Sundog Charters, LLC

Safety and Health Management Program

January, 2017

Contents

INTRODUCTION

The Safety and Health Management Program (SHMP) is how Sundog Charters provides guidance and compliance for the safe, efficient and pollution free operations of its vessels. This program is composed of numerous policies, plans and procedures included herein.
While this Program strives to keep Sundog Charters in compliance with State and Federal laws and regulations, it is important to note the benefits that the company anticipates from the Program include:

- increased safety consciousness and management skills of both shore-based and shipboard personnel;
- the establishment of a proactive culture which encourages continuous improvement in safety and environmental protection;
- a resource for personnel offering a consistent standard for information on safe practices and policies.

This manual is accessible to all employees and is found onboard company vessels at the bridge. All employees will be issued an electronic version as well.
The Master is responsible for the implementation of the SHMP onboard while the General Manager is the person in the company who is responsible for the overall implementation of the SHMP. The purpose of this manual is to provide employees with a variety of information to ensure their wellbeing and the wellbeing of passengers and fellow crewmembers. This manual provides employees directions for responding to different emergency situations involving individuals or vessels. It also serves to provide crew with a variety of preventative information about personal and occupational hazards.

1.2 OBLIGATIONS OF THE EMPLOYEE

It is the obligation of every Sundog Charters' employee to report all safety or environmental hazards, non-conformities, or unlawful activity to their Supervisor. Supervisors shall immediately report these to Management. In cases where an employee feels that these reports are being ignored by their Supervisor or the Master (for vessel employees) or the employee believes it would be inappropriate or is uncomfortable contacting their Supervisor or the Master the supervisory chain of command may be bypassed. To encourage reporting, individuals may follow an established and posted procedure to remain anonymous.

1.3 COMPANY SAFETY AND ENVIRONMENTAL PROTECTION POLICY

The number one priority of Sundog Charters' owners, managers and staff is safety. We strive to create and maintain a safe and healthy work environment and offer guidance and training to achieve this goal. A Safety and Health Management Program (SHMP)

has been developed and stated in this reference manual to ensure safety, compliance and spill free operations. The objectives of this program are as follows:

- Foster and maintain a culture of safety
- Establish minimum safe operating procedures for onboard operations
- Ensure a healthy work environment
- Enable employees to make informed decisions regarding safe practices while performing job tasks
- Comply with local, state and federal laws and regulations
- Train, teach and mentor employees in the best marine industry practices and standards

These objectives will be achieved through:

- Stated operational procedures to be followed by onboard personnel
- A commitment by all to act with integrity, respect and responsibility
- Progressive training in best marine practices and survival skills
- Preventative maintenance of vessels and associated equipment
- Frequent participation in drills designed to teach employees to react to emergency situations

Employees will act to protect themselves, fellow employees, passengers, their vessel, cargo and the environment. Regulations, laws and company policies will be followed to ensure safe operations. Safety and environmental hazards will be minimized and unlawful or unsafe activities are to be reported to Management.

1.0 EMERGENCY RESPONSE SUMMARY

There are many types of emergencies that can occur onboard. Information about Fire, Abandoning Ship, Man Overboard, Damage Control, First Aid/Medical Emergencies, Oil Spills, is included below. While boats are equipped in accordance with relevant USCG requirements, safety, security, and pollution prevention equipment is only effective if crewmembers are knowledgeable and proficient with their use. Copies of equipment instructions and guidelines for use are enclosed in this manual for reference and training

2.1 DRILLS

Onboard emergency drills are the backbone of emergency training and preparedness. They provide an opportunity for emergency teams to practice and improve their skills. They also provide a forum for discussing and finding solutions to problems that might be encountered during an emergency. Lastly, drills cross train crew for a variety of tasks and situations that they might encounter.

The United States Coast Guard (USCG) requires that certain drills be performed at specified time intervals and to meet certain minimum standards.

During a drill you should perform the tasks outlined in your billet AS IF IT WERE AN ACTUAL EMERGENCY. The most frequently conducted drills are abandon ship, fire and man overboard. Additional drills include medical emergency, security threat, collision, and steering failure although this is by no means an exhaustive list.

2.2 STATION BILL

Because disaster can strike suddenly and without warning, every ship must have a station bill (muster list). The station bill details the alarm signals & sets forth the emergency duties for each member of the crew.

A complete Station Bill is posted on the bridge. The Captain is responsible for assigning billets to the crew. Every crewmember should be familiar with the duties required by other personnel so that they may be able to perform those duties if necessary. If you have any question, see your supervisor immediately.

Since every crisis is unique, it is necessary for you to present yourself as soon as possible to your supervisor for specific instructions after completing your station bill duties. Remember that a conscious effort to appear outwardly calm while performing your duties will have a positive effect on your fellow crewmembers and the passengers.

2.2.1 Instructions as Listed in the Station Bill

1. Entire crew shall familiarize themselves with the location & duties of their Emergency Stations immediately upon reporting on board.
2. Personal Flotation Devices (PFD's) shall be worn by all passengers & crew during Abandon Ship Drills, & by boat crew during Man Overboard Drills.
3. Any person discovering a fire shall immediately notify the Bridge, evacuate passengers in the immediate area, & attempt to fight the fire with available equipment.
4. Upon sounding the Fire & Emergency Signal, the fire pump shall be started, air ports & hatches closed.
5. At Abandon Ship Signal, air ports shall be closed, bilge pumps started, and Life Rafts & Zodiacs made ready for launching.
6. Any person seeing another fall into the water shall hail & pass the word "Man Overboard", (use Public Address System as well) throw a ring buoy, and keep their eyes on the MOB. Upon hearing the Man Overboard alarm, the Bridge shall sound the signal, throw a ring buoy over the side, stop engines, station lookouts, & clear away the Rescue boat for launching.

