordance with 33 CFR 96.250(h) which requires written procedures for emergency preparedness.

Procedures Implementation

TAMUG has established procedures within this chapter to identify, describe, and respond to possible emergency shipboard situations.

TAMUG has established programs for emergency drills and exercises within this chapter.

TAMUG has prepared measures for ensuring that the University is able to respond at any time to hazards, accidents, and emergency situations involving its vessel(s).

11.14 Drills

11.14.1 Fire Fighting Drills and Training

General

Conducting fire drills and training on a regular schedule is necessary for the continued safety of the passengers, embarked personnel, crew, and the vessel. Fire drills and training ensure that crew members are familiar with their duties to enable them to perform effectively in an actual emergency.

References

46 CFR 185.524

Requirements

The Vessel Operator/Master is responsible for conducting sufficient fire drills to ensure each crew member is familiar with his or her duties in case of a fire. A fire drill shall be conducted at least once every 3 months.

Procedures

During the fire drill:

Summon passengers or embarked personnel on a vessel on an overnight voyage to areas of refuge or embarkation stations;
Summon the crew to report to assigned stations and to prepare for and demonstrate assigned duties; and
Instruct in the use of fire extinguishers and any other firefighting equipment onboard.

Conduct each fire drill, as far as practicable, as if there were an actual emergency.

Log or document all firefighting drills and training for review by the USCG upon request. Include the following information in the drill entry:

Date of the drill and training.
General description of the drill scenario and training topics.

At the end of the drill, hold a critique to discuss what was done right, what was done wrong, and how the procedures could be done better.

11.14.2 Abandon Ship and Person Overboard Drills and Training

General

Conducting abandon ship and person overboard drills and training on a regular schedule is necessary for the continued safety of the passengers/embarked personnel and crew. Abandon ship and person overboard drills and training ensures that crew members are familiar with their duties to enable them to perform effectively in an actual emergency. While it is the Vessel Operator's/Master's responsibility and authority to decide when to abandon ship it must be stressed that staying with the vessel until the last practical moment is better than entering the water or a survival craft.

References

46 CFR 185.512, 185.520, 180.210

Requirements

The Vessel Operator/Master is responsible for conducting sufficient drills and giving sufficient instructions to make sure that each crew member is familiar with his or her duties during emergencies that necessitate abandoning ship or the recovery of persons who have fallen overboard. An abandon ship and person overboard drill must be conducted at least once every 3 months.

Procedures

During the abandon ship/person overboard drill:

Summon the crew to report to assigned stations and prepare for and demonstrate assigned duties;
Summon passengers on a vessel on an overnight voyage to muster stations or embarkation stations and ensure that they are made aware of how the order to abandon ship will be given;
Check that life jackets are correctly donned;
Operate any davits used for launching liferafts; and
Give instructions on the automatic and manual deployment of survival craft.

Conduct each abandon ship drill, as far as practicable, as if there were an actual emergency.

At the end of the drill, hold a critique to discuss what was done right, what was done wrong, and how the procedures could be done better.

12 Emergency Response for USCG Inspected Vessels

12.1 Discharge of Oil, Garbage, and Response to Pollution

General

This procedure deals with the regulations as to the discharge of oil into the sea and the response actions to take when in the event of an accidental discharge to report the incident and attempt to lessen the pollution of the marine environment.

Responsibilities

It is the responsibility of the Vessel Operator/Master to report the particulars of a discharge of oil or noxious liquid without delay and to the fullest extent possible. If the vessel becomes abandoned or unobtainable the Vessel Operations Director shall assume the responsibility of reporting the incident.

An Oil Record Book will be kept on each vessel and detailing the disposition of any oil.

All oil, garbage and other prohibited items will be discharged into an approved shoreside facility

References

MARPOL 73/78 Regulation 26, Protocol I

Requirements

A report is required when an incident involves a discharge of oil, or noxious liquid substances in excess of the quantity or instantaneous rate permitted (Federal Water Pollution Control Act, section 402).

Procedures

The report must be made without delay using the fastest telecommunications channels available in accordance with Section 14.8 of this document.

12.2 Fire

General

Any vessel can fall victim to tragedy when proper prevention measures are not followed correctly and precisely. This procedure details the actions to take if a fire occurs onboard the vessel.

References

46 CFR 185.524

Requirements

Preventive Actions

In dealing with fire on your vessel, the single most important consideration is prevention. During vessel and equipment checks, all systems must be inspected including fuel, oil system, and wiring. Check for abrasions cracked wiring, or pinholes in oil and fuel lines. Any discrepancy must be corrected at the time it is discovered (see Discrepancy Report, Chapter 14.9). The following are also good fire prevention measures to be practiced:

Keep oil and grease out of bilges.

Cleanup any spilled fuel or lube oil immediately and properly dispose of it ashore.

Stow cleaning materials off the boat.

Keep all areas free of waste material.

Use proper containers for flammable liquids.

Be alert for suspicious odors and fumes, and vent all spaces thoroughly before starting engine(s).

Procedures

Reminder – Life comes before property!

Safety Procedures

Immediately upon discovering a fire, sound an alarm, and summon help.

Attempt to account for all persons.

Never pass a fire to get to an extinguisher.

If you must enter a compartment to combat a fire, keep an escape path open. Never let a fire get between you and a door, hatch or scuttle.

If you enter a compartment and fail to extinguish a fire with a portable fire extinguisher, **get out**. Then close the door, hatch, or scuttle to confine the fire.

Firefighting Procedures

Shut off all engines, generators, and ventilation systems.

Recover and evacuate anyone injured.

Locate the fire and evaluate the extent of the fire.

Cut off air supply to fire. Close items such as hatches, ports, doors, ventilators and louvers, and shut off ventilation system.

Cut off electrical system supplying affected compartment if possible.

If safe, immediately use portable fire extinguishers at base of flames for flammable liquid or grease fires or water for fires in ordinary combustible materials. Do not use water on electrical fires.

If fire is in machinery spaces, shut off fuel supply and ventilation and activate fixed extinguishing system if installed.

Maneuver vessel to minimize effect of wind on fire.

If unable to control fire, immediately notify the USCG and other craft in the vicinity by radiotelephone.

Move passengers/embarked personnel away from fire, have them put on life jackets and if necessary, prepare to abandon the vessel.

12.3 Flooding and Flood Control

General

Vessels sometimes become damaged in groundings, collisions, or from striking submerged objects. These mishaps may result in a holed, cracked, or weakened hull. If the hull has been damaged to the extent that water is entering the interior of the boat, steps must be taken to ensure passenger safety, identify the source of the leak, and keep the boat afloat. This procedure details the methods to control flooding of a vessel.

References

46 CFR 182.500-530

ABYC Project H-22, "DC Electric Bilge Pumps Operating Under 50 Volts"

Standard Procedure

At the first suspicion of damage that might cause serious leaking, switch on all electric bilge pumps *before* investigating. If inspection shows your suspicions to be groundless, switch them off again. They will not be damaged by a brief run while dry.

Close all watertight and weathertight doors, hatches, and ventilation ports to prevent taking water onboard or further flooding in the vessel.
Keep bilges dry to prevent loss of stability due to water in bilges. Use power driven bilge pump, hand pump, and buckets to dewater.
Align fire pumps to use as bilge pump, if possible.
Check all intake and discharge lines, which penetrate the hull, for leakage.
Passengers/embarked personnel must remain seated and evenly distributed.
Passengers/embarked personnel must don life jackets if conditions worsen, the vessel is about to cross a hazardous bar or when otherwise instructed by the Master.
Never abandon the vessel unless actually forced to do so.
If assistance is needed, follow the procedures on the emergency broadcast placard posted by the radiotelephone.
Prepare survival craft (lifefloats, inflatable rafts, inflatable buoyant apparatus, and boats) for launching.

Emergency Pumping

If conditions warrant, follow these procedures:

Close the engine water intake seacock.

Disconnect the water intake line, making sure there is enough water in the bilge to cover the intake well.

Start the engine and *check* to be sure it is discharging water through the wet exhaust or other discharge line.

Assign someone to frequently check the intake screen and be sure it is not obstructed.

Vary the engine speed as required.

Caution!

There must be enough water already in the bilge and flowing in to meet the engine's needs for cooling

Take precautions to keep bilge dirt and trash from being sucked into the engine's intake, to lose power if the engine over heats might be disastrous.

12.4 Emergency Repairs

Plugging Holes

The simplest method for stopping a small hole in wooden or metal hulls is to insert a plug or plugs. Plugs are usually made of a soft wood such as pine or fir. Use plugs individually, if they fit the hole, or use them in combination with other materials to make a better fit. Wrapping cloth around each plug before inserting them in the hole will help to keep the plug in place.

Large holes are generally too difficult to plug. Use a patch to reduce the flow of water through a large hole, if an attempt is made.

Fiberglass may be the most difficult of all hull materials to plug. Wooden conical plugs driven into the hole may do nothing more than cause further splitting and cracking and add to an already difficult situation. The best method of plugging a hole in fiberglass is to shove some pliable type of material into it such as a rag, shirt, or piece of canvas. A PFD (Personal Flotation Device) or a blanket may also work well.

Patching Holes

Patching holes below the waterline is usually a difficult task because of the pressure exerted by the water and the inaccessibility to the holed area. Patch small holes from the inside. Place some type of material over the hole and hold it in place with another object.

Example:

If the boat were holed in the bottom, place the PFD or seat cushion over the hole and hold it in place with a gas can, cooler, or tool box.

Large holes below the Waterline

Large holes below the waterline are extremely difficult to patch. The pressure of the water flowing through the hole will not usually allow a patch to be installed from the inside. If a collision mat (a large piece of canvas or vinyl) is available, use it to patch a large hole.

Tie four lines to the corners of the patch.

Position the patch by dropping the patch over the bow.

Have one person walk down each side of the boat, two of the lines for each person.

Slide the patch along the bottom of the boat.

Secure the four lines topside once the patch covers the hole. The pressure of the water against the patch will also help to hold it in place.

Box patches are effective, even on holes that have jagged edges protruding inward. The box patch is usually a prefabricated box, which is held in place with screws, nails, or it may be wedged in place with anything available. Put a gasket (anything available) between the box and the hull to make a good seal and to prevent the box from shifting.

