Research Vessel

Trident

Voyage Planning Manual

TEXAS A&M UNIVERSITY at GALVESTON

ABOUT THE RESEARCH VESSEL TRIDENT

Texas A&M University at Galveston Waterfront Operations Department operates the university-owned research vessel, *R/V Trident*. Custom built in 2015 for academic research, diving, community outreach, and training missions, the *R/V Trident* is a "Swiss Army Knife" of vessels.

She is equipped with standard sampling gear and state-of-the-art acoustic remote sensing systems. The vessel is 70 feet long, has a draft of 4 feet, and a cruising speed of 17 knots. The *R/V Trident* has berthing for 4 crew and 8 scientists, and can operate 24 hours per day for up to 5 days in between port calls. She has a large working deck of 450 sq. ft. and a 240 sq. ft. lab.

R/V TRIDENT VOYAGE PLANNING MANUAL

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This manual has been prepared to acquaint you with the capabilities of the *R/V Trident* and procedures for her use in biological and oceanographic research. Your suggestions for improvement of the vessel, this manual, or our operating procedures will be most welcome.

The Vessel Operations Manager is available to assist you in the planning of your scientific operations. The R/V *Trident's* Master and crew will assist you at sea. Our objective is to make your voyage a success, both professionally and personally.

Capt. Allan F. Post,
Executive Director
Marine Education Support and Safety
Operations Department
Texas A&M University at Galveston

Contents

A. VOYAGE PREPARATIONS

1. Scheduling

Scheduling per priority is on first come first serve basis with an emphasis on efficiency of vessel movement.

The following priority schedule will be in place for the academic year Sept 1 – May 1

1. Academic trips
2. Training Trips
3. Research Trips
4. Outreach Trips
5. Non-TAMUG/TAMU parties

For summer research the following priority will be in place May 1 – August 31

1. Academic Trips (if reserved by January 15th of that year)
2. Research Trips TAMUG
3. Research Trips TAMU
4. Outreach Trips
5. Training Trips
6. Non-TAMUG/TAMU parties

R/V Trident scheduling at the Texas A&M University at Galveston is done by the Vessel Operations Manager through the trip direct system and the voyage planning form.

2. Financing

Investigators should include ship costs (furnished by the Vessel Operations Manager) within the budget of their particular research project. Operating days include all days away from Galveston, including Mobilize/De-mobilize (MOB/DE-MOB) and transit times. Any part of a day is considered a full operating day unless a ’10 hour day cruise’ is requested.

3. Voyage Costs

TAMUG/TAMU rates

- $5500 per 24hr day (Includes, boat rental, fuel for 24hrs at cruise speed of 15kts, food for 12, crew, maintenance/overhead cost recovery) (A cook is an extra $300 per day)
- Or $2500 per day plus actual fuel usage (Includes, boat rental, food for 12, crew, maintenance cost recovery) (A cook is an extra $300 per day)
- MOB/DE-MOB $80 per hour.
- $250 per hour for offshore day trip (10hr min, includes, fuel, boat rental, crew, maintenance/overhead cost recovery,)
- $175 per hour inshore trip (1hr min, includes, fuel, boat rental, crew, maintenance cost recovery)

Non TAMUG/TAMU rates

- $6500 per 24hr day (Includes, boat rental, fuel for 24hrs at cruise speed of 15kts, food for 12, crew, maintenance/overhead cost recovery) (A cook is an extra $300 per day)
- MOB-DE-MOB $175 per hour.
- $350 per hour for offshore day trip (10hr min, includes, fuel, boat rental, crew, maintenance/overhead cost recovery,)
- $275 per hour inshore trip (1hr min, includes, fuel, boat rental, crew, maintenance cost recovery)

4. Safe Operating Conditions

From section 5.02 of the Waterfront Operations and Safety Procedures.

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 Waterfront 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 United States Code of Federal Regulations Subchapter U, *Oceanographic Research Vessels,* (46 CFR 188.01-1 et seq.).

The following guidelines for weather conditions for safe operations will be used.

Inshore Voyages the requirements for an adverse weather exemption are as follows

Visibility less than 1 mile
Winds greater than 30kts or 34mph
Severe Weather

Offshore voyages

Winds greater than 35kts or 40mph
Seas greater than 6ft

Prior to the start of a voyage and station operations a risk assessment must be completed by the vessel master.

Risk Rated for each category. The rating system is 1-10. 1 equals minimum risk and 10 equals greater the risk. **ANYTIME** your rating is a 5 or above, an automatic Safety Empowerment Authority (yellow card) will be utilized. Mitigation will be considered for any category rated 5 or higher.	**PI Assessment**	**Master Assessment**	**Group Assessment**	**Mitigation 1**	**Mitigation 2**
Supervision: Leadership and supervisors are actively engaged, involved and accessible for all teams and personnel. There is a clear chain of command. Supervisors are knowledgeable about the equipment to be used and the vessel procedures.					
Planning: There is adequate information and proper planning time. Procedures are current and have been reviewed and signed by all levels. All required equipment, training, and PPE (personal protection equipment) has been provided.					
Contingency Resources: Local emergency services can be contacted, available, and respond to the worksite in a reasonable amount of time. Examples: Do you have an emergency or medical evacuation plan?					
Communication: There is established two-way communication throughout the area of operations. Radios should always be your primary means of communication. You should know your area of coverage. Satellite systems work and have been tested.					
Team Selection: Level of individual training & experiences. Cohesiveness and atmosphere that values input/self-critique.					
Team Fitness: This includes physical and mental fitness. Team members are rested, engaged, and overall morale is good. The team is mindful and has a high level of situational awareness.					
Environment: Offshore conditions are Favorable for operations, Winds under 35kts seas under 6 ft. Conditions for sampling operations are conducive.					
Project/Work Complexity: Severity, probability, and exposure of mishap. The potential for incident that would tax the current staffing levels.					
Overall Mission Risk Total / **ADD Column Totals** 8-35 (Green) / 36-60 (Amber) / 61-80 (Red)					

Supervision:	
Planning:	
Contingency Resources :	
Communication:	
Team Selection:	
Team Fitness:	
Environment:	
Project/Work Complexity:	

5. Voyage Plan

The Voyage plan (Appendix 1) sets forth the requirements of the Principal Investigator for the ship, its people and equipment in relation to the scientific work. Some cruises require extensive advance planning.

The following information is needed at least **TWO (2)** weeks prior to the date of departure for your Voyage (please use Appendix 1. This form is also available in MS Word format at the R/V Trident web site:

http://www.tamug.edu/waterfrontops/Waterfront%20Vessels/RVTrident.html

1. Station locations:
   A. a page size track chart showing your station locations,

   B. a list of the coordinates for each station along with a number and/or letter code identification that can be followed and logged by the watch officer, and

   C. all transits should be planned for at a speed of 15 knots. **Realistic estimates of time on planned stations should be provided.**

2. A list of shipboard activities that will be performed at each station. (Including Diving)

3. A list of gear and equipment that will be brought aboard, with dimensions and weights given for large items (over 50lbs).

4. **A list of chemicals including type, quantity, and material safety data sheets (MSDS) for each chemical and radioisotope that will be brought aboard.** Note: For safety reasons it is advised that only the quantity of chemical needed be brought aboard. Each chemical must be packaged in a break-proof container such as plastic or Teflon. Glass packaging is allowed only if for analytical purposes no other container is suitable. If chemicals are transported in glass containers, they must be secured in shock-proof metal containers. If you have further questions regarding these requirements, please contact the Vessel Operations Manager. Chemical spill kits and absorbent materials must be provided by the scientific party in quantities that are sufficient to deal with the chemicals brought aboard.

   Rules and regulations for use of radioisotopes aboard ship are outlined in Appendix 3.

5. A list of deck equipment that will be needed for each station.

6. A list of shared scientific gear (ship's gear) needed and quantities of each.

7. Requirements for shipboard equipment.

8. Number, names, titles, and sex of all individuals in scientific party, indicating whether the numbers will change and the dates that the numbers will vary during the cruise. **Indicate if any members of the scientific party have known significant medical conditions for which they might require unique assistance (e.g., extreme allergies, required medication, etc.).**

9. Name of Chief Scientist and phone number for contact prior to the cruise. It is expected that the Chief Scientist will have had previous sea-going experience.

10. Written permission must be obtained from the U.S. Coast Guard before any buoys, floats, or other equipment, either surface or sub-surface, will be left in the water. A copy of this written permission **must** be made available to the Master prior to departure.

11. If trawling will be performed, a copy of the sampling permit must be provided with the Voyage plan.

12. If Diving a copy of the approved dive plan must be provided to the vessel master prior to departure. TAMUG Dive Safety Manual

13. Any voyage participant who will be on the vessel overnight must fill out a **Medical and Health Survey** (Appendix 3) prior to the cruise. This survey must be given to the Master at the start of the cruise. The information in the survey will be protected according to Texas A&M University at Galveston HIPAA standards as indicated on the survey.