Emergency procedures for various onboard emergencies are located at the helm.

2.3 EMERGENCY/FIRE CONTROL PLAN INFORMATION

The Emergency/Fire Control Plan details the location(s) of various emergency equipment onboard such as fire extinguishers, ring buoys and lights, fire axes, life rafts, VHF handheld radios, and the location of DC kit. The plan also indicates the various structural fire boundaries, means of access to different compartments, fuel shutoff systems, sea water fire main system, and ventilation fans.
Duplicate sets of the plans are stored at the helm.
As a crewmember for Sundog Charters it is your responsibility to know the location of ALL emergency equipment regardless of your station billet.

3.0 FIRE

There are a variety of different shipboard activities that subject the vessel to the possibility of an onboard fire. While there are clear actions that should be taken in the event of a discovery of a fire, there are also measures that should be observed to prevent fires from occurring in the first place. Upon discovery of an onboard fire, crew should inform the Master and other crew. Although vessels are small enough to communicate verbally, the master may sound one continuous blast of the horn for no less than ten seconds and announce the situation using the PA system.

3.1.1 Possible sources of fire aboard ship

- **Engine room**
  1. Leaking fuel meeting a hot surface
  2. Careless disposal of oily waste rags and other rubbish
  3. Overheating of machinery
  4. Flammable liquid mixtures from spillage
  5. Welding, cutting, brazing
- **Galley**
  1. Cooking fires
  2. Overheated appliances
- **Deck**
  1. Power packs, compressors or other portable equipment operating on deck
  2. Careless smoking on deck
- **Elsewhere**
  1. Electrical equipment - short circuits and overloaded conditions
  2. Storage compartments - combustible supplies such as paper products
  3. Paint locker - accumulated vapors from paint or solvent soaked rags

3.1.2 Precautions against shipboard fires

All possible precautions should be taken to avoid a fire. There are a variety of fire risks associated with the practice of smoking that should be acknowledged. As many fires are started because of smoking, the following should be taken into consideration:

- Smoking is restricted to the exterior aft portion of the Deck.
- Smoking is not permitted anywhere within the interior of the vessel.

- Care should be taken that any cigarette or match is extinguished before being disposed of in ashtrays located in smoking areas.
- Smoking is never allowed when the vessel is transferring fuel.

Fires caused by electrical sources can also be avoided by taking the following preventative measures:

- Faulty wiring, fittings, and appliances should be reported immediately to the Master.
- Electronic equipment should be protected from moisture and maintained properly.
- Do not overload electrical outlets.

Other Fire prevention considerations:

- Care should also be taken to maintain clean surfaces near ranges and other sources of heat.
- Rags soaked with paint, solvents, and oil should be carefully handled. They should be cleaned, dried, or properly disposed of to avert fire.
- Flammable materials especially liquids, should not be stored in machinery spaces.
- Engines and machinery should be monitored for leaks. Leaks should be cleaned and corrected, hoses should be inspected for wear and damage.

FIRE RESPONSE GUIDELINES

3.2.1 Fire fighting

Sea conditions increase hazards to fighting fire in a variety of ways.

- An uncontrolled fire may mean the loss of the vessel and a life-threatening situation for passengers and crew abandoning ship.
- Water used in fighting the fire may cause a loss of stability of the vessel.
- The vessel is a restrictive environment, and movement may be limited to safe portions of the ship.
- There is a finite resource base available to fight a fire since there are a limited number of Portable Fire Extinguishers (PFE) and because fire pumps can be disabled by a loss of power.

3.2.2 Actions to take upon discovering a fire

I. Whomever suspects or discovers a fire WILL:
A) Immediately notify the Master
B) Evacuate any passengers in the area of the fire.
C) Attempt to fight the fire with the nearest extinguisher if it is feasible and safe to do so.
D) Follow the instructions in your assigned fire billet.

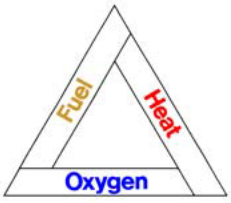
II. The Master, upon being notified about the fire, WILL:
A) Go to the Bridge and assume overall charge.
B) Notify crew to prepare for passenger evacuation upon hearing the fire alarm signal.
C) Assess reports from the crew and take appropriate action.
D) Follow guidelines contained in the Vessel Emergency Response Plan.
E) Secure engine room ventilation if necessary.

III. The Crew WILL:
A) Proceed to the scene and fight the fire with hand held extinguishers
B) Promptly advise the Master of the extent of the emergency.
B) Attend the fire water pump if appropriate for type of fire

3.2.3 Engine Room Fire Procedure

1) NOTIFY BRIDGE
Then determine extent and source of fire, if possible. If the fire is small, extinguish it quickly before it can spread.
2) SHUT OFF BLOWERS
3) If possible and directed to do so by the master, close fuel supply to engines

3.3 Fire Characteristics

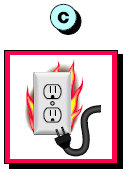


Fire is a chemical chain reaction that requires four elements to exist: fuel, heat, oxygen, and a chemical chain reaction. Remove any one element and the fire will go out. Unhindered, fire will continuously seek out new sources of fuel to consume. Fire can spread in four ways:
1. **Direct flame contact** - material in contact with a flame will ignite if it is at its ignition temperature.
2. **Conduction** - metal is highly heat conductive. A fire in one compartment can spread to the next compartment through the bulkhead if the materials on the other side (especially the paint on the bulkhead itself) get hot enough.
3. **Convection** - rising hot gases and embers can travel through ductwork or up stairwells to adjoining areas of the ship and start secondary fires.
4. **Radiation** - heat that travels in a straight line from the source can start secondary fires in materials some distance away, even though those materials are not in direct contact with the flame.