Holes above the waterline

Holes above the waterline may be more dangerous than they appear. As the boat rolls, they admit water into the boat above the center of gravity. This water reduces the stability of the boat. Use plugs or patches on the inside or outside of the hull to cover these types of holes. If available, a pillow or cushion that has a small hole punched in the center may be used.

Place the cushion over the holed area from the outside and back it with a board of the same approximate size. The board should also have a small hole through the center.

Pass a line through the board and cushion and knot the end of the line outside the board.

Secure the entire patch by attaching the other end of the line to something firm inside the boat.

Patching cracks

To patch a crack in the hull, use the following procedure:

Stuff the crack with something pliable, such as a rag or line.

Place a piece of canvas or rubber over the crack to serve as a gasket.

Back the patch with a solid object such as a piece of plywood, panel door or similar material.

Use nails screws or wedges to hold the patch in place.

To prevent the crack from traveling, especially in fiberglass, drill holes at each end of the crack. These holes will relieve the pressure at the ends of the crack, permitting the hull to flex without extending the crack.

12.5 Person Overboard

General

Even the best of swimmers can become disoriented when unexpectedly falling into the water. Immediate action is of primary importance when a person falls overboard. Every second counts, particularly in heavy or cold weather. This procedure addresses person overboard recovery procedures, as well as water survival skills. Lives depend on every crew member performing these procedures competently and effectively.

References

46 CFR 185.510

Responsibilities/Requirements

185.510 Emergency Instructions.

The Vessel Operator/Master and crew of a vessel will be familiar with the content of and have mounted at the operating station, emergency instructions containing the actions to be taken in the event of fire, flooding, heavy weather, or person overboard conditions.

Procedures

In the case of a person overboard enact the following procedures.

Throw a ring buoy overboard, as close to the person overboard as possible.

Post a lookout to keep the person overboard in sight.

Launch a rescue boat and maneuver to pick up the person overboard or maneuver the vessel to pick up the person overboard.

Notify the USCG and other vessels in vicinity by radiotelephone if the person is not immediately located.

Continue the search until released by USCG.

Water Survival Skills

If a crew member enters or ends up in the water due to an emergency, survival procedures should be pre-planned. Preplanning increases the chances for a successful rescue are increased. Never forget that a PFD is the best insurance for survival.

The length of time a person can stay alive in cold water depends on the temperature of the water, the physical condition of the survivor, and the action taken by the survivor. The following figure shows the relationship between an uninjured victim's activity, water temperature, and estimated survival time. Swimming in cold water typically reduces a person's chance of survival due to more rapid loss of body heat.

12.5.1 Survival Times vs. Water Temperatures

How Hypothermia Affects Most Adults		
Water Temperature °F(°C)	**Exhaustion or Unconsciousness**	**Expected Time of Survival**
32.5 (0.3)	Under 15 min.	Under 15 to 45 min.
32.5 to 40 (0.3 to 4.4)	15 to 30 min.	30 to 90 min.
40 to 50 (4.4 to 10)	30 to 60 min.	1 to 3 hrs.
50 to 60 (10 to 15.6)	1 to 2 hrs.	1 to 6 hrs.
60 to 70 (15.6 to 21)	2 to 7 hrs.	2 to 40 hrs.
70 to 80 (21 to 26.7)	2 to 12 hrs.	3 hrs. to indefinite
Over 80 (26.7)	Indefinite	Indefinite

There are water survival skills that should be utilized to increase the chances for surviving cold water immersion including:

Immediately upon entering the water, become oriented to the surrounding area. Try to locate your sinking boat, floating objects, and other survivors. If the vessel has not fully sunk stay with the vessel if at all possible. Most vessels will remain afloat awash at the surface for long periods of time. Staying with the vessel provides additional floatation and increases the probability of being located and spotted by searchers.

Try to board a lifeboat, raft, or other floating platform as soon as possible to shorten the immersion time. Body heat is lost many times faster in the water than in the air. Since the effectiveness of the insulation worn is seriously reduced by being water soaked, it is important to be shielded from wind to avoid a wind-chill effect. If able to climb aboard a survival craft, use a canvas cover or tarpaulin as a shield from cold. Huddling close to the other occupants in the craft will also conserve body heat.

While afloat in the water, do not attempt to swim unless it is necessary to reach a fellow survivor or a floating object which can be grasped or climbed onto.

Unnecessary swimming will pump out any warm water between the body and the layers of clothing and will increase the rate of body-heat loss. Also, unnecessary movements of arms and legs send warm blood from the inner core to the outer layer of the body resulting in rapid heat loss.

The body position assumed in the water is very important in conserving heat. Float as still as possible with legs together, elbows close to your side and arms folded across the front of your PFD. This is called the HELP (Heat Escape Lessening Position) and minimizes exposure of the body surface to the cold water.

Another heat conserving position is to huddle closely to others in the water making as much body contact as possible.

Keep a positive attitude about your survival and rescue. This will extend your survival time until rescue comes. **A fierce will to live does make a difference!**

12.6 First Aid

General

This procedure provides basic first aid and transporting information for injuries encountered in the marine environment. First aid is considered doing what must be done before expert help is available.

Proper knowledge and skill in first aid are essential. Effective and professional response to an emergency situation may be the difference between life and death or temporary injury and disability of the victim.

Responsibilities/Requirements

The Vessel Operator/Master should be able to care for minor injuries and illnesses of the crew and passengers/embarked personnel. The vessel should have the required first aid supplies and equipment, plus a manual of instructions for their use. The Vessel Operator/Master should have had basic first aid instruction and CPR training, such as given by the American Heart Association or Red Cross.

Procedures

Assessing the Situation

Stop and assess the overall condition of the victim.

Determine whether or not assisting the patient with the resources at hand is possible or if further help is required.

Warning:

No one who is not properly qualified to practice medicine should attempt to act as a doctor.

When more qualified care is required for serious injury, seek assistance immediately. Call for help and activate the local Emergency Medical Services (EMS) system such as 911, or local fire/rescue squad.

Emergency Contact Numbers

USCG Marine VHF FM ch. 16, 5a

Call 911 from cell or satellite phone

Campus Police, 409-740-4545, or 409-771-5285

Vessel Operations Director, Allan Post 409-392-5701

Note the following information during the initial assessment:

Number of patients.
General condition of patient(s).
Type of injury.
Level of consciousness of patient(s).
Monitoring for causes or symptoms of shock.

13 Texas Parks and Wildlife Registered Vessel Operating Procedures

13.1 Introduction

This section contains details and definitions of many of the operating procedures in place for the operations of trailerable and non-trailerable vessels. Specific instructions for every operation are not provided. The procedures are concise and provide documentation in manageable proportions, which can be readily understood by all relevant shipboard personnel. Only qualified persons should be assigned to specific tasks.

13.2 Scheduling a Vessel

Scheduling of all TAMUG vessels is initiated by completing the Vessel Request Form found on the Vessel Operations home page: http://www.tamug.edu/VesselOperationsOffice/Forms.html

Researchers are in charge of the schedules of the vessels assigned to their office

TMA staff are in charge of the schedules of the vessels assigned to their office

All academic clubs or sports teams are in charge of the schedules of the assigned to those clubs or teams

All other vessels will be scheduled by the Vessel Operations Department

ALL APPLICABLE VESSEL SCHEDULES MUST BE COPIED TO THE VESSEL OPERATIONS DEPARTMENT FOR SAFETY AND ADMINISTRATIVE RECORDS

Confirmation by email of a vessel request will be sent to the requester once the vessel has been scheduled for use. Vessel users needing immediate access to "present, real-time" vessel should check the Vessel Operations website.

13.3 TAMUG Work Time Guidelines

# Consecutive Work Days for Vessel Operators & Crew	Max. Daily Hours [a,b]	Required Non-underway Days Immediately Following Work Block
1 day	**12hrs**	**1 day**
2 days	**12hrs**	**1 day**
3-5 days	**10hrs**	**2 days**
>5 days	**8hrs**	**1 day**

a. Daily Hours include: vessel underway/anchored time; vehicle travel time; prep and clean-up time.

b. If any one day exceeds this limit, then rule defaults to next higher rating.

When working over these time limits a qualified alternate watch crew must be onboard and a watch schedule set up to include proper amounts of rest and down time not to exceed 12 hours on duty in any 24 hour period.

The Vessel Operations Director, or his/her designee, has the authority to review all TAMUG proposed field operations and to modify or stop any operation where identified risks cannot be mitigated to an acceptable level of responsible and safe operation.

13.4 Vessel Capacity

All TAMUG trailerable vessels are limited to 6 passengers + 1 Operator should a customer request one. The vessels are required to have a manufacturer installed capacity plate that designates the combined total weight carrying capacity of the vessel. It is the responsibility of the Vessel Operator/Master to stay within these limits and to have all weight evenly distributed and secured so that the boat will trim properly.

13.5 Vessel Modifications and Stability Evaluations

Vessels that have been modified from their original design are to receive stability evaluations. Major vessel modifications should be planned with the oversight of a naval architect to assure that the seaworthiness of the vessel will not be compromised. Stability testing and establishment of stability tables should be accomplished at the time of modification, prior to use, to document the vessel's capabilities and to assure the safety of personnel.

13.6 Safety Equipment

Safety equipment on TAMUG boats meet the requirements of the USCG and are maintained by the Vessel Operations Director. It is the Vessel Operator's/Master's responsibility to see that the equipment is in place and operational **prior** to departure.

A checklist or contents card is in every vessel Log Book/toolbox. Any equipment found to be missing or inoperative should be replaced before departure.

Current Safety/Tool kits include the following items:

a. Log Book
b. Pliers
c. Flares
d. Whistle (sound signaling device)
e. Channel Locks
f. Flashlight
g. Phillips Screwdriver
h. Straight Slot Screwdriver
i. Spark Plug Wrench
j. Crescent Wrench

Any safety equipment lost or used should be noted in the vessels logbook and brought to the Vessel Operations Department Director.