14. Any voyage participant who will be on the vessel must fill out a **Liability Waiver** (Appendix 6) prior to the cruise.

SEND VOYAGE PLAN, CHART, AND WORK SCHEDULE ON STATION TO:

browns@tamug.edu
subject line: R/V Trident Voyage Plan

6. Loading and Port Services

Any advance staging requirements should be coordinated with the Vessel Operations Manager and Captain well ahead of voyage departure. For your protection, unannounced or unaccompanied shipments will not be accepted.

Unless you tell us otherwise, the ship will normally be loaded on the scheduled MOB day or the day of departure (beginning at 0800 and ending at 1700) and off loaded on the day of return or DE-MOB day. Voyage preparation requiring more port time, vessel services, or crew assistance will require careful planning to prevent interference with scientists off-loading equipment or crew performing standard maintenance. Routine vessel maintenance and logistics can interfere with laboratory set-up due to the congestion of conflicting traffic. Consult with the Vessel Operations Manager well in advance so we can plan for your loading and set-up requirements. A Vessel Operations representative must be onsite while loading or unloading gear.

The ship's crane is normally available on scheduled days for loading (6,000 pounds at maximum reach).

7. Meals

In home port (Galveston) and one-day port calls in other ports the scientific party will normally board the vessel at or after 0800 on the day of departure from port. Meals will be served at regularly scheduled times after departure. Meals are not served while the ship is in home port. Where voyage preparation periods in advance of schedule departure have been arranged, the scientific party and support personnel may berth on the vessel within the limit of available scientific berths. The Master and Chief Scientist will create and post the cooking and cleaning schedule. **ALL PERSONS WILL COOK AND CLEAN if necessary**

To hire a cook there will be an additional $300 per day cost.

Special circumstances may require modification of these procedures. Voyage planners should consult with the Vessel Operations Manager in advance.

8. Scientific Berthing

There are accommodations for eight scientists in 2 bunk rooms on board the vessel.

9. Shipboard Clothing and Personal Items

a. ***Shoes*** – High heels, open-toed shoes or sandals are hazardous to the wearer on board ship and will not be worn. The recommended minimum requirement is a completely enclosed shoe (toe and heel) of any material. Persons handling heavy gear on deck should consider safety shoes (reinforced toe).

b. ***In the Dining Area at Meals*** - The close proximity of persons eating in the dining area requires a high standard of neatness and cleanliness. Shoes and shirts are required. The minimum requirement for a shirt is a quarter-sleeve T-shirt clearly designed as an outer shirt (not an undershirt). Coveralls or clothes smelling strongly of fish, chemicals, diesel oil, etc.; dirty or ragged clothing; wet swimwear; or extremely abbreviated shorts are not acceptable.

c. ***Rain Gear*** - Individuals should provide their own cold/foul weather gear. Work gloves and a cap are recommended.

d. ***Personal Items*** - Individuals should provide shaving gear, toothbrush and toothpaste, b ed linens and towels. Items for food preparation, such as coffeepots, hot plates, and so on, are not permitted.

10. Status/Release Form

A status/release form must be completed by each member of the scientific party and given to the Master before sailing (Appendix 4). The vessel will not leave port unless this form is on file with the Master.

11. Hazardous Materials

a. Notify the Vessel Operations Manager well in advance of your plans for use of special chemicals, compressed gases, and radioactive materials. USE OF RADIOISOTOPES ABOARD REQUIRES PRIOR AUTHORIZATION OF THE TAMUG OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY. SEE APPENDIX 3 FOR DETAILS.

b. **IMPORTANT** - Federal Occupational Health and Safety (OSHA) rules require chemical manufacturers, importers, and distributors to label containers of hazardous chemicals. State of Texas rules require persons bringing hazardous materials into a laboratory (*R/V Trident*) to ensure labels are not removed from containers and that Material Safety Data Sheets (MSDS) are available and accessible in the laboratory. In addition, Chief Scientists must brief all persons on board who work with, or who could come in contact with, such materials on such items as:
   - Applicable laboratory rules;
   - The general physical and health hazards involved;
   - Appropriate personal protective equipment;
   - How to handle spills, accidents, and injuries; and
   - The location of and how to use MSDS.

The MSDS for hazardous material brought on board shall be made available to the Master for copying and inclusion in the ship's emergency files.