3.4 CLASSES OF FIRE & EXTINGUISHING METHODS

Fire is divided into four classes which are described with their preferred extinguishing

methods below:

Class	Material	Type	Extinguishing Method
A	Common combustibles such as wood, rags, garbage, etc. (Materials that produce ash)		Water or foam
B	Flammable liquids and gases including; gasoline, diesel, propane.		<u>Secure source</u> CO2, dry chemical, water fog, foam, FE-36
C	Electrical equipment where the heat source is electrical energy.		<u>De-energize circuits</u> CO2, dry chemical, FE-36
D	Combustible metals such as magnesium, aluminum, titanium, zirconium, sodium, etc.		<u>Cool surrounding area with water</u> Jettison overboard

3.5.4 Dry Chemical

Dry chemicals extinguish a fire by stopping the chemical reaction. Upon contact, with heat, it melts and sticks to the surface of the burning material forming a crust. While it is an excellent fire-fighting agent, it is also very destructive to sensitive electrical equipment and corrosive to aluminum. There are, however, circumstances where there are no alternative means to fight the fire. In such cases, the priority should be given to extinguishing the fire. Most of the fire extinguishers onboard are dry chemical.

DELIVERY METHODS

Dry chemicals are stored in portable fire extinguishers ranging in weight from 2.5 to 25 pounds. The extinguishers are pressurized by inert gas. The duration of their discharge is surprisingly short. For instance, the discharge of a five-pound unit will only last approximately twelve seconds. Some extinguishing agent may be lost while attempting to aim the unit.

PRACTICAL USE

1. Dry chemicals extinguish flames by breaking the chemical reaction. The chemical residue also has a smothering effect.
2. On a boat, vibration may cause the powder to pack and solidify in the bottom of an extinguisher. If at first the extinguisher does not discharge the agent, invert the extinguisher and shake it before attempting to discharge again.
3. Occasionally the nozzle might clog with the extinguishing agent. Tap the nozzle against a hard surface to clear it.
4. Aim at the base of the fire and use a short rapid back and forth sweep.

SAFETY NOTES

1. Using a dry chemical extinguisher will leave a corrosive residue of powder over a wide area as well as in the air. This airborne residue, combined with pre-existing smoke, may create a breathing hazard.
3. Dry chemicals should not be used on class "D" fires.

Remember that you are attacking the source of the combustion, not the resulting flames, so aim at the base of the fire as you depress the handle. The practical range of most extinguishers is limited to about 20 feet so it is necessary to keep low when approaching the fire to avoid rising heat and smoke. Use a sweeping motion over the surface of the burning material to discharge the extinguishing agent evenly.

Always start at the closest point and work in from there. If possible, attempt to push the flame into a corner or wall where there will be less air to supply the fire.

PRACTICAL NOTES
1. Accuracy and timing are vital when discharging extinguishers due to the limited amount of agent. If the situation permits, instruct fellow crewmembers to bring backup extinguishers.
2. Sometimes, intermittent bursts can extend your discharge time and still be effective in cornering a fire. This would more likely be true on a class "A" fires and less likely on class "B" fires because class “B” fires are much more likely to rapidly re-ignite than class “A” fires.
3. Before attacking a large fire, test the extinguisher with a small burst while approaching the flames to be sure the unit is working.
4. Upon discovering a fire in an enclosed area, never walk into the space to get to an extinguisher. The fire may grow and the extinguisher may be inadequate protection to guarantee a safe exit.
5.Where practical, start upwind of the fire.

4.0 ABANDON SHIP

An evacuation has the potential of becoming a chaotic situation, so it is of the utmost importance that each crewmember follows through with his or her duties quickly and accurately. The duty of the crewmembers during an evacuation is to continue to ensure the safety of the passengers. Passengers may be elderly, unable to swim, in poor physical condition, disoriented, and unable to communicate. In the event of an emergency evacuation, all of them will look to you for leadership and guidance. An orderly and controlled evacuation led by informed crewmembers will be free of panic and confusion. The evacuation can only be effectively controlled, however, when crewmembers are aware of the nature and limitations of shipboard safety equipment. All shipboard personnel should know how to use the safety equipment and should also be able to instruct others how to use it.

Upon hearing the abandon ship command or signal of six short blasts followed by one prolonged blast, instruct passengers to leave their personal belongings, except vital medications, behind. Also, they should be instructed to wear long pants and sleeves, shoes, a hat, jacket and gloves, and to don their life jackets. Crewmembers should do likewise.

4.1 ABANDON SHIP SIGNAL

Normally, the abandonment of ship occurs after an emergency such as a fire or grounding. As a result, it will be assumed here that an emergency situation will have already caused the sounding of the Emergency signal and that the crew is already positioned at Emergency stations before the need arises to sound the Abandon Ship signal.
Should it become imperative to abandon ship due to loss of stability, collision, uncontrollable fire or other causes, the following routine will be strictly observed:
When the Abandon Ship signal is sounded, duties assigned the crew under the Abandon Ship Station Billet go into effect. An announcement identifying the assembly location will be made after the signal. This location will ideally be the foredeck for

raft loading, but emergency conditions may dictate a change.

4.2 ABANDON SHIP GUIDELINES

When the ABANDON SHIP SIGNAL is sounded or the announcement is made, ALL CREWMEMBERS will follow their Station Bill assignments for Abandon Ship. BOARDING RAFTS: One of the hotel crew assigned to the life raft will board first to assist the passengers and direct them where to sit. Locate the knife found outside the raft entryway to be used if it becomes necessary to cut the sea painter. When the life raft is loaded, its sea painter will be slacked off to the end and secured to the transom. After loading, each life raft will remain secured by its sea painter at full length until all the rafts have been loaded and the last of the crew have boarded. The rafts will then be secured to each other so as not to drift apart. The rafts are to remain secured to the ship unless the vessel presents a danger to the rafts, or a suitable landing area is available.