There must be a life jacket for each person in the boat, worn while on the water, and some type of throwable device (approved seat cushion, life ring or line canister). A horn, whistle or other sound device, fire extinguisher and flares must also be onboard and in operating condition. Without this equipment, the USCG will issue citations to the Vessel Operator/Master, even though you are using a vessel owned by the State of Texas. An anchor and line should also be onboard along with the toolbox provided for the boat

NOTE: Your logbook is essential gear and should be regarded as such. It contains a current Texas Parks and Wildlife registration card and emergency numbers. It may help you rectify a problem in the field. The narrative you enter concerning area of operations, weather, conditions in the area and any problems you have encountered with the boat or motor can aid in avoiding hazards, troubleshooting and making emergency repairs in the field. The logbook is only as good as you make it and make use of it. All Vessel Operator/Master are required to make dated logbook entries.

13.7 Vessel Operator/Master Responsibilities

a) Secure the proper keys to boat(s) and/or vehicles from the key rack in the main office prior to departure.

b) Contact Vessel Operations and secure the equipment for the boat(s) you intend to use. This equipment will vary with the boat(s) used. Basic list includes: one life jacket per person, throwable floating cushion, oars, safety kit, medicine kit, and any special equipment you may need.

c) Immediately look in the logbook to make sure that the boat you are using has been refueled, serviced and has no mechanical problems. The logbook should also have number of gallons used on prior trip.

d) Upon securing a small boat and its equipment the Vessel Operator/Master should enter into the boat's logbook: date and time, Vessel Operator/Master name, signature of Advanced Operator if a Basic Operator is running a larger boat, area of operation and time of return.

NOTE: If the boat used is refueled while in the field by the Vessel Operator/Master at a marina or public facility, the number of gallons must be logged in the logbook. This should be done every time a boat is refueled. Also be sure there is an adequate supply of oil in the oil tank on the outboard powered boats.

e) Before trailering a boat to an area away from the lab you must check all lights on the tow vehicle and trailer. *Be sure that the lights are working properly BEFORE leaving the lab area.*

f) All boats listed as basic Vessel Operator/Master class boats have removable *drain plugs* (except the PONTOON boat). When the boat is on the trailer the drain plug is out, not in its proper place, to prevent rainwater accumulation. This plug MUST be installed before launching the boat and should be removed after taking the boat out of the water.

Outboards should be producing a steady stream of water from the "tattle-tale" on the engines right rear side. *It's a lot cheaper to replace a $24 water pump than replace or rebuild a burned-up motor.*

g) It is the Vessel Operator's/Master's responsibility to adhere to the Navigation Rules and operate the boat safely with regards to him/herself, the people onboard and other boaters. Weather conditions are one of the prime concerns in small boat operations as conditions in the field change rapidly.

13.8 Small Boat Operation in the Field

With the vast accessible area that permits small boat navigation, the Vessel Operator/Master must always be alert while in the field. The most common cause of an accident on the water is carelessness on the part of the Vessel Operator/Master. Excessive speed in rough water probably ranks a close second.

It would be impossible to put in print all the situations or list all the hazards that may be encountered in the field. Safe boating is totally the responsibility of the Vessel Operator/Master of the boat.

Some things to keep in mind are:

Be **cautious** of wakes of large vessels. Especially ships, offshore workboats, crew boats and tug boats.

b) When meeting or overtaking another vessel causing a large wake the Vessel Operator/Master should slow the boat speed down, and approach the wake at about a 45-degree angle.

c) A line of equally spaced floats or jugs could indicate the trotline of a fisherman. Caution should be exercised if crossing such a line is necessary.

d) An area of "white caps" in open water often indicates a very shallow reef.

e) An area of "slick" or calm water near the shoreline indicates a grass bed just below the surface, and water depth is usually less than 2 feet.

f) When passing other boats that are anchored, stopped or beached, **slow down** enough that your wake will not cause damage or severely rock the other boat.

When beaching a boat approach the shoreline at a very **slow** speed. Bring the boat off plane well off the beach as most of our shorelines are very shallow. Idle into the beach, stop and raise motor out of water when depth is too shallow to use motor, then either paddle, pole or get out of the boat and wade into the beach. **Be sure that the boat is securely anchored or tied to a permanent object before leaving.** It's no fun chasing a loose boat across the bay.

Bird nesting islands are usually marked and are to be avoided.

Be alert for signs marking "No Prop" zones. Do not enter these areas under power. They contain valuable seagrass beds in very shallow water. Paddle the boat into these areas if research or collection is to be done.

Never tie up to a navigation buoy except in case of an emergency.

When tying up to platforms, larger boats, or pilings in the water, use a slow speed approach and maneuver to bring your boat alongside rather than approaching head-on. In some cases a head-on approach may be your only choice.

If trailering to another location, be aware that driving with a trailer is not the same as driving the vehicle alone. The combination is heavier and longer, takes up more room on the road, and requires a longer distance to stop. Reduce your speed. It is not a good idea to stow light gear in the boat while trailering. Many life jackets are seen along the highways and you will be responsible for the return of yours. Backing a trailer is not difficult if you approach it slowly and do as much maneuvering as possible while moving forward. In other words, align yourself while pulling forward so you are backing straight to your destination. When launching, do not get the tow vehicle rear wheels in the water, remember you are launching the vessel not the vehicle. Do not forget to install the drain plug (s) prior to launching! Prevent theft of the boat and its contents by not leaving it unattended. If you must, park in highly visible areas and secure contents within the vehicle.

Operating a boat carries with it certain legal and ethical responsibilities. These responsibilities include having all required equipment, safe/legal vessel operation and protection of the environment. Think before you act!

You are responsible for damage to persons or property caused by the wake of your boat. If your boat creates a wake that rocks another boat enough to injure a person or damage the boat or equipment, you are liable for both criminal and civil actions.

o) The Vessel Operator/Master is obligated by law to render assistance that can be safely provided to any individual in danger at sea. Failure to do so can result in a fine or imprisonment.

p) Federal law prohibits throwing, discharging, or depositing any trash, oil, garbage, sewage or any other pollutants into the waters of the United States. Bring your refuse back for deposit in a dumpster!

13.9 HYPOTHERMIA

Although we are not considered to be in a cold-water zone, it should be remembered that winter operations can be hazardous and this condition does exist if the boat should sink or personnel be thrown out of the boat.

Hypothermia is marked by the cooling of skin and tissues and, eventually, a drop in temperature of the heart and brain. When these organs get down to 90 degrees, unconsciousness may occur. At 85 degrees heart failure occurs and is usually the cause of death. In cold water, swimming and treading water does not keep you warm but expends your energy faster and increases body cooling by about 35%.

Naturally, swim to the nearest shore if certain you are able, and immediately seek shelter or help. Water draws heat away from you faster than the air does.

TREATMENT FOR HYPOTHERMIA:

Move to shelter; remove wet clothing; restore heat by warm bath, slowly warming by a fire or cuddle with another person. Drink warm sugary drinks, never alcohol-based liquids.

13.10 SUNBURN

Probably our greatest hazard is sunburn, especially on cloudy days. Clouds do not block the ultraviolet rays that cause sunburn and most severe burns occur during these conditions. While in the field in small boats you should always wear protective clothing and/or use some type of lotion with as high a sunblock rating that is available. Overexposure can cause serious damage and could be permanent. Skin cancer is also linked to overexposure to the sun.

13.11 Weather

The Vessel Operator/Master should always check the weather before departing. This can be done by going online to NOAA weather at www.nws.noaa.gov and clicking on the area of interest or directly to http://www.srh.noaa.gov/hgx/ to access the local Houston/Galveston, TX forecasts for both bay and offshore waters. You may also tune any VHF radio to WX 1 (162.55 MHz) to listen to the National Weather Service broadcast for the Galveston area. "Small Craft Advisories" are warnings issued by the National Weather Services. You should always heed these weather warnings and alter your plans accordingly. The USCG also issues weather warnings on channel 22A, preceded by a "Securite" announcement on channel 16. Pay attention to these broadcasts, they could save your life!

When in the field be alert to sudden weather and wind changes. A sudden strong wind change could indicate frontal passages or severe thunderstorms. If weather becomes severe you should immediately suspend work and head for sheltered waters. Often it will be impossible to head directly to the place of launch or "base" and an alternate facility must be used. If you are stranded in the field or a dock at an alternate marina or bait stand, try to contact the TAMUG Vessel Operations Department via telephone or VHF radio with a status report.

13.12 Radio Operating Procedures

All vessels in the small boat fleet are equipped with VHF radios.

Tips for proper use of Channel 16:

1) Calls on channel 16 should be brief and to the point.

2) Do not use channel 16 for normal business or idle chatter. It is for calling the USCG in an emergency or initially contacting another station **only**.

3) Avoid excessive calling. FCC rules state, you may call three times at two-minute intervals and then must wait for 15 minutes before calling again.

4) When receiving party answers, agree to switch to another channel (08, 09, 10, 18, 68, 69 and 71), switch immediately to appropriate channel. Then resume your conversation. Keep conversation as short as possible and don't chit chat.

5) Avoid CB language (no 10-4's) on your radiotelephone. It is not acceptable on marine radio.

6) If possible, schedule calls to other vessels or stations in advance. This will help you avoid calling persons who are not listening.

7) Use courtesy when calling. Wait until the channel is clear and no one else is talking. Listen, especially for distress calls. Radio operators are also reminded to use channel 22A when calling the USCG for non-distress information. Remember you must initiate your call on channel 16 prior to using channel 22A.

8) NOAA Weather Radio is a 24 hour weather broadcast and carried on three channels in the United States. WX 1 and WX 2 can be received in our area; WX 1 originates from Corpus Christi and WX 2 from Brownsville and Galveston.

9) Use **"Mayday"** only for calls of an emergency nature involving imminent sinking or loss of life. Use **"Pan-Pan"** (pronounced "pawn-pawn") calls for urgent problems. Use **"Securite"** (pronounced "say-curi-tay") calls for navigation or weather warnings.

10) The use of VHF radio is restricted to distress, safety, operational and public correspondence communication on permitted channels.

11) The transmission of a hoax "Mayday" call is subject to prosecution as a Class D felony under Title 14, Section 85 of the U.S. Code, liable for a $5000 fine plus all costs the Coast Guard incurs as a result of the individual's action.

12) Communicate with large ships before crossing their bow in a channel.

13.13 Troubleshooting and Field Repairs

The Vessel Operator/Master is not expected to diagnose or try to make repairs to internal components of motors used in the TAMUG fleet of boats. In all probability internal repairs in the field are not possible or practicable.