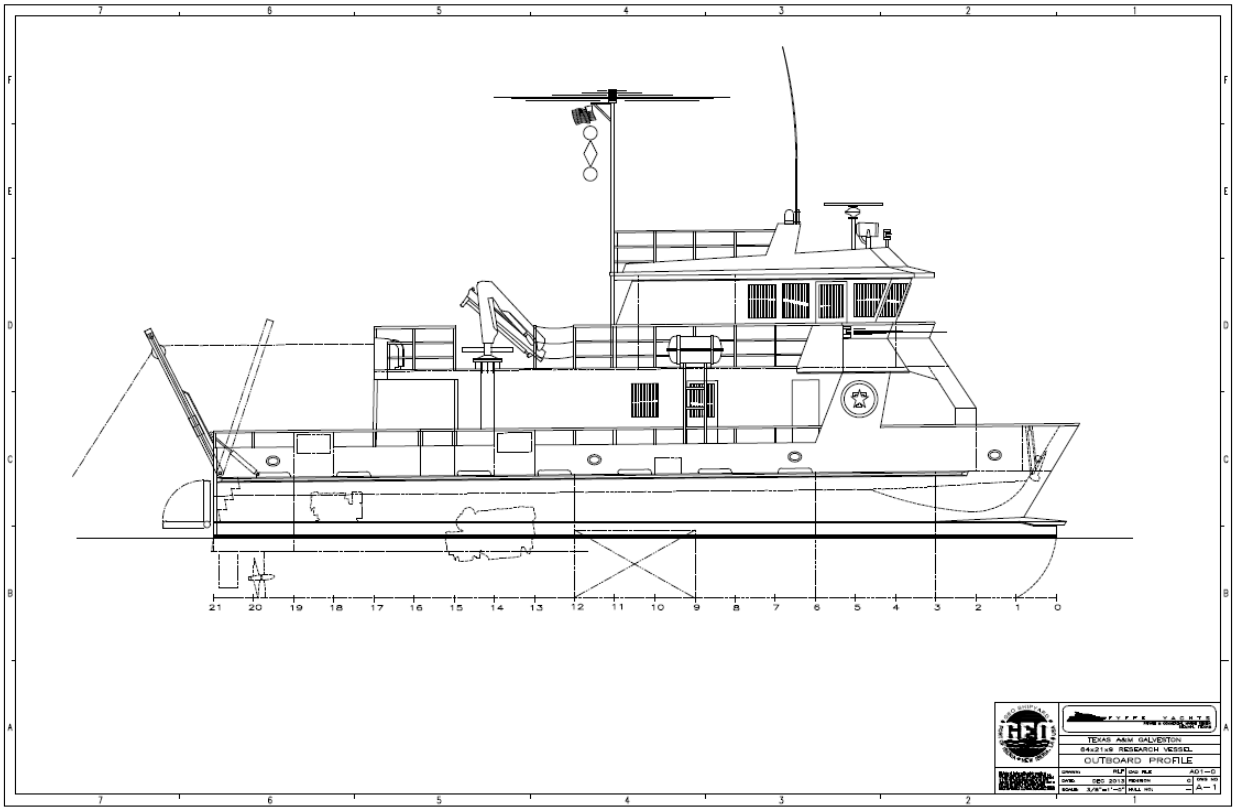
12. Refrigerated/Frozen Storage

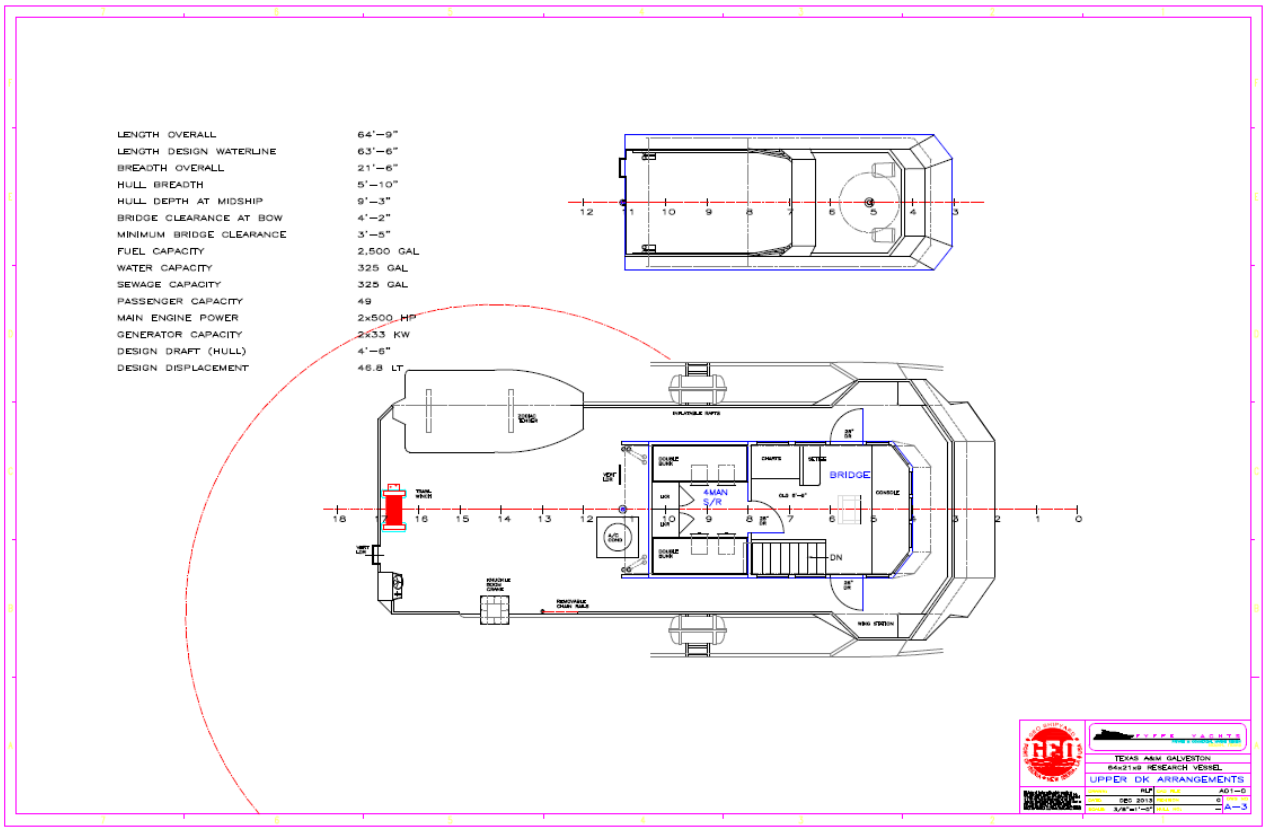
The ship's refrigerated and frozen food storage areas may not be used for the storage of chemicals, samples, or specimens. The scientific party must supply their own refrigerator or freezer storage 110v.

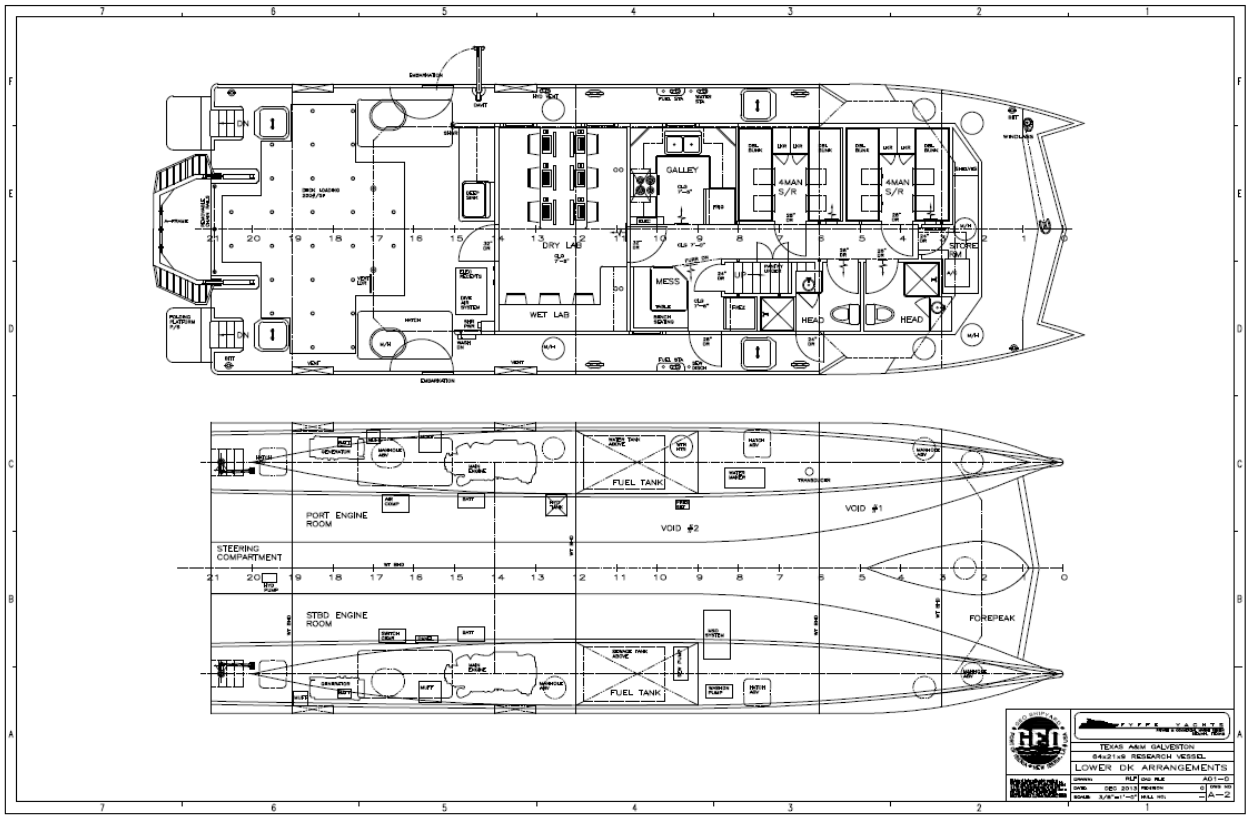
13. Computer use onboard

The ships electrical system is 120v 60hz and capable of running most computers, however the voltage and frequency may vary. Therefore, the scientific party is responsible for bringing with them clean power supplies and battery backups for all of their electronic equipment.

B. SHIP'S EQUIPMENT AND CAPABILITIES






GALLEY
4MAN S/R
4MAN S/R
DRY LAB
STORES
MESS
WET LAB
HEAD
HEAD
FUEL TANK
PORT ENGINE ROOM
VOID #2
VOID #1
STEERING COMPARTMENT
STBD ENGINE ROOM
FOREPEAK
FUEL TANK
TEXAS A&M GALVESTON
64x21x9 RESEARCH VESSEL
LOWER DK ARRANGEMENTS

1. General Dimensions and Hull Particulars

Length (LOA) - 64'9"
Length (LWL) - 62’8”
Hull Breath (molded) - 21'6"
Dimi Hull Breath - 6’5”
Hull Depth (deck to keel) - 9'3"
Wing Clearance @ bow - 4’8”
Minimum Wing clearance - 3’9”
Designed draft - 4'3"
Designed freeboard - 5'0"
Head clearance main deck - 6'9"
Plate to plate height main to 2nd deck - 7’6”
Passengers Inshore day-trip- 44
Passengers, Offshore day-trip - 31
Passengers Overnight, 200 mile limit - 8
Fuel capacity, total - 2444 U.S. gallons
Potable water capacity - 650 U.S. gallons
Water tight compartments, ea. side - 5
Designed cruise speed - 17 Knots
Route - Exposed Waters (200 miles from Harbor of safe refuge)
Swim platforms and ladders - Hinged, fold up against transom
Arch type mast platform - Across top of Pilot House

2. Special Equipment

- Aluminum A Frame 3000# towing pull, specification, 12’ high w/ (2) hydraulic cylinders mounted to aft deck at stern, dedicated hydraulic power pack for cylinders w/ ladder rungs & flood light
- Swing Davit Arm to reach over the side built of Aluminum w/ 12 volt winch
- Hydro Pro 2 ton Knuckle Boom Crane, max reach 22.5’ (1) w/ Hydraulic Power Unit dedicated for Knuckle Boom Crane mounted in next to crane on upper deck
- Video monitoring system, 4 channel Quad, 7” monitor (2), Slimpro-IR Hi resolution Indoor Infrared Dome cameras (3) mounted in the engine rooms and the lab interior, SSA2810 Stainless Steel Sea Dome IP68 Rated Dome Cameras (3) mounted Port & Stbd. under wing station and looking on aft deck
- Tie down system, aft deck threaded socket type
- 13’ Carib Rigid Inflatable Boat (RIB) w/ 20 HP electric start w/ tiller steering handle Suzuki outboard motor w/ SS prop mounted on cradle on upper deck (1)
- Side mount (mid ships) for owner attached survey equipment

3. Survey Winch

DT MARINE PRODUCTS, INC. MODEL DT303EM ELECTRO-MECHANICAL WINCH DIMENSIONS:

WIDTH 36 INCHES
DEPTH 32 INCHES
HEIGHT 40 INCHES
DRUM DIAMETER 20 INCHES
FLANGE DIAMETER 32 INCHES
DRUM WIDTH 12 INCHES

CAPACITY:

300 METERS OF .5 DIA. CABLE
(LEAVES 2" CLEAR FLANGE)

SLIP RING:

W/ 4 CONDUCTOR MCIL CONNECTORS

LINE PULL & SPEED:

750 LBS BARE DRUM RATING @ 90 FPM .

CONTROLS:

A JOYSTICK CONTROLLER IS USED FOR VARIABLE SPEED OPERATION, W/ OPTIONAL REMOTE CONTROL

BRAKE SYSTEM:

AN ELECTRIC FAILSAFE BRAKE IS INSTALLED BETWEEN THE ELECTRIC MOTOR AND THE INLINE GEAR BOX. ALSO A 2" MANUALLY OPERATED BRAKE BAND IS INSTALLED FOR ADDED SAFETY.