4.3 LIFE JACKETS/PERSONALFLOTATION DEVICES (PFDs)

- A Type I life jacket is reversible and relatively simple to put on. Put the jacket over your head, wrap the waist strap around you, clip it to the D-ring and pull the strap snug.
- A whistle, retro-reflective tape and light on the PFD help wearers increase their visibility.
- There are special lifejackets for children.

There are certain precautions to be taken if the ship is abandoned and you are forced into the water while wearing a life jacket.

Precautions

1. Remove glasses, contact lenses, false teeth, hearing aids and any sharp objects from pockets.
2. Try to jump from the lowest level available.
3. There may be others jumping from the deck and there could be debris or people floating below you. Do not jump on top of them. It is difficult to look down while wearing a life jacket so bow forward at the waist until you can clearly see what lies below.
4. When certain that the water below is clear, straighten up, look straight ahead towards the horizon, cross your arms over the jacket tightly. With one hand grasp the top of the jacket to hold it down and with the other hand crossed over holding your nose, jump into the water with your legs crossed.
5. The impact of hitting the water while wearing a life jacket may be different than you expect, even if you are an experienced swimmer. If you are not holding tightly onto the jacket you may feel a sudden jolt at the tie straps and around your neck as the jacket hits the water.

NOTE: Having passengers or crewmembers go directly into the water should be avoided whenever possible because of the risk of hypothermia (the body loses heat 25

times fast in water than air). During Abandon Ship procedures, all possible precautions should be taken to keep people dry, thus reducing the risk of hypothermia.

4.4 INFLATABLE LIFE RAFTS

Both Sundog and My Marie are equipped with USCG Approved 8-person life rafts.

The rafts are made up in the following components:
Boarding ladders: These ladders are attached to each end or sides for quick boarding.

Buoyant tubes (Upper and Lower): The tubes, when fully inflated, will support 100% overload. This also means that the raft can support a full load of 8 persons with only one buoyant tube inflated.

Canopy cover: There are two covers, one cover is attached to the underside of the canopy support tubes. The other cover is attached to the outside of the canopy support tubes. This gives a void space between the covers, for insulation against cold and extreme heat.

Canopy support tubes: The tubes are attached to the upper buoyant tube and are inflated by the inflation of the upper tube. They support the canopy.

Container: The containers are made of fiberglass in halves, with drainage holes in the bottom half. After the raft is rolled up and placed inside the containers, the containers are held together with two or three 2 cm stainless straps with a safety break point on each strap at the joint of the halves. There is a cut out in one half of the container to allow the sea painter to pass through.

CO_2 Inflation system: This contains two cylinders with a hose attached to each buoyant tube, and is activated by a wire attached to the operating cord-- sea painter.

Deflation plugs: These plugs are installed in the floor, lower and upper buoyant tubes, to deflate the raft.

Floating sheath knife: The knife is constructed so that you cannot accidentally cut the raft. It is stored in a scabbard on the outside canopy near the towing bridle. The knife is used to cut the sea painter only when the vessel poses a danger to the raft.
Float free link/weak link: On the “hammer” style hydrostatic release system a braided nylon

line (red) will break, releasing the raft from a sinking vessel.

Floor: This is attached to the bottom of the lower buoyant tube. The floor is inflated manually by the inflation/bilge pump found in the equipment container.
Heaving line: This buoyant line is 30 meters in length, fitted with a buoyant quoit or ring attached. The heaving line is attached to the outside of the canopy on the opposite end from the towing bridle and sea anchor to assist persons into the raft's entrance.

Hydrostatic release and strap: This hydrostatic release is secured to the mounting cradle with a shackle. This Hydrostatic release will activate should the vessel sink between 4-5 meters underwater, releasing the raft to the surface. As the vessel sinks and the operating cord of the sea painter is paid out to its full length of approximately 100-120 feet, a sharp tug at the end will activate the CO_2 cylinder thus inflating the raft. NOTE: It is not necessary for the vessel to sink 30 meters before the raft inflates. The sea painter system is designed to have little tension placed on the line allowing wind and current to pull the painter out freely and activate the CO_2 quickly.

Inflation valves: The valves are installed in the floor, lower and upper buoyant tubes and are used to inflate the floor or to replenish any leaking gases from either the lower or upper buoyant tubes.

Inner and outer life lines: These lines are attached to the upper buoyant tube on the outside and are festooned in that hang within three inches of the water for persons in the water to hang on to.

Inside illumination light: This light is attached to the underside of the canopy with a wire leading down the canopy support tube, over each buoyant tube to a water activate battery. This light operates automatically when the raft is inflated in water. Both indoor and outdoor lights will operate for twelve hours. It is important to unscrew the bulb when not in use.

Mounting cradle: The mounting cradles are made for the containers and secured to the deck with four studs and nuts. On the end of the mounting cradle is a small cleat to secure the sea painter when manually launched.

Operating sea painter: This 100-foot line is attached to the raft's towing bridle and CO operating valve. It is faked out inside the canister to pay out freely. The canister must not be allowed to roll when it is not in its cradle so that the painter will not foul. The other end is attached to the mounting cradle with a float free link (weak link) and shackle.

Outside indicator light: This light is attached to the top most of the raft's canopy with a wire leading down the canopy support tube, over each buoyant tube to a water activated battery. It operates automatically when the raft is inflated in water.

Pressure relief valves: These valves are installed in the lower, upper and in the canopy support tubes, and will vent off excess CO_2 gas. When the raft is first inflated, it often over inflates which activates the pressure relief valves.