When running in the shallow bay and coastal areas try to avoid the grass beds, oyster reefs and extremely shallow water. If you must use a boat in these areas pay close attention to the water-cooling system which may clog with grass and/or mud. Severe damage can occur if the motor overheats.

Listed are some of the common problems that may occur in the field, and some simple tips for fixing them in the field:

a) ***Motor tries to start but will not run****:* Make sure fuel line is on properly and that primer bulb on line is firm when squeezed. Also be sure there is fuel in the tank. When using portable fuel tanks the squeeze bulb must be connected to the tank side. If squeeze bulb is on the motor side the flow check will not permit fuel flow to the engine. When trying to start a cold engine it may be necessary to choke engine and start at a high idle. You must be careful not to "flood" the engine by over choking.

b) ***Motor will not start but cranks over****:* Make sure fuel line is on properly and there is fuel in the tank. If this does not start engine remove motor cover, then remove 1 spark plug and inspect. If the spark plug is excessively wet, the motor is probably flooded and the plugs should be removed and dried by either shaking out or wiping with a rag or dry paper towel. After replacement of plugs or if they were dry originally check for spark. This is done by putting a removed plug into the spark plug wire, ground the plug to the motor block and have someone crank motor for a few revolutions. If spark is present try changing plugs. If there is no spark you probably have an ignition failure of some type that will not be field reparable and you should call for assistance.

c) ***Nothing happens when turning key to start (electric start models):*** If fitted with a battery switch make sure it is in the "on" position. If no battery switch is in place, be sure battery is not dead or that battery leads are not loose. It may be necessary to remove the battery leads and clean the posts and leads by scraping away any built-up corrosion, replacing the leads and trying to restart engine. If in the field, it may be necessary to manually start the motor with the starter rope. If the motor is equipped with a safety kill switch, be sure the safety lanyard is securely fitted into the switch before starting and at all times while the motor is running.

d) ***While running through the water boat starts slowing down but motor runs OK:*** this is an indication that the propeller has or is in the process of "spinning out the hub" or turning loose from the inner hub bushing. The motor should be stopped and the prop changed.

e) ***Motor runs but boat will not move through the water or moves very slowly with motor at high RPM:*** propeller has "spun out" and needs to be changed.

f) ***Knocking or thumping noise after putting motor in gear or motor jumps out of gear:*** an indication that there is a severe problem in the lower unit of the motor. Motor should be stopped and boat towed back to dock before more damage is done to the engine or lower unit.

g) ***While running motor suddenly dies and "locks-up"*****:** raise motor out of water and check propeller for fouling (fish net, weeds, grass, etc.). If there is no prop fouling, then there is probably an internal problem.

h) ***While running through the water motor slows down and then dies. Outside of motor cover seems hot:*** raise motor to make sure propeller and water intake are not fouled with grass. After inspection, restart if possible. If motor starts, be sure that the water pump on the engine is working. This is evident by water being sprayed out of the tattle-tale tube on the motor, or by a water mist out the exhaust ports on the back of the motor's mid-section.

13.14 Clean-up and Equipment Return

a) Equipment for small boats should be turned in as soon as possible to the Vessel Operations Department.

b) All items should be clean and in dry condition. If life jackets, cushions, or other equipment gets wet or muddy it will be the responsibility of the Vessel Operator/Master to see that they are rinsed off with freshwater and mud or grass removed. Toolboxes should be opened and checked for water or moisture inside, if in a "wet" state they should be dried out and tools cleaned and oiled before returning.

c) Prior to turning in equipment, a final entry should be made into the logbook listing any problems encountered with the boat, motor, or equipment.

d) After checking in boat equipment, return key(s) to key rack in the main office.

f) When returning after hours and on weekends, follow the same clean-up procedures. Store the boat's equipment, electronic gear and tool boxes in the gear locker. *Do not take home or store in your office.* Someone may be counting on using the boat early the next morning. Also remember to make the logbook entries. If a problem has come up, it will be recorded and the next user will be aware of the problem thus averting a more serious problem.

g) If boat(s) are to be used for weekend sampling, all paperwork must be in the hands of the person in charge of small boats by 1:00 pm and the equipment checked out before 3:30 pm Friday.

13.15 Logging and Reporting

a) The logbook on each boat or the boat's toolbox is not to be removed from its assigned place. All entries should be done onboard as the logbook represents the master copy and record for its boat.

b) Report and enter into the logbook **all** problems and mishaps no matter how small. This reporting could save on repair cost and down time to the boat. Fill out online the maintenance discrepancy report online at

http://www.tamug.edu/VesselOperationsOffice/Forms.html

c) Repeated failure to report problems, mishaps, and reckless operation will be grounds for removal of Vessel Operator's/Master's name from the "Approved Operator List".

13.16 Charges for Small Boat Maintenance Rates

Applicable fees are listed on the current fiscal year "Summary of Charges and Rates".

http://www.tamug.edu/VesselOperationsOffice/Forms.html

13.17 Guide to Safe Fueling

Remember: **ONE PINT** of gasoline is as explosive as 30 sticks of **dynamite.**

a) **Don't fuel with motor running.**

b) Make sure all electrical equipment is turned off.

c) Don't smoke or allow anyone in the boat to smoke while fueling.

d) While fueling, keep metal nozzle of hose in contact with tank fill-pipe at all times to prevent static spark explosion.

e) Watch it. Don't let your attention stray while fueling. Avoid spillage!

f) As soon as fueling is finished, open all compartment doors and hatches to air for possible fumes. **Do not start motor without doing this!**

13.18 Discharge of Oils and Garbage

General Description

At no time may any TAMUG vessel discharge any oil or garbage into the water. All oil and garbage must be placed into proper receptacles set up at the TAMUG Vessel.

Responsibilities

It is the Vessel Operator's/Master's responsibility to ensure that all crew members are familiar with this procedure and all regulations are enforced.

14 Texas Parks and Wildlife Registered Vessel Operator Training and Certification

14.1 Introduction and Overview

One of the mainstays of field research at TAMUG is the use of trailered outboard boats. The TAMUG outboard fleet completes several hundred field trips each year throughout the Galveston Bay, its tributaries, and the coastal waters.

Marine science vessel field activities present ever-changing challenges to those who choose to probe, monitor, and collect samples and data from the marine environment. Inherent risks are always present in field activities. Due to the varied nature of marine science field activities, Vessel Operators require training and experience greater than required by the average recreational boater. Recreational boaters typically do not deploy heavy gear, tow nets or dredges, or modify their vessels in order to accomplish a specific mission or purpose.

The success of the University's small boat training program requires that all Vessel Operators be fully trained and competent in these functions. To this end, no faculty member, staff member, or student may operate a TAMUG vessel independently without being certified by the Vessel Operations Manager or his/her designee.

Training and certification as an approved operator requires a level of commitment not only from the potential operator but also from other TAMUG personnel. Thoughtful consideration should be given as to whether an individual will be able to maintain his/her "active" status over an extended period of time before requesting certification. Once certification is granted, an individual must remain current by serving as a Vessel Operator/Master of a vessel a minimum of six trips per year. Any operator not meeting this criterion will be considered inactive and removed from the approved Vessel Operator roster.

The TAMUG operator training and certification program is based on a risk model of operational areas with requisite increasing levels of training required for higher risk areas of operation.

The training and certification program will be adequate for all outboard vessels and based on the following identified risk areas:

- **Area 1**: Our normal operating area as defined as inshore of the Colregs Demarcation line at the Galveston jetties, East of the Galveston Island Causeway, south of a line from the south tip of the Texas City Dike to Bolivar ICW buoy 18, and west of a line intersecting Bolivar buoys 17 and 18.

Cert. Requirements: Current CPR and 1st Aid, TPWD Boat Safely, TAMUG Safe Powerboat Handling Training, Boating experience questionnaire, drug test, Background check (if required), vessel manifest left ashore and submitted to vessel ops, positive EPIRB test.

Document Submission Requirements: Float Plan prior to trip, TripDirect reservation 1 week prior to trip

- **Area 2:** All waters outside area 1 but inshore of the Colregs Demarcation line.

  Cert. Requirements: Current CPR and 1st Aid, TPWD Boat Safely, TAMUG Safe Powerboat Handling Training, Boating experience questionnaire, drug test, Background check (if required)

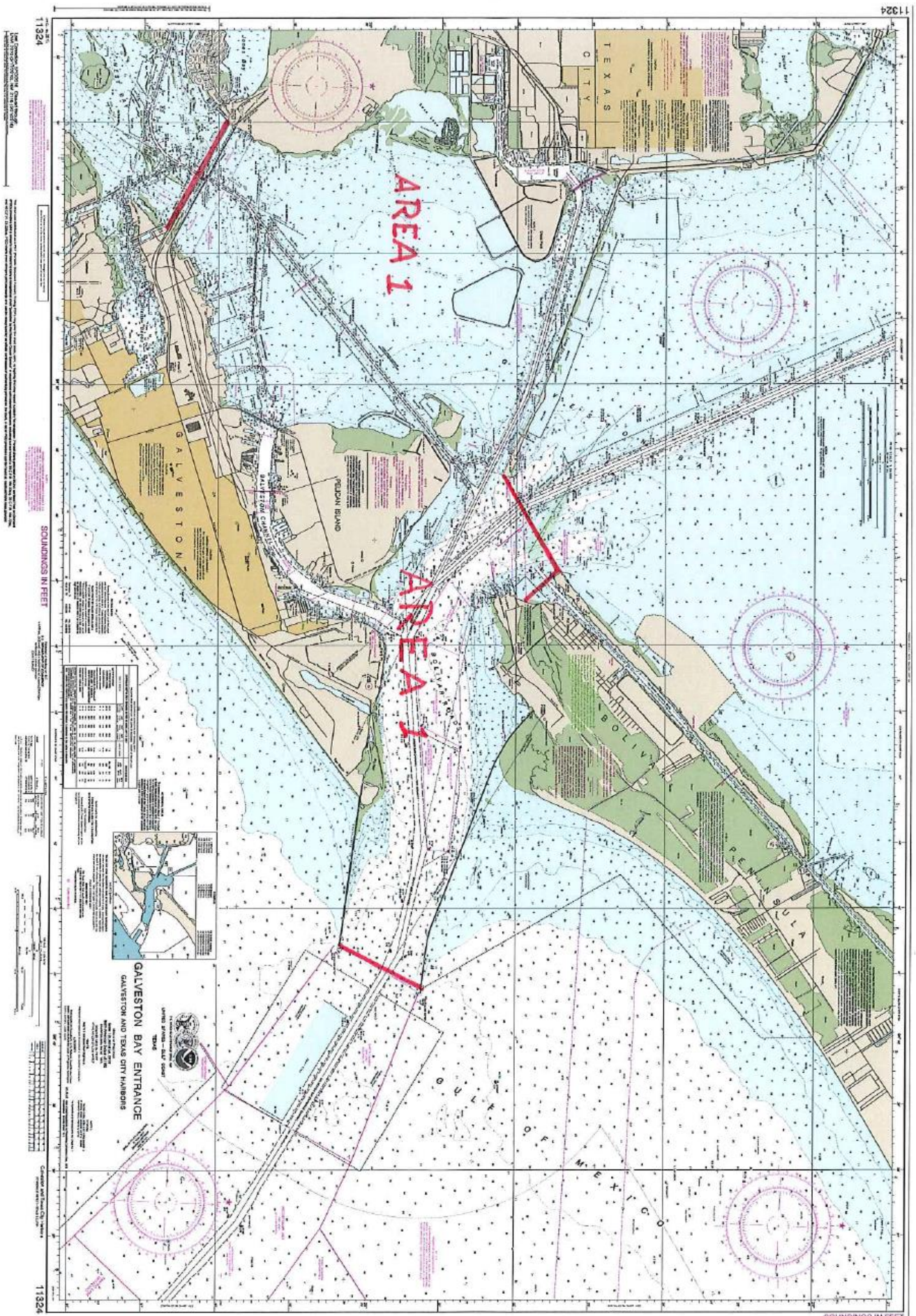
  Document Submission Requirements: Float Plan prior to trip, TripDirect reservation and Voyage Plan 1 week prior to trip. Vessel manifest left ashore and submitted to vessel ops, positive EPIRB test.