C. RESPONSIBILITIES ON BOARD

1. Responsibilities of the Chief Scientist at Sea

a. One member of the scientific party performs the duties of Chief Scientist on each voyage. The Chief Scientist is responsible for supervising the scientific party on board in matters of organization, administration, safety, compliance with shipboard regulations, and performance of the scientific work.

b. Assignment of a Chief Scientist is the responsibility of the Principal Investigator of the primary project for which the vessel is scheduled. The individual selected should be of faculty, senior staff, or employed senior graduate student rank with previous sea experience.

c. The Chief Scientist should exercise common sense in choosing voyage personnel and in supervising multiple party cruises. Due to motion characteristics, a ship is an inherently hostile environment for persons with significant physical disabilities. Any stress-related physical or emotional illness is apt to be exacerbated by conditions at sea. Persons subject to severe motion sickness may be, at best, unable to perform adequately or, at worst, be debilitated to the point they place themselves and others at risk. Such problems are best avoided by planning and forethought. Be advised that it is the duty and responsibility of the Master to discharge at the next available port any persons whose condition or behavior constitutes a safety hazard. The person discharged is responsible for transportation home.

d. Some of the specific duties of the Chief Scientist include the following:
   1. Supervise the work and safety of the scientific party. Ensure safe working conditions and avoid hazards. Instruct scientific personnel.
   2. Conduct a pre-voyage briefing for the ship's Master and key crew members to cover voyage planning and procedures for each station. This should take place prior to leaving dock.
   3. Exchange information daily with the ship's Master and crew concerning the progress of the scientific work, need for changed procedures or additional assistance, changes required in the voyage plan, or other actions necessary to ensure success of the scientific mission and smooth operation of the vessel.
   4. Personally ensure that all members of the scientific party are aware of and comply with the shipboard rules and regulations.
   5. Prepare a detailed pre-voyage plan and all post-voyage paperwork necessary for the sponsoring agency.

2. Shipboard Procedures for Scientific Party

a. *Introduction* - These regulations are deliberately brief and do repeat some earlier material. If you have questions, please ask the appropriate crew member.

b. *Safety* - The Master is responsible for the overall safety of the vessel, crew, and scientific party. The ship's crew will assist you in carrying out your operations safely. **It is the Master's duty to judge when working conditions become unsafe and to correct unsafe working practices**. The Master is also responsible for ensuring that the functioning of the ship and the performance of the crew are such that there is maximum potential for accomplishing the scientific objectives.

1. Immediately upon joining the ship, you should inform yourself of the following:
   A. The location and use of each exposure suit.
   B. Location of life rafts and other lifesaving equipment.
   C. Location of firefighting equipment and exits.
   D. Your emergency station and respective alarm signals as set forth on the Station Bill. A copy is printed in Appendix 6. Emergency station location is posted on each bunk.

2. **All Persons are required to wear at all times an Automatic Identification System man overboard beacon (supplied onboard) while on overnight voyages.**

3. Wear a life vest when participating in the periodic fire and boat drills. Everyone is required to participate.

4. Wear a Personal Floatation Device when paying out or taking in towed cables over the stern, when working on deck in rough seas, when working on deck at night, and when working from the ship's utility boat. Or at any time the master or crew instructs you to do so.

5. Do not climb about on the sides of the ship or superstructure.

6. Do not stand or sit on bulwarks or rails.

7. Do not climb the ladder to the top of the pilot house unless you have permission from the Master or the Watch Officer. Radars are mounted on top of the pilot house and serious injury can result from close proximity to operational radar.

8. Report accidents, illnesses, and injuries immediately to the Master. If at any time you notice anything that presents immediate or potential danger to the ship, personnel or equipment, report this to the Master or the Watch Officer.

9. Wear closed shoes at all times. Non-slip safety shoes are recommended.

10. Hard hats are available on board. Wear them when working with suspended loads that may swing and cause injury.

11. The Chief Scientist is responsible at all times for safe handling, use, and disposition of radioactive, toxic, and corrosive chemicals and materials. The waste should be disposed of according to the TAMUG/TAMU procedures for hazardous waste disposal. Accidents or problems should be reported to the Master immediately. Proper procedures can be found with the Environmental Health & Safety Office.

12. All electrical equipment that is to be run on the deck will be powered through ground-fault interrupt circuits.

13. Keep all doors and watertight doors secured in the closed position if not in use, as swinging doors can cause serious injury.

14. Non-swimmers must wear a life vest at all times when on the weather decks.

15. Keep hands off all dials, switches, valves, and controls of all equipment and instrumentation that you are not responsible for, or involved in the use of. Keep out of the engine room at all times unless accompanied by a crew member.

16. Keep all laboratories, work areas, and decks clean and organized at all times. Keep equipment and supplies lashed down or otherwise secured at all times to prevent damage if the weather becomes rough.

17. Do not stand on the upper deck in front of the pilothouse while the ship is underway. This blocks the view of the Master and Watch and creates a hazard to navigation.

18. **If you have a potentially serious medical condition (e.g. heart condition, diabetes, pregnancy, etc.) we strongly suggest that you consult with your doctor regarding the advisability of participating on the Voyage prior to boarding the ship. The only medical care onboard is First Aid and CPR with AED**

19. *Fire* - Use common sense. Most fires can be prevented. Smoking is not allowed on the vessel as per Texas A&M University at Galveston policy. Empty trash cans frequently. Learn the location of fire extinguishers in your areas. Notify the Watch Officer immediately if fire starts. Fire and safety drills will be made prior to the start of each cruise. It is the individual's responsibility to know his/her function during an emergency (see Station Bill, Appendix 6).

c. *Emergency Procedures* (See Station Bill - Appendix 6)

1. General - Assemble on the working deck or on the upper deck aft of the bridge as announced and await instructions. Wear an overcoat, pants, cap, shoes, and your life vest.

2. Fire and Emergency - Announced by continuous sounding of ship's horn and intercom alarm ten seconds.

3. Abandon Ship - Announced by seven (7) short and one long blast on intercom alarm and whistle. Break out exposure suits and life vests when you hear this signal. Assemble on aft deck ready to go in the water.

4. Man Overboard - Call out "MAN OVERBOARD" and location (i.e., port or starboard) loudly, throw a life ring near the person overboard, and notify the Deck

Watch Officer immediately. **KEEP THE PERSON CONSTANTLY IN SIGHT**.

5. Life Vests and survival suits are in each stateroom.

d. *Alcohol and Drug Policy* - The possession or use of alcoholic beverages, narcotics, marijuana, or other controlled substances is PROHIBITED.

1. It is the policy of the Texas A&M University at Galveston to prohibit the use, possession, transportation, or distribution of illegal or unauthorized dangerous drugs by any person or persons while on board the vessel or premises.

2. The use, possession, sale, or transport of any illegal drug on the vessel or premises is cause for immediate discharge and referral to law enforcement agencies.

3. All personnel including visitors on board the vessel are required to abide by these regulations. Failure to do so will result in immediate removal from the vessel at the closest suitable port facility. Persons removed are responsible for their transportation home.

4. The prohibited drugs shall include all dangerous drugs including but not limited to cocaine, marijuana, prescription drugs not properly prescribed for bona fide medical use, so called "look alike" drugs, and drug paraphernalia.