Righting strap: This strap is attached to the underside of the floor forward from tube to tube near the CO_2 bottles. The strap is used to right the raft in the event it should inflate upside down. This is accomplished by pulling on the strap while standing on the CO_2 bottle.

Sea anchor: This sea anchor is attached to the towing bridle with 15m of 2cm diameter braided nylon line. The sea anchor will deploy upon inflation of the raft and will hold the raft into the wind. A spare sea anchor is in the equipment container. When the life r are launched and loaded manually, it may be necessary to pull in the sea anchor make the raft more maneuverable so that it can be brought along side in a more efficient manner. Since the sea anchor is an effective means of producing drag, it makes the raft very cumbersome for towing.

Survival manual: The waterproof manual is enclosed in a sealed plastic container on a lanyard attached to the underside of the canopy at the center of the raft. It contains vital information about survival at sea.

Towing bridle: This is attached to the lower buoyant tube and is strong enough to tow the raft while fully loaded at five knots without any damage to the raft.

Water stabilizing pockets: There are four perforated pockets attached to the underside of the floor and lower buoyant tubes. These pockets fill with water quickly and provide stability to the raft.

4.4.1 Required Equipment

Sundog and My Marie are equipped with Coast Guard approved SOLAS B life rafts containing the following equipment:

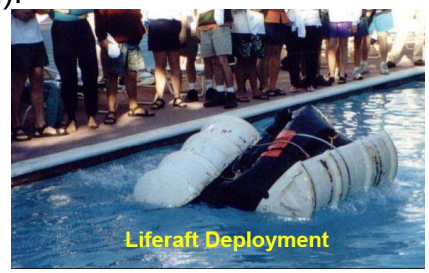
1 Buoyant rescue quoit with (100 foot +) line 2 Jackknives 2 Bailers 2 Sponges 2 Sea anchors w/50ft x 1in line 2 Buoyant paddles (1.25m long) 1 First aid kit in waterproof container 1 Whistle w/ lanyard 2 Rocket parachute flares 1 Buoyant smoke signals	1 Waterproof electric torch to transmit Morse signals with spare bulb and battery supply 1 Radar reflector 1 Daylight signaling mirror with instructions 1 Copy of lifesaving signals 6 Doses of anti-seasickness medication 1 Seasickness bag per occupant 1 Copy of survival instructions 1 Copy of instructions for immediate action 2 Thermal protective aids or 10% of the number of occupants

The rafts, containers, hydro-release and equipment are serviced and inspected annually by an approved service facility.

4.4.2 Launching Life rafts

PREPARATIONS
1. Master activates EPIRB under direction of the Captain.

2. All hydrostatic releases and associated straps are detached and cleared from foot traffic.
3. All sea painters are released from shackle, 5 - 6 arms lengths of line (approximately 30 feet) are pulled out from the canister, coiled neatly and set under the forward end of the cradle, out of foot traffic. Bitter end to be secured to the cleat on the cradle.
NOTE: There is a rubber plug on the canister that holds the painter in place. A tug will be necessary to pull this plug out and allow the painter to pay out.
4. Release the lower lifeline, under the direction of the Master.
5. Remove stanchions on the lee side, or as directed by the Master prior to launching. If conditions are hazardous, it may be prudent to move only one stanchion at a time. Wait for the final word from the Captain.
6. Clear the deck of all tripping hazards.
7. Once all the equipment is prepared and the okay is given from the Captain, launch the life rafts one at a time from the designated side. Before launching, the area below should be checked to ensure that there are no obstructions (e.g. boats, people looking over the handrails, rocks etc.).



LAUNCHING

1. There should be at least four people on the boat deck to lift the life rafts. If more than four people are available, they should be utilized to lift the rafts in rotation to lessen the possibility of back injuries.

2. Each life raft should be treated individually for each evolution. Prior to tossing/launching over the side, the sea painter (bitter end) will be taken off the cleat on the cradle and passed to awaiting personnel on the 200 Deck who will make the line off, down current on the handrail, with a round turn and two half hitches. Take extra precaution that the painter is passed through the two lifelines (the same path the raft will take) to prevent the painter from fouling.

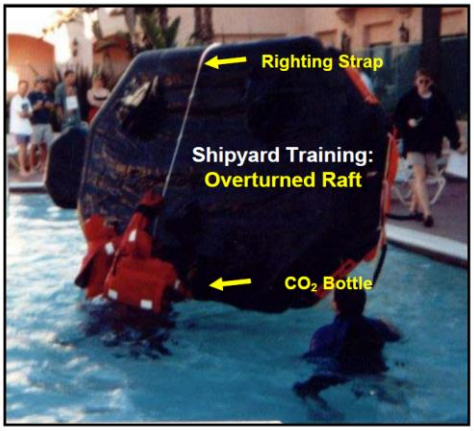
3. When all five life rafts are launched from the boat deck, the EPIRB will be taken by the Master prior to leaving the boat deck. The EPIRB will eventually be placed in the life rafts. ***The EPIRB is watertight and capable of being dropped in the water. It has a line attached to it that can be used to secure it to the raft. If necessary, this highly visible and easy to use radio beacon can be activated manually.***

4. All necessary gear will be gathered from the boat deck at this time, as directed by the Officer in charge. All personnel will leave the deck at the same time under the direction of the Master. All personnel will act as a unit; no personnel are to lag

behind. Even as members of the emergency squad, your personal safety is paramount. The passengers and the rest of the crew must rely on each individual to perform his/her duties. Know the function of all equipment so you are prepared to act when the order is given, but do not do anything until you are told.