- **Area 3:** All waters seaward of the Colregs Demarcation line

  Cert. Requirements: Current CPR and 1st Aid, TPWD Boat Safely, TAMUG Safe Powerboat Handling Training, Offshore Operator Endorsement, Boating experience questionnaire, drug test, Background check (if required)

  Document Submission Requirements: Float Plan prior to trip, TripDirect reservation and Voyage Plan 1 week prior to trip. Vessel manifest left ashore and submitted to vessel ops, positive EPIRB test.

- Trailer training is the responsibility of the department that the operator will be operating for. Part of TAMUG Safe Powerboat Handling Training will be to observe the operator launching and recovering the boat.


AREA 1
AREA 1
GALVESTON BAY ENTRANCE
GALVESTON AND TEXAS CITY HARBORS
GALVESTON
TEXAS CITY
BOLIVAR PENINSULA
PELICAN ISLAND
GULF OF MEXICO
SOUNDINGS IN FEET
11324

14.2 TPWD Boating Safety Course

This course is a free online course that is a prerequisite for the TAMUG Safe Powerboat Certification. It is required by state law that any boater born after 08-31-1993 must pass this course

Visit www.tpwd.state.tx.us/boat/ for more information or contact the state boating education office at (800)792-1112

To register and complete the course please use the following link http://www.boatus.org/texas/

The BoatUS Foundation's Texas Boating course consists of 6 lessons and a Final Exam. Each lesson has a 10-question quiz at the end to test your knowledge. The Final exam is 75 questions and you must pass with a score of 80% or better.

14.3 TAMUG Safe Powerboat Certification Training

All prospective TAMUG certified operators will be required to pass the TAMUG Safe Powerboat Training Course prior to certification and as re-certification or remedial training as directed

The Training will be offered three times a year the Thursday and Friday before the Fall and Spring Semester starts (weather permitting) and the Thursday and Friday before May graduation (weather permitting) The cost per operator for books and materials is $75 per person (min 1 person).

Should an operator need immediate training outside of the three classes offered per year then then cost will be $400 per person (min 1 person).

14.4 TAMUG Safe Powerboat Certification Training

DAY 1 – SESSION NUMBER 1

Daily Goal: Students Learn Safe Powerboat Handling Standards (Practical Skills 1-3, 4-6, 8- 18, 26, 31-36; Knowledge 1, 4-8, 10-11, 16-18, 19) and NASBLA Standards (1.1-

1.2, 2.1-2.9, 3.1, 3.7, 4.1-4.3, 5.1, 5.4-5.8, R1, R2, R3)

Hours: 8

Equipment: Powerboats

Mooring Buoy

6 Buoys with Ground Tackle

Homework

Assignments: *Start Powerboating Right!* pages 1-57, 71-77, 82-87, 93-94, 101-106, 120-124, 143-147, 156-157

www.uspowerboating.com

Session No. 1 Out of: 2

TIME	ACTIVITY	METHOD
0800	GROUP INTRODUCTIONS (Team Building) Lesson Plan (LP) - 1	G
0820	COURSE OVERVIEW LP - 2	L
0825	PERSONAL SAFETY LP - 3	
	Life Jackets (PFDs)	
	Types	L
	Put on and adjust	D/G
	How and when to wear	L
	Care and maintenance	L
	When required	
0840	SITE SURVEY LP - 4	G
	Weather and Water	
	Wind direction indicators	L/G
	Thunderstorms	L/G
	Tides and currents	L/G
	Local Site Hazards	L/G
0910	BREAK	
0920	ENGINE SYSTEMS AND EQUIPMENT REQUIREMENTS LP - 5	
	Electrical Systems and Troubleshooting	L/D/SS
	Fuel and Lubrication	L/D/SS

	Fueling Procedures and Gasoline Dangers	**L/D/SS**
	Dangers & Prevention of Carbon Monoxide Poisoning	**L/SS**
	Engine Controls and Steering	**D/SS**
	Propeller and Lower Unit	**L/D/SS**
	Propeller Awareness & Strikes	**L/D/SS**
	Capacity and Registration	**L/D/SS**
	Required Equipment	**L/D/SS**
1000	**DOCKSIDE CONTROL FAMILIARITY (Secured Maneuvers) LP - 6**	**D/G**
	Proper boarding procedure	**G**
	All start and stop engine	**G**
	Practice shift and throttle coordination	**G**
1030	**INSTRUCTOR DOCKSIDE DEMONSTRATIONS LP - 7**	
	Leaving a dock	**D/Dist**
	Minimum Control Speed Using Intermittent Power	**D/Dist**
	Docking	**D/Dist**
1045	**ON-THE-WATER DRILLS LP - 8**	
	Leave the Dock	**OTW/Dist**
	Follow the Leader to Training Area	**OTW/Dist**
	Minimum Control Speed Drill	**OTW/Dist**
	Rubber Docking from Windward and Leeward	**OTW/Dist**
1200	**MARLINSPIKE LP - 9**	
	Cleat Hitch	**P/G/Dist**
	Coil and Heave a Line	**P/G/Dist**
	Bowline	**P/G/Dist**
	Clove hitch	**P/G/Dist**
	Round Turn and Two Half-hitches	**P/G/Dist**
	Sheet Bend	**P/G/Dist**

1230	**LUNCH**	
1300	**AIDS TO NAVIGATION (ATONS) LP - 10**	
	Types of Navigation Aids	**Dist/IR**
	Local Notices to Mariners	**L/D**
	Local Area Chart	**D/G**
	Local Navigation Hazards	**D/G**
1320	**PRE-DRILL BRIEF LP - 11**	
	Check Local Weather	**G**
	File a Float Plan	**P**
	Pre-Departure and Passenger Communication	**L/D**
1325	**INSTRUCTOR DOCKSIDE DEMONSTRATIONS LP - 12**	**D/Dist**
	Pivot Turn	**D/Dist**
	Backing Slalom	**D/Dist**
	Mooring and Anchoring	**D**
	Tie to Dock Using Proper Lines	**D**
1350	**BREAK**	
1400	**ON-THE-WATER DRILLS LP - 13**	
	Follow-the-Leader to Training Area	**OTW**
	Minimum Control Speed Using Intermittent Power	**OTW/Dist**
	Constant Radius Turns & Using Pivot Point as a Guide	**OTW**
	Pivot Turn	**OTW/Dist**
	Backing Slalom	**OTW**
	Slow-Speed Avoidance Turns	**OTW**
	Approach to a Buoy	**OTW**
	Holding Position	**OTW/Dist**
	Rubber Docking from Windward and Leeward	**OTW/Dist**
	Return and Dock	**OTW/Dist**
1600	**HANDLING AND STORAGE OF BOATS ASHORE LP - 14**	**G**

	Use of Trailer	**L/D/G**
	Washing Boat/Trailer and Aquatic Nuisance Species	**D/G**
	Theft Prevention	**L/D/G**
1630	**SECURE FOR THE DAY**	

L = Lecture, D = Demonstration, P = Practice, R = Review, T=Test, DB = Debrief, G = Group Activity, Dist = Distance Learning (Web Site), IR = Instructor Review, OTW = On The Water, SS = Self Study, LP = Lesson Plan

DAY 2 – SESSION NUMBER 2

Daily Goal: Students Learn Remaining Safe Powerboat Handling Standards (Practical Skills 20-21, 23-25, 27-29, 32; Knowledge 9-10, 12-13) and NASBLA Standards (2.10,

5.2–5.3, 6.1–6.5, 7.1–7.5, 8.1–8.2; R4)

Hours: 8

Equipment: Powerboats

6 Buoys and Ground Tackle PIW Simulators

Homework

Assignments: *Start Powerboating Right!* pages 60-62, 87-92, 94-96, 107-111, 132, 133-142, 148-154

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Session No. 2 Out of: 2

Time	**Activity**	**Method**
0800	**NAVIGATION RULES AND COLLISION AVOIDANCE LP - 15**	**Dist/IR**
0820	**HOW BOATS WORK LP - 16**	**SS/IR**
	Powerboat Types and Characteristics	**SS/IR**
	Controllable and Uncontrollable Forces	**SS/IR**
	Turning Characteristics	**SS/IR**
	Maneuverability Concepts	**SS/IR**
0840	**SAFE BOAT OPERATIONS LP - 17**	