5. Discovery of any amount of illegal drugs on a vessel may lead to the seizure of the vessel and the arrest, where appropriate, of those on board. Crew members and the Master are alert to the use and possession on board of prohibited articles.

e. It is the policy of the Texas A&M University at Galveston to maintain an academic and work environment free of sexual harassment for students, faculty, and staff. Sexual harassment is contrary to the standards of the University community. It diminishes individual dignity and impedes equal employment and educational opportunities, and equal access to freedom of academic inquiry. Sexual harassment is a barrier to fulfilling the University's scholarly, research, educational, and service missions. It will not be tolerated while aboard the *R/V Trident* or at Texas A&M University at Galveston. For more information please visit: TAMUG Title IX.

f. Smoking is not allowed on the vessel.

g. Firearms are not permitted on board.

h. Bed linen and a towel are not provided **BRING YOUR OWN**.

i. Personal coffeepots, hot plates, etc. for food preparation are not permitted at any time.

j. The crew members will instruct and assist you in the use of the ship's permanent scientific equipment in the lab. Crew members will also assist with matters relating to deck gear.

k. The Chief Scientist is responsible for coordination of all shipboard scientific activities with the Master. All scientific personnel on board, including those involved in ancillary

projects, should make their needs and requests known to the Chief Scientist.

l. Ship's crew members are expected to assist with deck operations and operate the crane, winches, and bridge equipment, but any assistance to the scientist's party beyond this should be discussed with the Master well in advance.

m. Do not borrow personal, project, or ship's tools without permission. Return things promptly to the person or place from which they were obtained. Do not remove ship's equipment, furnishings, or supplies from the ship at any time.

n. Do not congregate in the pilothouse. Stay out, except for business. When there, stay clear of the Watch Officer and others who are working. Stay clear of the chart desk, instruments, and controls.

o. Scientific personnel may be asked to assist with lines during docking and undocking. If your assistance is not requested, stay clear of line handling operations.

p. Keep your living quarters clean and organized at all times, and your berth made up. When departing from the ship clean your quarters and strip the berth.

q. Return coffee cups, glasses, etc. to the galley immediately when finished. Wash all used dishes with soap and hot water and place them on the drain rack.

r. Keep voices down when others are trying to sleep.

s. The Master will make cabin assignments, with consultation of the Chief Scientist.

t. Prior to departing, each member of the scientific party will sign a Status/Release Form (Appendix 4). This form **must be signed and on file** with the Master before the ship will leave port.

u. Never put any equipment over the side without permission of the Master and/or Watch Officer.

v. Use the water sparingly; the shipboard supply is limited. Keep shower time to a minimum. Report any leaking faucets or pipes to the Master and/or Watch Officer at once.

3. Shipboard Procedures in the Dining Area

a. Meals will be served as follows: BREAKFAST 0700 - 0800 LUNCH 1200 - 1300 DINNER 1800 - 1900

The Master and Chief Scientist will create a cooking schedule for embarked persons **EVERYONE WILL COOK AND CLEAN**. Keep the dining area clean at all times. You are expected to dress properly for meals.

With agreement between the Master and Chief Scientist, meal times may change to allow

for stations, work, etc. No meals will be provided while the ship is in home port.

b. Other Use. There may be times when it becomes necessary to use the dining area tables for scientific paper work. To prevent any misunderstanding arising from such occasional use, consult with the Master. Please do not allow such use to interfere with meal preparation and clean-up or to monopolize facilities such that they are not available for normal use by others.

4. Communication with the R/V TRIDENT

The vessel is in communication with the Texas A&M University at Galveston daily while away from home port. Messages can be left for personnel aboard the vessel by calling (409)-740-4490. Any communication via the ship's cellular phone by the scientific party to or from the vessel should be limited. Any communications by embarked scientific party will be charged as applicable to the scientific party.

D. POST VOYAGE REQUIREMENTS

1. Shipboard Clean-up Procedures

In order to provide clean laboratories for the next scientific party, it is necessary that each group clean the labs daily and before departing from the ship. They should be cleaned as follows:

a. Sweep and swab the deck (both the lab decks and the aft deck), wipe down bench tops and cabinets, scour sinks, empty trash cans into the dumpster on the dock.

b. Label and pack all waste according to the TAMUG's Hazardous Waste Plan.

c. Remove all your data files from data system. This will ensure ample file space for the next user. Any files left on the system will be dumped prior to the next cruise. Texas A&M University at Galveston does not take responsibility for any files left on the system once you depart the vessel.

d. Clean up berths by stripping the bunks and cleaning the space and removing your personal items. Any items left onboard will be disposed of immediately at the end of the voyage.

e. The plans for loading and offloading materials deemed hazardous according to TAMUG/TAMU policy must be approved by the TAMUG Safety Coordinator prior to the operation being carried out.

f. Material below quoted from UNOLS Research Vessel Safety Standards, March 2009, pp. 49-51.

VOYAGE PLANNING: The Chief Scientist will be responsible for providing the following to the ship operator at least 30-days prior to the Voyage departure date unless a shorter time is specifically allowed by the ship:

A list of all hazardous materials by chemical name, common name, UN

identification number, type and classification of hazard, quantity (size of containers and number of each size container), user name and contact information

MSDS sheets for all materials listed above

A list of the spill response materials and the amount to be brought aboard to address spills or accidents

The plans for offloading all materials brought aboard at the end of the scheduled cruise. The ship operator will review the provided material and contact the Chief Scientist if there are any questions or concerns. The ship operator will then forward copies of the required information to the vessel or request that the Chief Scientist carry a copy to the vessel for delivery to the Master.

TRANSPORTATION AND DISPOSAL: The Chief Scientist will be responsible for the proper transportation, shipping and disposal of hazardous materials and waste, including the empty containers, associated with their project. Transportation and disposal must be carried out in accordance with Federal, State and Local regulations. In no case will this responsibility be passed to the ship's crew or operating institution. Each Institution's Shipping Department can provide up-to-date information about regulatory requirements.

SHIPBOARD HAZARDOUS MATERIALS AND POLLUTION: Many of the materials associated with normal operation and maintenance of research vessels are classified as hazardous materials. In addition, waste products and sewage are the subject of pollution control regulations issued by the Coast Guard and other agencies. Research vessel operators have an obligation to ensure that their crews and scientific parties are informed of the hazards associated with these materials and that they are aware of the pollution control regulations so that wastes are not disposed of in violation of the law. Several regulatory documents apply to this area. These are: International Convention for the Prevention of Pollution from Ships 1973 as modified by the Protocol of 1978 (MARPOL 73/78), 46 CFR 131.935 Prevention of Oil Pollution and the Federal Water Pollution Control Act 33 USC -1321.

LITHIUM BATTERIES: Lithium batteries require special fire extinguishing capabilities depending on the type of material used in the manufacturing process. The Chief Scientist is required to notify the ship operator of the use and/or recovery of instruments using lithium batteries and to supply appropriate fire extinguishing equipment and a stowage locker if one is not available from the ship operator.

INCOMPATIBLE MATERIALS: These are materials that should not be stored together. See 49 CFR 176.83 and Table 176.83(b), General Segregation Requirements for Hazardous Materials for information on incompatible materials. The table found in 49 CFR 172.101 is also helpful in this area.

STORAGE CONTAINERS: Material should remain in their original shipping containers (as received from the vendor) with labeling intact. Working quantities in the amount of a one-day supply can be stored inside the ship. Working

containers must be marked as follows: Common or trade name, UN identification number (49 CFR 172.101, Hazardous Material Table), the nature of hazard (flammable, acid, poison, etc.), and the contact information (name and work phone number) of the person using the material aboard the vessel.

COMPRESSED GASES: Must be securely held to the ship structure with metal brackets or positive cargo straps to hold them in place. Ropes or other similar lashings must be avoided. All gas cylinders must have their safety cap in place unless they are in use with a regulator. No cylinder should be moved without the cap in place. See 46 CFR 194.05-15, 46 CFR 194.15-17 and 49 CFR 172, 173, 176.

SPILL RESPONSE: Kits or materials to address spills or accidents are supplied by the user, not the ship. The amount of material brought aboard must be sufficient to address a spill of the entire amount of the specific materials being brought aboard. (For example, if you bring 1 liter of Hydrochloric acid, you need to supply spill response material to clean up a spill of 1 liter of Hydrochloric acid.)

SHARPS DISPOSAL: Syringes, sharps, hypodermic needles brought on board should be treated as a safety hazard and proper provisions should be made for safe use and disposal. Safe disposal of other sharp objects such as broken glass, pipettes, etc. should be included in the laboratory safety plan. The science party is responsible for providing the appropriate "Sharps" container(s).

RESPONSIBILITY: Proper storage, labeling, and spill response (clean-up) is the responsibility of the user. Anyone using hazardous material should be trained in proper laboratory safety procedures. The Chief Scientist shall be responsible for ensuring that safe laboratory procedures are followed including use of personal protective equipment, prohibiting the consumption of food and drinks in labs, and other safety precautions as outlined on MSDS and considered standard laboratory procedures.

2. Offloading

a. When the vessel returns to Galveston or Disembarkation Port all scientific and personal gear should be taken off the ship. Offloading requirements should be noted in the Voyage Plan.

b. Before departing the vessel make one final sweep of the vessel to make sure that everything is packed and cleaned.

c. The Chief Scientist must check out with the Master and sign the post voyage inspection report prior to departing the vessel.

d. If the ship incurs any direct costs, such as crew overtime, professional cleaning fees or hazardous waste disposal fees because the scientific party did not fulfill their obligation to clean the designated areas or dispose of materials, they will be billed to the Chief Scientist or Principal Investigator as appropriate.