4.4.3 Righting an Overturned Raft

Life rafts are packed in such a way that they should inflate in an upright position, but



they have been known to inflate upside down. A righting strap is provided across the bottom so that you can climb up onto the inverted raft and pull the raft over into an upright position. If you must overturn a raft, keep in mind the following points:

1. If a crewmember is needed to enter the water to right the raft, an immersion suit must be worn.
2. Wind can be used to help right a life raft.
3. The CO_2 cylinder will be attached on one side and must be used as the lower edge for righting purposes.
4. The raft will come down on top of you as it is righted and you may be trapped underneath it momentarily.
5. The righting strap can be used to pull you clear of the raft.

4.4.4 Boarding Rafts

Ideally, the life raft loading will be done from the fantail. However, certain conditions may dictate a change. Listen to the P.A. announcement to determine the assembly and loading location.

After the raft has been launched (and righted if necessary), a deckhand or other crewmember will secure the painter to a cleat so that the raft is at the boarding location.

NOTE: It may be necessary to put someone in the raft right away to pull in the sea anchor that is automatically deployed when the life raft inflates. The sea anchor creates enough drag that it will make the raft difficult to maneuver to the boarding area.
One of the hotel staff assigned to the raft should board first to assist the passengers

that follow. This crewmember will direct where the loading passengers should sit in order to maintain raft stability and to avoid injury from other passengers during the loading process. This is especially important as the loading of passengers may consist of jumping onto the canopy and then crawling into the raft entrance. The crewmember should also locate the raft's emergency kit, which contains sponges, bailers, and a foot

pump. If time allows, the crewmember should bail up and sponge any water on the floor before passengers board. As soon as practical, the life raft floor should be inflated to provide additional insulation and support.

When the raft is loaded, its sea painter will be slacked off to the end, but still secured to the ship. Each raft should remain secured by its sea painter at full length until all the rafts have been loaded and the last of the crew have boarded. All of the rafts, occupied or not, should then be tied together to provide a larger mass to be sighted and to have the unoccupied rafts' supplies available.

If it becomes necessary to cut the sea painter, a safety knife is located in a pocket by the raft door. The assigned person in charge shall cut the sea painter only if the vessel is endangering the raft.

4.5 SURVIVAL IN THE WATER

While jumping in the water should be avoided at all costs, certain circumstances provide no other options. There are techniques and equipment that can be used to help prolong the life of someone who must enter the water. This section will not discuss life jacket equipment any further, but will discuss immersion suits and thermal protective aids. The First Aid section discusses the appropriate course of action for treating someone who has been exposed to extreme cold temperatures, is in shock, and/or has hypothermia.

4.5.1 Hypothermia

One of the greatest risks to someone that has fallen or jumped in the water is hypothermia. Hypothermia is the condition in which core body heat is lost, generally

due to long term exposure to cold temperatures. As the conduction of heat in water is more rapid than in air, body heat is lost 25 times more quickly in water. In the same way that air currents decrease the body's surface temperature more rapidly (e.g. wind chill), water currents also increase heat loss. A variety of additional factors can also exacerbate the onset of hypothermia including the use of alcohol, rapid evaporation of perspiration, hyperventilation, vomiting and the excessive loss of fluids.

One of the body's initial responses to hypothermia is shivering. Shivering is a reflex action that the body takes to increase warmth. If continued exposure to cold temperatures occurs, the victim will then become fatigued and lose control of their extremities, followed by unconsciousness and lastly death. The table below indicates the relative survival rates of an exposed person wearing normal clothing to various water temperatures:

Temperature F°	Temperature C°	Expected Time of Survival*
Less than 36°	Less than 2°	Less than 45 minutes
36° to 39°	2° to 4°	Less than 90 minutes
39° to 50°	4° to 10°	Less than 3 hours
50° to 59°	10° to 15°	Less than 6 hours
59° to 68°	15° to 20°	Less than 12 hours
Over 68°	Over 20°	Indefinite (depending on fatigue)

4.5.2 Techniques for Survival in the Water

There are several important precautions and techniques that exposed individuals should be aware of to prolong their survival in the water if they do not have an immersion suit for protection. First, if the situation allows, they should put on as much clothing as possible underneath their life jacket. This will help offer insulation and will reduce the conduction of heat from the body to the water. Second, they should take seasickness tablets before jumping overboard or going into the water.
If someone must jump overboard, they should try to jump from the lowest possible height. Before jumping, however, they should be mentally prepared for initial impact of the cold temperature of the water. The body's response to cold water is extreme pain and shivering. This is a natural response, however, and an individual's failure to remain

calm may lead to hyperventilation, shock, and even rapid death. When jumping, they should cross one arm over the life jacket and use the opposite hand to cover their mouth and nose. They should jump vertically while looking straight ahead and avoid looking up or down this will cause their body to lean forwards or backwards.
If an individual finds him/herself in the water, they should attempt to locate the ship and orient their body in the ship's direction. An individual in the water should not attempt to swim unless he or she is close to a floating object or land. Swimming only hastens the loss of body heat. Anyone in the water wearing a lifejacket should attempt to draw their knees up into a H.E.L.P. (Heat Escape Lessening Position) with their arms folded across the front of their life jacket. If several persons are in the water, they should try to huddle together.
Anyone in the water should attempt to board a life raft or floating object as quickly as possible to reduce the loss of body heat to the water. After someone has been exposed to the water his or her body should be covered with anything available. They should stay close to other survivors whenever possible. If possible, thermal protective aids should be used after boarding the life raft.

4.5.3 Immersion Suits

Sundog Charters makes immersion suits available to all employees. However, because of a lack of training, Sundog does not provide immersion suits for passengers. These immersion suits are inherently buoyant enough that the users do not need life jackets and are strong enough to sustain a 15-foot (4.5-meter) jump without damage. It is the employee's responsibility to ensure that you have a designated immersions suit, it fits properly and you know of its location onboard.

The suits are bright orange, 100% watertight with retro-reflective tape for maximum visibility in the water.