	Operator Responsibilities / TAMUG requirements	**L**
	Alcohol and Controlled Substances	**L**
0850	**BREAK**	
0900	**EMERGENCY PROCEDURES LP - 18**	
	Rendering Assistance	**L/SS/IR**
	Capsizing Emergencies	**L/SS/IR**
	Falling Overboard and PIW Recovery	**L/SS/IR**
	Cold Water Immersion, Hypothermia and Heat Emergencies	**L/SS/IR**
	Fires	**L/SS/IR**
	Running Aground	**L/SS/IR**
	Accident Reports	**L/SS/IR**
0930	**ON-THE-WATER DRILLS BRIEF LP - 19**	
	Local Weather Briefing	**G**
	VHF Radio Procedures	**L/G/SS/IR**
	Steering a Range Demonstration (Land Drill)	**D/G**
0945	**ON-THE-WATER DRILLS (Stress Radio Procedures) LP - 20**	
	Instructor Demonstration of PIW Recovery	**D**
	Follow-the-Leader to Training Area	**OTW**
	Steering a Range	**OTW**
	Constant Bearing and Collision Avoidance Practice	**OTW**
	PIW Recovery	**OTW**
	Return and Dock	**OTW**
1130	**MARINE ENVIRONMENT LP - 21**	
	Laws and Regulations	**L**
	Human Waste Disposal	**L**
	Toxic Substance Disposal	**L**
1140	**LUNCH (Optional Review)**	
1215	**ON-THE-WATER DRILLS BRIEF LP - 22**	
	Local Weather Briefing	**G**

	Distress Signals	**D**
	High-Speed Maneuvering Concepts	**L**
1230	**ON THE WATER (Stress Proper Radio Procedures) LP - 23**	
	Instructor Demonstration of Towing Astern	**D**
	High-Speed Turns	**OTW**
	High-Speed Stops	**OTW**
	Each Boat Tow and Be Towed	**OTW**
	Dock and Secure Boats	**OTW**
1445	**BREAK**	
1500	**Fire Extinguisher and Flare Practicum**	**L/R**
1545	**Break**	**L/R**
1600	**Final Exam and Oral Examination Board**	**T/DB**
1730	**SECURE**	

L = Lecture, D = Demonstration, P = Practice, R = Review, T=Test, DB = Debrief, G = Group Activity, Dist = Distance Learning (Web Site), IR = Instructor Review, OTW = On The Water, SS = Self Study, LP = Lesson Plan

14.5 TAMUG Offshore Operator Endorsement

It is required that Basic Powerboat courses and examinations be completed prior to sitting for this endorsement.

Course fee $40 (min 1 person)

One day course in the classroom; A two week notice is required to schedule the course.

OFFSHORE CRUISING

LESSON PLAN

TIME		ACTIVITY	METHOD
0800		INTRODUCTION TO OFFSHORE CRUISING	L,D
0815		GROUP INTRODUCTIONS/TEAM BUILDING EXERSCISE	L,D
0900		NAVRULES REFRESHER	L,D,
1000		OVERVIEW OF NAVIGATION EQUIPMENT GPS RADAR EPIRB	L,D
		HOW TO LAY TRACKLINES FOR NAVIGATION	L,D
		OVERVIEW OF OFFSHORE BOUYS MO A RACON BOUYS and Weather Bouys	L,D
		TIME SPEED DISTANCE	L,D
1200		**LUNCH**	
1230		HOW TO OPERATE IN FOLLOWING AND HEAD SEAS	L,D
1245		EFFECTS OF AN EBB AND A FLOOD ON AN INLET	L,D
1300		HOW TO AVOID SEVERE WEATHER AND INPORTANCE OF SAFEHAVEN	L,D
1330		DAMAGE CONTROL FOR FLOODING FIRE	L,D
1345		ANCHORING IN DEEP WATER	L,D
1400		RISK VS GAIN WITH OPERATIONS GAR MODELS	L,D
1420		KNOWING THE OPERATIONAL LIMITS OF YOUR VESSEL	L,D
1440		IMPORTANCE OF CREW FATIGUE STANDARDS	L,D

1540		BASIC FIRST AID FOR SEASICKNESS, HEAT EXHUSTION AND HYPOTHERMIA	L
1640		**TEST 25 QUESTIONS**	T

L = Lecture, D = Demonstration, T=Test

14.6 Initial Evaluation and Certification

Prospective operators must successfully pass the TAMUG safe powerboat certification training and test. All paperwork must be completed, submitted, and reviewed prior to the Oral Examination Board.

14.6.1 Oral Examination Board

A. The purpose of an oral board for prospective vessel operators is to ensure that the individual has a strong knowledge of how to operate a vessel safely and within the guidelines of TAMUG policy.

B. The Oral Board Members will be comprised of, at a minimum, two Vessel Operations Captains and one currently certified Vessel Operator for a total of at least three people.

C. The Board members will question the perspective vessel operator for no more than one hour to ascertain whether or not the individual has the maturity, confidence, and knowledge to operate a vessel safely and within the rules and procedures set forth by the Federal, State, and University laws and procedures.

D. Questions directed to the prospective vessel operator will cover the categories of:

1. Incident reporting procedures;
2. Practical application of Navigation Rules of the Road;
3. Required TAMUG forms, reports, and logs;
4. Identifying risks and ways to mitigate it per the Operations Safety and Procedures Manual;
5. Responsibilities of a vessel operator under state and federal law;
6. Launching and recovering boats on trailers and, trailer towing;

E. The Oral Board members will come to a conclusion within twenty-four hours about the abilities of the perspective operator and make recommendations to the MESSO Executive Director or his representative. At that point, a letter will be drafted to the perspective operator if the individual requires more training and the topics that were lacking or that the individual is certified to operate specific TAMUG small boats.

F. The signed letter from the MESSO Executive Director or his representative will be given to the individual and copies filed electronically and in the operator's files maintained by Vessel Operations Training and Certification Manager.

G. The newly certified Vessel operator will have a one year probationary status. During this time any deviation from the rules and procedures could result in temporary or permanent suspension to operate TAMUG vessels.

Bank of Board Questions: (Suggested but not limited too)

Who should be notified if an incident occurs aboard a TAMUG vessel?

What constitutes an incident that requires reporting?

Where can you find the forms and procedures for incident reporting?

What incidents need to be reported to the USCG and what time frame do you have to make the report?

What steps do you take the moment after running a boat aground?

What steps do you take if there is an injury onboard the boat?

What steps should be taken administratively before an operator takes a boat out of the boat basin?

What are different ways to mitigate the risk of grounding a vessel required to operate in a shallow area?

What are the weather parameters for operating a TAMUG small boat?

What are adverse weather exemptions and what are they for?

Who can grant permission for a trip to continue after adverse weather is reported?

What radio channel is for bridge to bridge communication?

What radio channel is for international hailing and distress?

What four radio channels are USCG working channels?

When does TAMUG require life jackets to be worn?

What are some good resources to look at weather/ marine forecasts?

What forms are you required to have onboard when underway?

When must navigation lights be turned on?

A loaded cargo ship in the Houston channel northbound for Houston is to your left as you are aboard Bateau westbound from Bolivar to Galveston Channel and a risk of collision exists. Who has the right of way?

14.6.2 Certification of Personnel with Masters License from the USCG

Any person who comes with or has obtained their USCG Master of Uninspected Passenger Vessels license or higher must provide Vessel Operations with a copy of their license for verification. In order to be certified for independent use of the vessel you must pass a checkout ride accomplishing the skills listed in on-the-water boat practicum. If you fail to

complete the checkout ride successfully then you must start at the beginning of the training program for unlicensed operators.

14.7 Suspension/Recertification/Upgrade

1. Vessel Operators will have their certification suspended/revoked following an incident involving the unsafe operations of a vessel or operation in a manner that results in property damage or personal injury, pending review by the MESSO Executive Director and the Vessel Operations Safety Officer or designated review board.

2. In the event a certified Vessel Operator has had his/her motor vehicle driver's license suspended/revoked, certification to serve as a Vessel Operator/Master of TAMUG vessels will also be suspended/revoked.

3. MESSO Executive Director may suspend/revoke certification for cause.

4. Recertification is required for a Vessel Operator/Master who does not operate a vessel for at least 6 trips during the 12-month period since their last certification.

5. In the event the operator has their mariner license expire/ revoked/ suspended… example – USCG MMD license expires, then their operator status would be suspended until the license is revalidated.

15 Vessel Communications

15.1 Emergency Communications

Note: A laminated list of emergency call numbers has been placed in waterproof safety equipment containers onboard all vessels.

The following situations require immediate notification to the United States Coast Guard (USCG)

- A serious injury or a death;
- A vessel is likely to sink; or
- It is necessary to abandon the vessel.

Use the following contact information to reach the USCG:

USCG - VHF Channel 16, 22a, 5a, 11, or 12 or call VTS Houston-Galveston Watch Supervisor at 713 671-5103. Use any and all means to communicate distress to the USCG.

Provide the following information:

- Name of Vessel/Your Position – First!!!!
- Nature of the distress/emergency;
- Number of persons onboard; and
- Description of your vessel.

Once emergency communication as been established with the appropriate emergency responders, inform Campus Police by calling at 409-740-4545 extension 2 (after hours 409-771-5185) or the Vessel Operations Department at 409-740-4477 or 409-740-4822.

Once contact has been established, comply with the dispatcher's directions. The Vessel Operator/Master may choose to call 911 for medical emergencies. It is essential that the vessel's location be given at the onset of the call to ensure that the closest emergency response dispatcher has been contacted.

Should a TAMUG vessel or TAMUG personnel be asked to render medical assistance to non-TAMUG personnel, a call to the USCG or 911 should be placed and then treatment appropriate to an individual's level of first aid training may be provided until emergency medical response personnel arrive on scene.

Experience has shown people are often reluctant to call attention to themselves, even in the face of an emergency. Survival of a marine incident can be optimized when vessel personnel recognize that they may be entering a life- threatening scenario. It is at this point that contact with the USCG is encouraged. Present your concerns before they become a life-threatening event. The USCG will monitor your situation until problems can be resolved, or if necessary, can begin planning for emergency intervention.

Your ability to contact emergency services may be compromised by your location as well as the signal strength of your communication equipment. The USCG recommends the use of VHF Radio communication over cellular phone contacts as other parties within radio range may hear a call for distress and be able to respond. Cellular phone conversation does not provide this public announcement for assistance.