Appendix 1 - R/V Trident Voyage Plan

R/V Trident Voyage Plan

Date: _____

Principal Investigator: _____

Chief Scientist: _____

Phone/Fax: _____

Voyage Title: _____

Requested date and time of loading: _____

Requested date and time of departure from port:_____ on _____

SAFETY LECTURE AND FIRE DRILL WILL START AT_____. – SHIP WILL NOT LEAVE THE DOCK PRIOR TO COMPLETION OF THE LECTURE AND DRILL

Requested date and time of return to port:_____. On _____

Requested date and time of off-loading:
YOU MUST OFF-LOAD WITHIN 24 HOURS OF RETURNING TO PORT

Attach track chart showing station locations and coordinates, as per instructions on page 3 of the Voyage manual.

Please provide detailed information on each station's activities. Attach separate sheets if necessary. Please estimate time on each station:

List the equipment and gear that will be brought aboard. For large items give the size and weight. Attach separate sheets if necessary:

R/V Trident Voyage Plan

List **ALL** chemicals brought aboard. Include type, quantity, and **attach** Material Safety Data Sheets for each:

***NOTE**: BRING ONLY THE QUANTITY OF CHEMICALS THAT YOU NEED. EXCESSIVE AMOUNTS SHOULD BE AVOIDED. PACKAGE EACH IN BREAK-PROOF CONTAINERS IF POSSIBLE.*

***NOTE:** UPON RETURN TO PORT, WASTE CHEMICALS SHOULD BE PROPERLY PACKAGED, LABELED, AND DISPOSED OF ACCORDING TO THE TEXAS A&M UNIVERSITY AT GALVESTON's HAZARDOUS CHEMICAL WASTE MANAGEMENT PLAN.*

List all radioactive materials. Include volume, total activity, and chemical form of the isotope. Use of radioisotopes must be discussed with the ship's master prior to the cruise and approved by the TAMUG Safety Coordinator:

List deck equipment that will be needed at each station:

Water and Power needs:

R/V Trident Voyage Plan

Will fish trawling be performed? YES ☐ NO ☐
If yes, **attach** a copy of a TPWD or local equivalent Sampling permit.

List of scientific personnel. Use separate sheets if necessary. Please indicate if any individual has any significant medical problems.

Name and Title (e.g. Professor, graduate student, etc.)	Sex	Dates Aboard
Marine Technician	M/F	all

List special dietary needs and/or preferences (i.e., diabetic, vegetarian, etc.):

NOTE - FOR OVERNIGHT CRUISES: Please give a copy of the **Health and Safety** form (found on the Trident website) to each Voyage participant prior to the cruise. Each member of your party should fill out the form and return to Vessel Operations Manager 14 days prior to cruise. **No person will be allowed on overnight voyage without a complete Health and Safety form.** The form will be kept on the vessel in a lock-box and the information on the form will only be used in case of emergency. **If one of your science party has a potentially serious medical condition (e.g. heart condition, diabetes, pregnancy, etc.) we strongly suggest that they consult with their doctor regarding the advisability of participating on the Voyage prior to boarding the ship.**

To print and mark charts for your voyage visit:
http://www.nauticalchartsonline.com/charts/NOAA/Gulf-Coast
This website has all of the charts available for the Trident's Operating Area.

Return the completed VOYAGE PLANNING form to: Mail browns@tamug.edu

Appendix 2 – Use of Radioisotope Materials

Radioactive materials on board ship pose problems not found in shore laboratories. Instead of a dedicated laboratory often used for no other purpose, radioactive materials at sea occupy laboratory spaces that will be used by other researchers. Because of this, research ship operators and scientists have a particular obligation to assure the most careful procedures, including monitoring, clean-up, and record keeping. These precautions are necessary not only for the protection of personnel but also to ensure the integrity of measurements made by different investigators of environmental levels of natural or artificial radionuclides. In most cases it is necessary for these programs to measure as close to zero values of radionuclides as is possible. The work is therefore sensitive to contamination by very small amounts of radioactivity lost by others, amounts far below those having any public health significance.

All users of radioactive materials shall comply with the rules and regulations as set forth by the Nuclear Regulatory Commission (NRC) and TAMUG's Department of Environmental Health and Safety. For current information consult the Texas A&M University at Galveston Department of Environmental Health and Safety.

Additional regulations for use of radioactive materials on the vessel are as follows:

1. Transport to and from the vessel will be according to the NRC "small quantities" regulations.
2. Users of the radioactive material must be licensed through the Texas A&M University at Galveston Department of Environmental Health and Safety. People from outside the University must either apply and be granted a license or be working with a University person who is currently licensed.
3. Only currently licensed personnel will be allowed to work with the radioactive material on the vessel and they will be responsible for safe use and disposition of the material.
4. The Chief Scientist will ensure that all personnel that will handle radioisotopes are properly trained.
5. The Chief Scientist will delineate the science party's use of radioisotopes in the Voyage Plan. In addition, the Chief Scientist will contact the Master by email alerting the Master to the use of radioisotopes on the vessel and will receive an acknowledgement.
6. The radioactive material will be limited to the radioisotope laboratory containment vessel.
7. Samples will be brought to the radioisotope containment vessel for study. In no case will the radioactive material be allowed to be used throughout the vessel.
8. When radioactive material is on board, all members on board the vessel must be over the age of eighteen years.
9. Swab surveys will be taken before, after, and once a week during a Voyage involving radioactive materials.
10. A separate use log will be maintained by the Vessel Operations Manager showing type of material, date of arrival, volume and activity upon arrival, date of departure, and volume and activity upon departure. Please convey this information to the Vessel Operations Manager upon arrival and departure.

Appendix 3 – Medical and Health Survey

Page 1 of 5

Texas A&M University at Galveston
Vessel Operation Office

HEALTH SERVICES QUESTIONNAIRE

Application for Medical Qualification to Embark Onboard TAMUG Vessels

Section I: Applicant Information					
Applicant Name (Last, First Middle)				Year of Birth	Today's Date
Office, Laboratory or Institution Name				Work Phone ☐	
Work Address				Cell Phone ☐	
City		State	Zip Code	Home Phone ☐	
E-mail Address				(Check one preferred contact phone number above)	
Emergency Contact Name			Relationship	Cell Phone	
Address	City	State	Zip Code	Home Phone	
Project Dates	Start		End		
Project Ship(s)					
Position	☐ Scientist ☐ Teacher at Sea	☐ Contractor ☐ Volunteer		☐ Other (specify below) _____	

Section II: Current Health Information – (provide additional information on page 4 if needed)		
List all health problems / medical conditions which regularly require a physician's attention.		
☐ None	1.	
	2.	
	3.	
	4.	
List all medications (prescription and non-prescription) you currently take.		
☐ None	1.	5.
	2.	6.
	3.	7.
	4.	8.
List all health problems / medical conditions which do not require a physician's attention or medication.		
☐ None	1.	
	2.	
	3.	
	4.	
List major surgeries, hospitalizations, and emergency room visits.		
☐ None	1.	
	2.	
	3.	
	4.	
List all known allergies and subsequent reactions.		
☐ None	Allergy	Reaction
	1.	1.
	2.	2.
	3.	3.

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Texas A&M University at Galveston
Vessel Operation Office

HEALTH SERVICES QUESTIONNAIRE

Application for Medical Qualification to Embark Onboard TAMUG Vessels

Applicant Name (Last, First Middle)	Today's Date

Section III: General Screening

Indicate any medical condition experienced during adulthood.

Yes	No		Yes	No	
☐	☐	Cancer	☐	☐	Epilepsy / Seizures
☐	☐	Tuberculosis	☐	☐	Impaired Mobility
☐	☐	Asthma	☐	☐	Severe Hearing Loss
☐	☐	Hepatitis	☐	☐	Severe Visual Impairment
☐	☐	Chronic Cough	☐	☐	Severe Motion Sickness
☐	☐	Severe Depression	☐	☐	Fainting / Loss of Consciousness
☐	☐	Untreated Dental Issues	☐	☐	Recent unexplained weight gain > 20 lbs
☐	☐	Currently Pregnant	☐	☐	Recent unexplained weight loss > 20 lbs

Explain any positive response(s) below.

Section IV: Cardiac Screening

Indicate any cardiac condition experienced during adulthood and the applicable test result.

Yes	No		Yes	No	
☐	☐	Abnormal EKG	☐	☐	Hypertension
☐	☐	Heart Attack	_____		Recent Blood Pressure Reading
☐	☐	Shortness of Breath	☐	☐	Diabetes
☐	☐	Chest Pain	_____		Recent HbA1c Reading

Explain any positive response(s) below.