Donning the immersion suit should take less than two minutes. Place the legs in first and tighten the ankle straps. Then place one arm in the sleeve, your head in the hood, and then the other arm in the other sleeve before pulling the zipper up to the mouth. Lastly, fold and secure the face flap.

4.6 SURVIVAL ON A LIFE RAFT

4.6.1 Leadership

Organization is essential to the interest of all survivors in a life raft and any organization requires leadership. During the loading process, an effort will be made to equip each raft with a radio. Keeping lines of communication open with lead personnel will be important for morale. The officers' billets include being in command of respective rafts. However, there are a variety of reasons that may cause the officer to be unable to perform this task (e.g. shock, injuries, ongoing ship repairs, etc.). If this is the case, the next lowest numbered crewmember (based on the Station Bill) takes command. If you find yourself in charge, start by delegating work right away, as there will be much to do in the initial minutes. Keeping passengers busy is not only productive, but also good for their morale. There may be injuries to attend to and some people may need reassurance from someone in authority.

4.6.2 Organization

1. Immediately open the survival kit and take an inventory of supplies and read the survival manual that is in the raft. Also, inflate the floor of the raft with the manual inflation/bilge pump if this has not already been done.

2. Delegate someone to do a roll call and get the names of passengers. Traveling companions may have been separated in the confusion. Do not be surprised if someone wants to exit the raft to look for a missing person. Set up communications with the other rafts to sort out the locations of separated passengers.
3. Post someone to look out for survivors in the water and provide them with a life jacket and a heaving line to throw if necessary.
4. A First Aid post should be set up in one section of the raft.
5. Ask everyone to pool their personal belongings. There may be useful items such as mirrors or handkerchiefs available. This also gives the leader the opportunity to gain control of items such as matches, sharp objects, and alcohol at an early stage.
6. The raft commander is responsible for the supplies in the raft in order to control what is consumed or used. Designated passengers or crew should be assigned to use items such as paddles, sea anchors, air pumps and signaling devices as required, but the equipment must remain under the control of the assigned stores keeper. The flares, in particular, should be kept under strict supervision.
7. The same control should apply to first aid supplies, food and water. Except for people with injuries, no food or water should be issued for 24 hours.

4.6.3 Safety Notes

1. People can survive much longer without food than they can without water. Survivors may want to drink salt water, alcohol or even urine if they are desperate enough. Do not allow this to happen.

2. Hold the food rations for the first 24 hours so that people will have time to adjust to the rolling motion of the survival craft and will not be as likely to get sick.
3. Water is necessary to aid the digestive process. If a high protein food such as fish is eaten without water, the survivor could suffer an upset stomach, vomit, and lose additional fluids as a result.
4. In a life raft, fresh water may be available from a rain catchment system on the canopy. Do not drink the first supply available, as it may be dirty or contain salt.

4.7 VISUAL LIFE SAVING SIGNALS

A variety of distress signals are stored on board in waterproof containers. Each signal has instructions for use on its casing. There are three There are three major types: rocket parachute, hand, and buoyant smoke.

Rocket Parachute Flares - This is the most common distress signal, which burns a bright red color for about 40 seconds at a height of 300
meters.

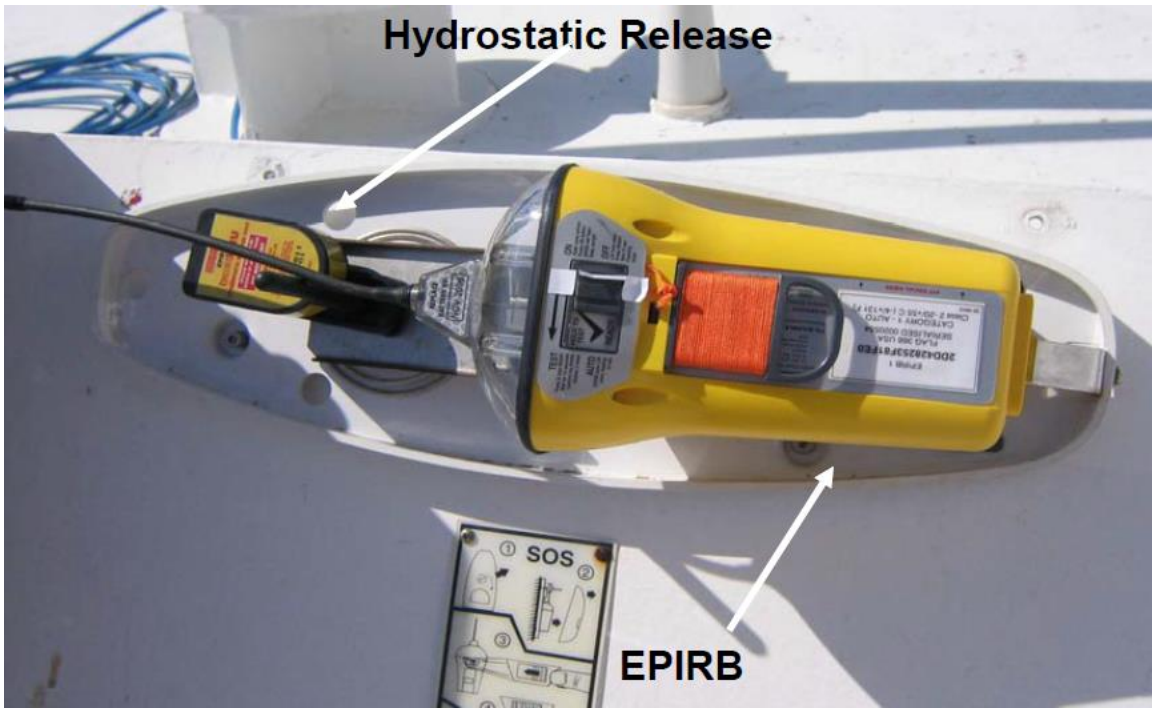
Hand Flares - These burn a bright red color for no less than one minute in open air or ten seconds when submerged in water. (The flare will not burn the holder if used properly.)