15.2 Non-emergency Communications

When vessels operating from TAMUG require assistance for non-life-threatening injuries or non-life threatening vessel operational problems secure assistance by contacting the Vessel Operations Department, Monday through Friday (8:30am to 5:00 pm) at 409-740-4477. If these numbers ring busy or go to voice mail, call the Vessel Operations Director at 409-740-4490 or 409-740-4822.

If phone contact cannot be established with either Vessel Operations Department or the Director, call the Campus Police officer on duty at **409-740-4545.**

15.3 Communication Liaison for Boaters in Need of Towing Services

Prudent judgment must be exercised when responding to a request for towing of a non-TAMUG owned vessel. Except in an extreme emergency situation, TAMUG Vessel Masters/Operator are to provide assistance to these requests by providing cell phone or VHF radio calls to others who may provide assistance. The USCG and SEA TOW monitor Channel 16. If a TAMUG Vessel Operators/Masters is uncertain as to how to respond, the Vessel Operations Director should be contacted for a determination of further options available to render assistance. Upon the discretion of the Vessel Operator/Master, a presence may be maintained at the site of the inoperative vessel until assistance arrives.

16 Reporting Procedures

16.1 Overview

This procedure describes the actions necessary to report a marine casualty involving the safety of the passengers/embarked personnel, crew, vessel, and the environment.

Accidents resulting in damage to property or injury to personnel must be reported to the Vessel Operations Director as soon as possible. The Vessel Operations Department will coordinate an appropriate response. Depending on the seriousness of the incident, the Vessel Safety Advisor will be notified and the University's Emergency Response Plan will be implemented.

The Vessel Operations Director will coordinate necessary reporting requirements to meet state and federal regulations secondary to the location of the incident and the type vessel involved. State and federal authorities must be notified immediately for fatal accidents.

Emergency medical assistance may be secured by contacting these same authorities.

USCG - VHF Channel 16, 22a or channel 5a or channel 11 or 12 or call VTS Houston-Galveston Watch Supervisor can be reached at 713 671-5103 or call 911

To report an accident or incident, call the Vessel Operations Department at 409-740-4477. Proper notification allows the Vessel Operations Director and the Vessel Safety Advisor to investigate and document any vessel and trailering incidents resulting in injuries or property damage, and reasonable complaints of unsafe practices. A report will be presented to the President and COO. The Vessel Operations Director will determine appropriate disciplinary action specific to the incident.

16.2 Definitions

A *marine casualty* consists of:

- an unintended grounding or strike of (allision with) a bridge;
- an intended grounding or strike of a bridge, that creates a hazard to navigation, the environment, or the safety of the vessel or meets any of the following criterion;
- a loss of main propulsion or primary steering, or any associated component or control system the maneuverability of the vessel;
- an occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service;
- a person dying;

- a person being injured and requiring medical treatment beyond first aid;
- a person being injured while employed onboard a vessel in commercial service, which renders the individual unfit to perform his or her routine duties; or
- damage to the vessel and other property totaling more than $25,000.

16.3 References

46 CFR 185 Subpart B

Forms: CG-2692, Report of Marine Accident, Injury or Death

CG-2692A, Barge Addendum

CG-2692B, Report of Required Chemical Drug and Alcohol Testing Following a Serious Marine Incident

16.4 Requirements for USCG Inspected Vessels

The Vessel Operations Director shall in the event of a marine casualty:

- Immediately after addressing the resultant safety concern(s), notify the nearest Marine Safety Office, Marine Inspection Office, or USCG Group Office; and
- within 5 days, file a written report (Form CG-2692, Report of Marine Accident, Injury, or Death, supplemented as necessary by appended Forms CG-2692A, Barge Addendum, and CG-2692B, Report of Required Chemical Drug and Alcohol Testing Following a Serious Marine Incident), with the USCG Marine Safety Office or Marine Inspection Office.

If the marine casualty involves a hazardous condition immediately notify the Captain of the Port of the port of destination and the Captain of the Port of the port or place in which the vessel was located when the hazardous condition occurred.

16.5 Procedures for USCG Inspected Vessels

Immediately notify the nearest USCG –

- Marine Safety Office,
- Marine Inspection Office, or
- Group Office - 713-671-5100

a. Complete Form CG-2692 and submit within 5 days.

b. Blank forms (Form CG-2692) are available online at http://www.tamug.edu/VesselOperationsOffice/Forms.html

c. Determine if supplemental Forms CG-2692A and/or CG-2692B are required and complete form(s).

d. Make sure to sign and date the form(s).

e. Submit completed form(s) (retain a copy for University records) to the USCG Marine Safety Office, or Marine Inspection Office.

f. Submit completed form(s) within 5 days of the occurrence.

16.6 Procedures For Texas Parks and Wildlife Registered Vessels

When involved in a boating accident, the operator is required by Section 31.104 of the Parks and Wildlife Code to:

- Render to other persons affected such assistance, as may be practicable and necessary in order to save them from or minimize any danger.
- Give his name, address, and identification of his vessel in writing to any person injured and to the owner of any property damaged in the collision, accident, or other casualty.

Also according to Section 31.105 the operator must submit a boating accident report if the accident:

- Results in death or injuries to a person requiring medical treatment beyond first aid or
- Causes damage to vessel or property in excess of $500.00

The report must be submitted to the Texas Parks and Wildlife department on or before the expiration of 30 days after the incident. The report should include a full description of the collision, accident, or casualty in accordance with regulations established by the department. The form is located at the following website:

http://www.tamug.edu/VesselOperationsOffice/Forms.html

(Boat accident reports filed by the vessel operator are considered confidential and inadmissible in court as evidence)

Please send the completed (both sides) Boating Accident Report to the Exec. Director

16.7 Hazardous Condition Reporting

General

This procedure deals with the identification and reporting of hazardous occurrences onboard. It is designed to provide details of events which, under a different set of circumstances, could have resulted in injury, damage to property or pollution of the marine environment.

Definition

"**Hazardous condition**" means any condition that could conceivably have an adverse affect on the safety of any vessel, bridge, structure or shore area or the environmental quality of any port, harbor, or navigable water of the United States. This condition could include but is not limited to:

- fire
- explosion
- grounding
- leaking
- damage
- illness of a person onboard
- manning shortage

Requirements

All hazardous conditions, as defined above, onboard the vessel, must be immediately reported by the owner, master, agent or person in charge to:

- the Captain of the Port (COTP) of the port or place of destination, and
- the COTP of the port or place in which the vessel is located of the hazardous condition.

Procedures

1. Use a report of hazardous condition form **located at** http://www.tamug.edu/VesselOperationsOffice/Forms.html
2. Contact the local USCG using any means.
3. Report the information collected in the hazardous condition report form to the local USCG.

16.8 Reporting Requirements for the Discharge of Oils

Responsibility for the report

The Vessel Operator/Master involved in an incident is responsible to:

- report the incident without delay by radio or fastest means possible;
- supplement the initial report, as necessary, with further developments; and
- comply with requests for additional information from affected countries.

Who should be notified?

The Vessel Operator/Master involved in an incident must report details to:

- the appropriate officer or government agency and
- either:
  - the National Response Center (NRC) at 800-424-8802 (telex 892427),
  - the nearest USCG Captain of the Port (COTP),
  - USCG or E PA presdesignated on scene commander for the geographic area where the discharge occurs, or
  - if it is not possible to notify any of the above, reports may be made to the nearest USCG unit, provided that the NRC is notified as soon as possible.

Information to be reported:

The incident report must include the following information:

- identity of the vessel,
- time and date of the incident,
- geographic position of the vessel at the time of the incident,
- wind and sea condition at the time of the incident,
- condition of the ship at the time of the incident, and
- estimate of the quantity of oil/oily mixture discharged into the sea.

NRC	Regional EPA Office	Nearest USCG Unit
National Response Center (NRC) U.S. Coast Guard 2100 Second Street, SW Washington, DC 20593-001 800-424-8802	**Customer Call Center:** 1445 Ross Avenue Suite 1200 Dallas, Texas 75202 **(800)-887 - 6063**	Sector Houston Address: 13411 Hillard St, Houston, TX 77034 Phone:(281) 464-4800

16.9 Reporting Requirements for Maintenance Discrepancies

The Vessel Operator/Master is responsible for reporting any and all equipment trouble with or on the vessel to the Vessel Operations Department by filling out the Maintenance Discrepancy Form online for each and every piece of equipment that is malfunctioned. The form can be found at:

http://www.tamug.edu/VesselOperationsOffice/Forms.html

17 Vessel Maintenance

17.1 USCG INSPECTED VESSEL MAINTENANCE

Procedure

It is a TAMUG procedure to ensure that the University's maintenance procedures and the maintenance procedures for each vessel are implemented as required by 46CFR subchapter T.

Procedure Implementation

TAMUG ensures that:

* each vessel is maintained in accordance with relevant rules and regulations. **See Appendix I.**
* additional TAMUG requirements for vessel maintenance are observed.
* inspections are held at appropriate intervals.
* specific equipment and technical systems that may result in a hazardous situation or a sudden operational failure are identified.
* measures that promote the reliability of the equipment and technical systems are identified and standby arrangements and equipment not in regular use are tested.
* non-conformities are reported with possible cause, if known
* corrective actions are taken
* records of inspections, non-conformities, and corrective actions are maintained.
* inspections required by this section are incorporated into the vessel's operational maintenance routine.

References

Federal Regulatory References	Sites
Drydock and internal examinations	46 CFR 176.600 through 670
Hull inspection	46 CFR 176.802
Machinery inspection	46 CFR 176.804
Electrical inspection	46 CFR 176.806
Lifesaving equipment inspection and maintenance	46 CFR 176.808, Part 185 Subpart G

Federal Regulatory References	Sites
Firefighting equipment inspection and maintenance	46 CFR 176.810, 181.120, NFPA 10
Pressure vessel and boiler inspections	46 CFR 176.812
Steering system inspection	46 CFR 176.814
Miscellaneous systems and equipment inspections	46 CFR 176.816
Sanitary inspections	46 CFR 176.818
Inspection for unsafe practices	46 CFR 176.830
Repairs and alterations	46 CFR 176.700 through 710

17.2 TEXAS PARKS AND WILDLIFE REGISTERED VESSEL MAINTENANCE

With regard to vessel maintenance projects, standards and recommended practices addressed by the American Boating and Yacht Council (ABYC) shall be used as the recognized professional guidelines for all design, construction, installation, and servicing of all vessel systems. The ABYC index can be found at:

http://www.web-tir.abycinc.org/index.cfm?fuseaction=PDFMainMenu.