Texas A&M University at Galveston
Vessel Operation Office

HEALTH SERVICES QUESTIONNAIRE

Application for Medical Qualification to Embark Onboard TAMUG Vessels

Applicant Name (Last, First Middle)	Today's Date

Section V: Functional Abilities Screening

Indicate the ability to perform the following tasks.

Yes	No	
☐	☐	Step over a 24 inch high door sill
☐	☐	Walk on a steel deck for 4-8 hours per day
☐	☐	Stand on a steel deck for 4-8 hours per day
☐	☐	Walk on slippery or uneven walking surfaces
☐	☐	Climb stairs
☐	☐	Carry 15 lbs
☐	☐	Don a survival suit in less than one (1) minute
☐	☐	Ascend a rope ladder with rigid rungs
☐	☐	Descend a rope ladder with rigid rungs
☐	☐	Hear a ship's general alarm (hearing aid permitted)

Explain any negative response(s) below and indicate any medical condition or physical limitation which may adversely affect qualification for sea duty.

Section VI: Applicant Certification

I certify the information provided is true, accurate, and complete to the best of my knowledge. I acknowledge that falsification of any information on this government document is punishable by fine, imprisonment, or both.

Applicant Signature _____ Date _____

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Texas A&M University at Galveston
Vessel Operation Office

HEALTH SERVICES QUESTIONNAIRE

Application for Medical Qualification to Embark Onboard TAMUG Vessels

Applicant Name (Last, First Middle)	Today's Date

Continuation Page

Use the space provided below to further explain any medical condition indicated on the previous pages.

RESET

Page 5 of 5

Texas A&M University at Galveston
Vessel Operation Office

HEALTH SERVICES QUESTIONNAIRE

Application for Medical Qualification to Embark Onboard TAMUG Vessels

INSTRUCTIONS

The Health Services Questionnaire must be submitted to Vessel Operations no less than 17 days in advance of the project start date. The form must be legible and complete. Unreadable or incomplete forms will be returned to the applicant. Late submissions may result in delayed qualification of sea duty past the project start date.

All positive responses in the General Screening and Cardiac Screening sections require a detailed explanation in the space provided. The Continuation Page may be used if more space is needed. An indication of hypertension requires the most recent blood pressure reading. An indication of diabetes requires the most recent glycated hemoglobin (HbA1c) reading.

All persons embarked on a TAMUG ship must be able to perform normal work functions and minimal personal emergency response functions while the ship is underway. During an abandon ship event, personnel may have to don a survival suit and/or descend a rope ladder to a life raft or rescue craft. Personnel deploying in small boats for operations may have to ascend and descend a rope ladder. A rope ladder (as pictured to the right) is a heavy duty ladder with rigid rungs that hangs over the side of the ship used for underway embarkation and disembarkation of personnel. A survival suit (as pictured to the right) is a full-body single-piece coverall designed to provide thermal protection to personnel immersed in water. A person at sea should be able to don a survival suit in one minute while fully clothed and without having to remove shoes. All negative responses in the Functional Abilities Screening section require additional explanation on the Continuation Page.

Sign and date the form in Section VII. Use the Continuation Page to provide any additional information. Direct all questions regarding the information required on this form to the Vessel Operations Manager (409) 740-4964.

Appendix 4 – Status Release Form

This form is to be signed by every person who sails on the R/V Trident operated by Texas A&M University at Galveston, except the regularly assigned members of the crew. The Captain must not allow any person who has not done so to sail with the ship, without exception. Use additional sheets if necessary.

R/V Trident VOYAGE PERIOD _____ DATE SIGNED_____

I understand that (1) The Texas A&M University at Galveston supports the Federal "ZERO TOLERANCE POLICY" which strictly enforces the prohibition aboard vessels of illegal drugs (narcotics, marijuana, stimulants, or other similar controlled substances) - my violation of this policy could lead to termination of the voyage and my arrest by Federal authorities; (2) alcoholic beverages, including beer and wine, are prohibited on board at all times; (3) there is no expert medical service on board; (4) Federal Regulations require The Texas A&M University at Galveston to request I submit to a drug/alcohol test should I be involved in a "Serious Marine Incident"; and (5) my failure to submit to this test, if requested, will require Texas A&M University at Galveston to report my name and address to the U.S. Coast Guard and to my parent institution.

(1) Paid TAMUG employee
I certify that I am an employee of the Texas A&M University at Galveston and that my presence aboard this ship for this Voyage is in the course and scope of my assigned duties. I understand that I will be asked to perform shipboard duties requisite with the safe and good ordered operations of the vessel. I understand that I will not be compensated by Waterfront Operations (unless previously agreed upon) for my participation and that I will abide by the procedures outlined in this manual.

NAME PRINTED	SIGNATURE	TITLE	FUNCTION ON CRUISE (Technician, Observer, Scientist, etc.)

(2)Employee of organization other than Texas A&M University at Galveston

I certify that I am a paid employee of_____(employer), that my presence aboard this ship for this Voyage is in the course and scope of my assigned duties to that employer, and that my employer is responsible for all pay that may be due me for work done aboard ship. I hereby release, waive, discharge, covenant not to sue, and agree to hold harmless for any and all purposes Texas A&M University at Galveston, The Texas A&M University System, the Board of Regents for The Texas A&M University System, and their members, officers, servants, agents, volunteers, or employees from any and all liabilities, claims, demands, injuries (including death), or damages, including court costs and attorney's fees and expenses, that may be sustained by me while participating in such activity, while traveling to and from the activity, or while on the premises owned or leased by those released, ***including injuries sustained as a result of the sole, joint, or concurrent negligence, negligence per se, statutory fault, or strict liability of those released.*** I understand that I will be asked to perform shipboard duties requisite with the safe and good ordered operations of the vessel. I understand that I will not be compensated by Texas A&M University at Galveston for my participation and that I will abide by the procedures outlined in this manual.

NAME PRINTED	SIGNATURE	EMPLOYER	FUNCTION ON CRUISE (Technician, Observer, Scientist, etc.)

(3)Volunteer

I certify that I have requested to participate on this voyage as a volunteer, and that I have completed the volunteer process with TAMUG HR and that a copy of the process completion is on file with Waterfront Operations, and that this participation may expose me to certain risks of injury or death, or damage to my property, and I freely and voluntarily assume any and all risks of injury, including death, and damage to my property which might result from my presence aboard this ship. I hereby release, waive, discharge, covenant not to sue, and agree to hold harmless for any and all purposes Texas A&M University at Galveston, The Texas A&M University System, the Board of Regents for The Texas A&M University System, and their members, officers, servants, agents, volunteers, or employees from any and all liabilities, claims, demands, injuries (including death), or damages, including court costs and attorney's fees and expenses, that may be sustained by me while participating in such activity, while traveling to and from the activity, or while on the premises owned or leased by those released, ***including injuries sustained as a result of the sole, joint, or concurrent negligence, negligence per se, statutory fault, or strict liability of those released.*** I understand that I will be asked to perform shipboard duties requisite with the safe and good ordered operations of the vessel. I understand that I will not be compensated by Texas A&M University at Galveston for my participation and that I will abide by the procedures outlined in this manual.

NAME PRINTED	SIGNATURE	FUNCTION ON CRUISE (Technician, Observer, Scientist, etc.)

(4)Student

I certify that I am a student of _____and have requested to participate on this Voyage as a student/volunteer, that this participation may expose me to certain risks of injury or death, or damage to my property, and I freely and voluntarily assume any and all risks of injury, including death, and damage to my property which might result from my presence aboard this ship. I hereby release, waive, discharge, covenant not to sue, and agree to hold harmless for any and all purposes Texas A&M University at Galveston, The Texas A&M University System, the Board of Regents for The Texas A&M University System, and their members, officers, servants, agents, volunteers, or employees from any and all liabilities, claims, demands, injuries (including death), or damages, including court costs and attorney's fees and expenses, that may be sustained by me while participating in such activity, while traveling to and from the activity, or while on the premises owned or leased by those released, ***including injuries sustained as a result of the sole, joint, or concurrent negligence, negligence per se, statutory fault, or strict liability of those released.*** I understand that I will be asked to perform shipboard duties requisite with safe and good ordered operations of the vessel. I understand that I will not be compensated by Texas A&M University at Galveston for my participation and that I will abide by the procedures outlined in this manual.

NAME PRINTED	SIGNATURE	UNDERGRAD/GRADUATE

Appendix 5 – Vessel Manifest

A copy of the manifest will be left ashore and retained onboard

TEXAS A&M UNIVERSITY at GALVESTON

Vessel Operations Voyage Manifest and Waiver

I certify that I have requested to participate on this Voyage as a visitor, that this participation may expose me to certain risks of injury or death, or damage to my property, and I freely and voluntarily assume any and all risks of injury, including death, and damage to my property which might result from my presence aboard this ship. I hereby release, waive, discharge, covenant not to sue, and agree to hold harmless for any and all purposes, including the Jones Act, Texas A&M University at Galveston, The Texas A&M University System, the Board of Regents for The Texas A&M University System, and their members, officers, servants, agents, volunteers, or employees from any and all liabilities, claims, demands, injuries (including death), or damages, including court costs and attorney's fees and expenses, that may be sustained by me while participating in such activity, while traveling to and from the activity, or while on the premises owned or leased by those released, ***including injuries sustained as a result of the sole, joint, or concurrent negligence, negligence per se, statutory fault, or strict liability of those released***. I understand that I will be asked to perform shipboard duties requisite with safe and good ordered operations of the vessel. I understand that I will not be compensated by Texas A&M University at Galveston for my participation.

Date _____ **Vessel** **Trident** **Captain** _____

	Printed Name	Signature	Emergency Contact	Phone Number
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Class _____ Time _____

Appendix 6 – Station Bill

GENERAL INSTRUCTIONS

1. *EACH person shall familiarize themselves with their assigned location in the event of an emergency immediately upon boarding the vessel.*
2. *All crew members shall be thoroughly familiar with the duties they are assigned to perform in the event of an emergency.*
3. *Each person shall participate in emergency drills and shall be properly dressed during drills, including a properly donned personal flotation device (PFD) or exposure suit.*
4. *The Chief Scientist shall be responsible for warning personnel, seeing that personnel are properly dressed and have correctly donned their PFDs or exposure suits, assembling and directing personnel to their appointed stations, keeping order in passageways and stairways, controlling personnel movement and ensuring a supply of blankets is taken to the life raft.*
5. *The Captain shall be responsible for the maintenance and readiness of all lifesaving and firefighting appliances and equipment.*

FIRE AND EMERGENCY INSTRUCTIONS

1. *ANY person discovering a fire shall notify the bridge and then take all initial actions as appropriate.*
2. *All scientific parties are to report to their assigned station, the aft deck, taking with them a PFD and exposure suit. Ship's crew are to report to their assigned stations.*
3. *Upon hearing the fire and emergency signal, all air ports, watertight doors, and fire doors shall be closed and all fans and blowers are to be stopped. All safety equipment will be prepared for immediate service and the fire pump is to be started.*
4. *Upon seeing a person overboard, immediately throw a life ring and notify the bridge by reporting "MAN OVERBOARD." In all cases keep the person in sight.*

EMERGENCY CREW STATIONS

CAPTAIN: On bridge in command.
2nd CAPTAIN /MATE (If Aboard): On scene of emergency in charge, otherwise;
DECKHAND 1: At scene of the emergency in charge;
DECKHAND 2: Assisting at scene of the emergency; manning fire hoses.
CHIEF SCIENTIST: Assist scientific personnel with exiting to emergency station and donning life saving gear. Take Muster and report it to the bridge.
ALL OTHERS Muster and take count

EMERGENCY SIGNALS

Fire and Emergency Signal
The fire and emergency signal shall be a continuous blast of the whistle for a period of not less than 10 seconds

Man Overboard Signal

The man overboard signal shall be the Morse code letter "0" — — — sounded several (at least 3) times on the ship's whistle.

Abandon Ship Signal

The abandon ship signal shall be at least seven (7) short blasts followed by one prolong blast on the ship's whistle

Dismissal
Dismissal from fire and emergency stations shall be three (three) short blasts on the ship's whistle

Appendix 8 - Post voyage inspection report

Trident Post Voyage Check List

Staterooms

- All furnishings shall be wiped down and are free of dust and dirt.
- Bulkheads are free of spots and all tape should be removed from walls, doors, drawers and cabinets.
- Deck shall be swabbed.
- All personal items shall be removed from the stateroom and from the heads.
- Trash cans shall be emptied and trash taken to the dumpster.

Laboratories

- **Chemicals:** All chemicals supporting the science party and chemical wastes must be removed from the ship. It is the responsibility of the Chief Scientist to insure that all science members do not leave chemicals and chemical waste onboard.
- **Lab Cleanliness:**
  - All lab bench tops, sinks, and shelves should be washed down with soap and water so that they are free of dust and dirt.
  - All trash should be removed from the lab, and floors should be swept and/or mopped.
  - All tape should be removed from walls, doors, drawers, and cabinets.
- **Tools**: All tools and left over supplies borrowed from the ship shall be returned.

Time Load out started _____
Time Departed TAMUG_____
Time Returned TAMUG _____
Hours Underway _____
Hours on Station _____
Time Un-Loading ended _____

Misc. Billable Expenses	Amount	Description (any charges vessel has incurred)
	_____	_____
	_____	_____
	_____	_____
	_____	_____
Total	_____	

_____ _____
Chief Scientist / Principle Investigator Date

_____ _____
Master Date

Appendix 9 - Post Cruise Assessment Report

Cruise Information:

Ship: R/V Trident Area of Operations:_____

Cruise Dates: _____ Chief Scientist: _____

PIs and Funding Agencies:

PI #1: _____ Funding Agency: _____

Type of Work:_____ Grant Number: _____

Ship Personnel:

Master:_____ 2nd Master:_____

Completer's Information:

Name of person completing the form:_____ Completer's Position on this Cruise:_____

Completer's Institution: _____ Completer's email:_____

Assessment:

1. To what extent were the planned science objectives of this cruise met? (circle one)

91-100% 81%-90% 71%-80% 61%-70% 60% or Below N/A

Please provide a BRIEF, 1-2 sentence description of the science objectives for this cruise (ie. CTD casts, survey transects, mooring deployment, etc.). Please specify how the service and support of the ship contributed to the factors that affected the completion of the science objectives, especially if not all of the objectives were met (ie. weather, equipment failure, etc.).

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***Note: For the following questions please rate each of the following aspect of the cruise according to a scale of EXCELLENT to POOR. We do not require that you rate yourself. You may leave these sections blank, or you may make comments to provide feedback or explain situations encountered during the cruise.

Excellent: Data quality outstanding, crew and techs performed at a superior level.

Very Good: Crew and techs went out of their way to assist, all equipment operational, and calibrations current.

Good: Crew and techs were mostly cooperative and helpful.

Fair: No major conflicts between scientists and crew/techs, mediocre support.

Poor: Crew and or techs poorly trained or uncooperative, ship poorly outfitted.

Provide specific comments to support your ratings, be sure to include suggestions for improvement in the future, and positive feedback when something is well done. The goal of this section is to answer "were you pleased with the service and support provided?"

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2. Rate how well the science party contributed to achieving the scientific objectives of this cruise (pre-cruise planning, communication, adequate personnel, equipment, attention to safety, organization, etc.). (circle one)

Excellent Very Good Good Fair Poor N/A

Please provide suggestions or comments for improving science party participation.

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3. Rate how well ship operator pre-cruise activities (planning, coordination, and logistics) and shore support contributed to achieving the scientific objectives of this cruise.

Excellent Very Good Good Fair Poor N/A

Please provide suggestions or comments for improving the pre-cruise planning and coordination, logistics, or shore support.

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4. Rate how well the ship operator supplied scientific equipment and marine technicians supported this cruise (appropriate equipment, equipment operational and ready for cruise, calibrations, documentation, technicians trained and familiar with equipment).

Excellent Very Good Good Fair Poor N/A

Please provide suggestions or comments regarding the operator supplied scientific equipment and the technical support for this cruise.

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5. Rate how well the scheduling of this cruise supported achieving the scientific objectives of this cruise (appropriate ship, year, season & dates, communications regarding schedules, online systems and scheduling process).

Excellent Very Good Good Fair Poor N/A

Please provide suggestions or comments regarding any aspects of the scheduling process or ship assignment.

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6. Rate the level of safety in shipboard and science operations (safety briefing and instructions, procedures & equipment).

Excellent Very Good Good Fair Poor N/A

Please provide suggestions or comments regarding any safety aspects of of the cruise, ship, crew or science party.

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7. Rate how well the officers and crew and the manner in which the research vessel was operated contributed to achieving the scientific objectives of this cruise (communications, ship handling, deck procedures, attitude towards the science objectives, training, adequate number of crew, shipboard routine, etc.).

Excellent Very Good Good Fair Poor N/A

Please provide suggestions or comments regarding aspects of ship's captain and crew support.

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8. Rate how well the research vessel and its installed equipment contributed to achieving the scientific objectives of this cruise (material condition, readiness, living conditions and habitability, condition of lab spaces, design, layout, deck equipment, winches, cranes, frames, propulsion, power, etc.).

Excellent Very Good Good Fair Poor N/A

Please provide suggestions or comments regarding the vessel and its installed equipment, or enhanced capabilities which would aid in your research.

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9. Number of science days lost due to:
Weather: _____
Ship, Ship's Propulsion, Power, Crew, etc: _____
Ship's Scientific Equipment: _____
User Provided Scientific Equipment:_____
Please explain reasons for days lost.

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