For login information contact Vessel Operations Department at 409-740-4477.

18 Use of Non-TAMUG Vessels

When TAMUG personnel are present on a non-TAMUG vessel in the interest of TAMUG projects, regardless of ownership of the vessel, or consideration of compensation agreements, the safety of TAMUG personnel must be addressed. To the extent possible, it will be the intent of the University to comply with University National Oceanographic Laboratory System policy which mandates that only vessels that are safe and suitable for a project be chartered, or used and that all vessels used in projects meet safety requirements as set forth by the USCG or relevant safety oversight regulations.

The following excerpts provide the basis for the establishment of TAMUG protocol directed toward compliance with UNOLS guidelines.

"When a UNOLS institution charters a non-UNOLS vessel for marine research that is not operated by that institution, the Principal Investigator, institution contracting office and institution marine office all have a responsibility to ensure that only vessels that are safe and suitable for a project are chartered. Institutions shall establish procedures, utilizing the expertise of marine operations staff, to ensure that all applicable USCG documentation, inspections and licenses to which the vessel is subject are complete and current."

"Conduct whatever inquiry may be necessary to establish the competency of captain, crew, or operator to provide for a safe voyage.", "Small boats that will be used by UNOLS institutions will have either a current US Coast Guard safety inspection or be inspected by the Institute's marine staff to ensure that the vessel does meet the required safety regulations."

1. *UNOLS Research Vessel Safety Standards, March 2003, Chapter 7, paragraph.*
2. *UNOLS Research Vessel Safety Standards, March 2003, Chapter 7, item 4.*
3. *UNOLS Small Research Vessel Compendium, 2004, Chapter 3, Section IV, Safety Requirements.*

In these litigious times, documentation of risk management efforts to ensure the safety of personnel can contribute legal advantage should a lawsuit claiming negligence ensue following an incident causing personal injury or death.

Due to USCG and applicable international standards of inspection required for; ships over 300 tons, vessels operated by UNOLS, the USCG, NOAA or under charter by NSF, these vessels will be exempt from the Vessel Safety Assessment

18.1 Use of Non-TAMUG vessels where TAMUG is the principal party involved

In order to ensure that non-TAMUG owned vessels where TAMUG is the chartering party, meet reasonable safety standards, the Principal Investigator or designee has the responsibility to submit a "Request for Safety Assessment of Vessel Services to be Provided by Non-TAMUG Vessels" (Appendix L), to the Vessel Operations Director.

This process should take place as early as possible so that any necessary corrections can be made in a timely manner. The owners/operators of the vessels intended for use will be contacted to establish compliance with safety standards deemed appropriate to the location, class and service of the vessel.

The Vessel Operations Director or his/her designee will have the authority to conduct the assessment and no vessel will be used that does not meet the requisite standards. Should a disagreement arise as to the assessment, the Vessel Safety Advisor will conduct an independent assessment. Should continued disagreement ensue the Vessel Operations Advisory Committee will take up the matter and decide the use of the vessel.

The OSP plan herein outlined applies to all Non-TAMUG vessels where TAMUG is the principal party involved.

For vessels that are chartered outside of the immediate vicinity of TAMUG (within 100 miles) a qualified marine surveyor must be retained to survey the vessel prior to charter.

18.2 Use of Non-TAMUG vessels where TAMUG is not the principal party involved

When non-TAMUG owned vessels are used for research and educational projects and TAMUG is a participant but not the primary responsible party, the TAMUG personnel embarked will fall under the auspices and guidelines of the Principal Responsible Party's Safety and Risk Management System. It will be the responsibility of the TAMUG Principal Investigator or designee to submit to the Vessel Operations Director the OSP plan for the vessel that TAMUG personnel will be embarked on.

If no OSP plan exists for the vessel then the operational and safety procedures herein outlined will be applied and TAMUG personnel will not be allowed to embark without a safety assessment completed as per section 17.1 of this document. A modified personnel float plan must be submitted by the TAMUG persons embarked, ensuring that the Vessel Operations Department knows the requisite contact information for who is onboard, what vessel they are on, where they are leaving from and when, the nature, scope and location of work and expected time and location of return.

19 Liability Release and Waiver of Claims

TAMUG procedures require that a signed Liability Release form be secured **prior** to vessel travel for visitors or non-state employees. If departing from TAMUG facilities for the day, these signed forms should be left in the Vessel Operations Department. If travel begins from a location remote from TAMUG it is imperative that the emergency information pertaining to the non-TAMUG/TAMU personnel be relayed via telephone to the Vessel Operations Department prior to commencing the vessel voyage. The signed release forms shall be submitted along with the daily vessel log sheet for the day's activities.

The form can be filled out online at http://www.tamug.edu/VesselOperationsOffice/Forms.html

20 Documentation

20.1 Procedure

All valid documents will be available in the appropriate locations. Changes to documents will be reviewed and approved by authorized personnel and outdated documents will be promptly destroyed.

20.2 Procedures Implementation

Details of the OSP document control procedures are contained in the various Operating and Safety Procedures located in section 18.4 of this manual.

20.3 References

46 CFR 176.302, 176.306, 184.502, 184.702, 185.402

20.4 Implementation

Document Control

* OSP documentation should include only what is necessary to cover the application of the system to safety and environmental protection.
* Each vessel should carry all documents relevant to that vessel's operations.
* All new documents and changes should be approved prior to issue and be examined for adequacy and user friendliness regularly.
* Documents that are outdated should be destroyed in a timely manner.

Availability of Documents

* The methods of distributing documents and the place or person designated to keep them should be clearly defined.
* OSP documentation relevant to the ship should be placed onboard, and the Vessel Operator/Master will be responsible for the control of these documents. A person ashore should also be designated to monitor the control, amendment, approval, and distribution of OSP documentation.

Changes to Documents

* Changes to existing documents should be readily identifiable; relevant personnel, including personnel ashore, should be notified of all changes.

* Personnel affected by the changes should be involved in defining and implementing the changes.

Obsolete Documents

* Obsolete documents should be removed from circulation and destroyed. Only the person responsible for the documentation control should retain copies of obsolete documents.

21 Verification and Review

21.1 Procedures

It is a TAMUG requirement to ensure that procedures developed within the OSP are being enacted. The Vessel Safety Advisor will schedule periodic evaluations of the safety management system's efficiency and review of the system in accordance with the established procedures of the University, when needed. The Vessel Safety Advisor should determine types and frequency of internal audits, when they are required, how they are reported, and possible corrective actions, if necessary. There should be determining factors for the selection of personnel, independent of the area being audited, to complete internal University and vessel audits. The procedures for communication and reporting of internal audit findings for critical management review and to ensure management personnel of the area audited take timely and corrective action of deficiencies found should be documented.

21.2 Procedure Implementation: OSP Internal Auditing

General

This procedure provides the Vessel Safety Advisor with an internal auditing tool to ensure the Operations and Safety Procedures currently implemented are being maintained and enforced throughout the University.

Responsibility

The Vessel Operations Director is responsible to ensure that scheduled OSP internal audits are performed and any non-conformities are documented and remedied.

Procedure

Reporting lines relating to the internal OSP auditing must be clearly defined and incorporate all levels within the safety management organizational structure

Before the audit:

* schedule audits far enough in advance in order to give proper notification to all personnel necessary for the audit, in particular the auditee.

During the audit, auditors should:

* equip themselves with relevant documentation.
* interview personnel regarding operational procedures.
* observe how operations are carried out.
* fill out a non-conformity report if necessary.

After completing the audit, auditors must:

* report to the relevant head of the University.
* prepare a documented report containing all major audit findings.

* ensure that the audit reports are distributed to relevant personnel in the safety management system. See below for distribution list.

21.3 Guidelines for the Internal Safety Procedures Audit Report

All audit report forms should be completed in a consistent manner regardless of the auditor. All auditors should be given adequate instruction in completing this form. **See Appendix M.**

Date:

The date on which the audit took place.

Department/Vessel

Name of the shore-based office, department, vessel, or vessel department.

Audit no.

All audits should be given a unique number allocated by the Vessel Operations Director.

OSP element audited

The audit should identify the specific element(s) in the documented Safety Procedures being reviewed.

Auditor

The name of the auditor.

Auditee

The name of the head of department, the Vessel Operator/Master of the vessel. In cases of doubt as to the identity of the auditee, the most senior person should be selected.

OSP Reference

The reference to the part of the documented Operation and Safety Procedures being audited. This may be the identity number and title of a specific section of the manual, such as the Emergency Procedures.

Non-Conformity Statement

A non-conformity statement should meet the requirements as detailed in the internal Safety Procedures audit guidelines.

Proposed Corrective Action

Corrective action report should be raised and agreement reached on action(s) and scheduled for completion. This requires agreement between the auditor and the auditee.

Where necessary to ensure safe operations and environmental protection in the short term, immediate action(s) should be taken. A date should be agreed for the completion of the immediate action(s). In addition and where necessary, further corrective actions should be agreed upon. This may involve change of procedure, additional crew training, provision of new equipment, etc. A date for completion of further corrective action should be agreed.

Verification of Corrective Action

Follow up details should be recorded. These should identify precisely the way in which the corrective action is to be verified and should refer to the evidence required for verification. It may not always be possible for the auditor to make a return visit to the ship to verify a corrective action. As a result, the follow up process may be delegated to an appropriate person.

A final signature is required from the designated person.

22 Revisions

01-2015 Revised Voyage Planning, Vessel Operations Board, TPWD Vessel Capacities, VHF 16 procedures, non-emergency breakdown tows of TAMUG vessels, vessel manifest requirements, Licensed master certifications.
08-2015 Revised Links, addresses, and drug testing.

08-2016 Added Drug Testing, EAP, Revised Operator Training and Areas of Operation as well as links and titles

12-2016 Corrected information in float plan requirements for non-TAMUG vessels.