Buoyant Smoke Signal - This signal emits highly visible orange smoke for no less than three minutes on calm water or ten seconds when submerged in water.

Each life raft contains a waterproof copy of lifesaving signals for guidance.

4.8 COMMUNICATION

4.8.1 EPIRBS: Sundog and My Marie are equipped with EPIRB's which transmits a continuous distress signal on 406Mhz and are stored in a holder with a hydrostatic release.



When ordered by the master, turn on EPIRB per directions and bring with in the event of an abandon ship situation.

4.8.2 VHF Radios: Vessels are equipped with two VHF base stations and additional hand held marine vhf radios. Channel 16 is reserved for hailing and distress and 13 for commercial traffic. Emergency instructions are located at the helm to make an emergency "May Day" call.

4.8.3 Delorme In reach: Vessels may be equipped with a Delorme Inreach satellite communication device. This device can transmit a voyage track accessible from company website and be used to send operational and emergency text messages. The Master will be responsible for device use.

5. MAN OVERBOARD

5.1 MAN OVERBOARD GUIDELINES

Communicate this fact as quickly as possible to the Bridge and as many crew members as possible, using any means available. Shout "Man Overboard, starboard (or port) side!" Keep an eye on the person while pointing out their location to others. Do not leave for your assigned billet station until someone who also sees the person overboard relieves you.

While NOTIFYING THE BRIDGE is essential, it is also equally important to THROW A RING BUOY. Some Ring Buoys have a floating light attached that will activate and strobe when floating. The light can be a great asset for a victim in the water during the hours of darkness. Even if the ship is some distance from the person overboard, the ring buoy establishes the general direction of their position. The idea being that even if the person does not get to the ring it will drift at the same speed and direction of the person. As soon as possible, lookouts should be posted, keeping a constant watch of the person in the water. Ideally there will be several crewmembers alerted by the shout of MAN OVERBOARD, but each situation is unique. If you find yourself as the only witness to someone going overboard, communicate this quickly to as many crew members as possible, using any means available. The Ring Buoy and Light are thrown primarily to establish the search area. Spotting a person floating in the ocean, even in daylight with relatively calm seas, can be extremely difficult. Rough seas, strong winds, and darkness will reduce visibility drastically.

5.2 CONSIDERATIONS

1. There is a strong possibility that the retrieved victim could be suffering from shock, hypothermia and possibly injuries as well. See the First Aid section for further information on treating these conditions.
2. At the direction of the Watch Officer, throw a second ring or other equally visible object in the water. The second ring will provide another reference for steering and searching after the vessel has been turned around.

5.3 LIFE RINGS/BUOYS

Life buoys are constructed of buoyant material to assist a person who has fallen overboard to remain afloat and are also covered with retro-reflective to aid in locating the ring in darkness. Since an individual can support him/herself alone, the ring buoys can help anyone stay afloat for several days. They a constructed with a grab line secured on four points on the buoy and can withstand a drop into the water from a height of 30 meters. Some life rings are equipped with lights and lifelines.

6.0 DAMAGE CONTROL

Damage control drills provide crewmembers with opportunities to train for various methods of controlling flooding. There is equipment for responding to structural damage including a fixed bilge pump system, which is designed to remove water from the ship. There is also a portable pump that can be used either to

supplement the ship's fixed system or in the event of a loss of power. In case of an accident causing flooding, first response would be to

- Alert Bridge
- Remove all passengers from the damaged area
- Remove the bilge plates in each compartment and examine for any penetrations in the hull where water might be coming in.
- Try to find something that will help you restrict the flow of any incoming water
- Remain until you are relieved

7.0 FIRST AID/MEDICAL EMERGENCIES

Many different types of medical emergencies can occur on the ship. Some of these are the results of emergency situations (e.g. bleeding, burns, hypothermia, and smoke inhalation), while others may be patient specific (e.g. choking, heart attack, and seasickness). The summary that is provided in this manual is simply an overview of responses to certain common shipboard medical problems/emergencies. This information should supplement your First Aid/C.P.R. training. Refer to Red Cross First Aid, Emergency Response and CPR manuals onboard.

7.1 GENERAL PATIENT CARE CONCEPTS

- Do no harm. Do nothing that will make the patient's condition worse.
- Move the patient only if absolutely necessary.
- Talk to patients as though they can hear even if they appear to be unconscious, in respiratory arrest or cardiac arrest. Patients have reported being able to hear and see what is going on even when they appear to be unresponsive.

7.2 CAUTION

When approaching the scene of an accident or illness, it is important to protect yourself as the rescuer. Approach the scene with care. Dangers such as lack of oxygen in confined spaces, fire, electrical and chemical hazards may exist. A patient may have an infectious disease such as Hepatitis or AIDS. When handling or in contact with bodily fluids wear gloves and use barriers. These are available in onboard the First Aid kit.

UNIVERSAL PRECAUTIONS

ALL SUNDOG EMPLOYEES MUST OBSERVE UNIVERSAL PRECAUTIONS. THIS METHOD OF INFECTION CONTROL REQUIRES EMPLOYEES TO ASSUME THAT **ALL** BLOOD AND BODY FLUIDS ARE INFECTIOUS FOR BLOODBORNE PATHOGENS. PROPER PERSONAL PROTECTIVE EQUIPMENT SHALL BE USED WHENEVER ANY EMPLOYEE IS EXPOSED TO ANY POTENTIALLY INFECTIOUS FLUID OR MATERIAL.

The following section is not intended as a definitive work, but only as a supplement to emergency first aid courses and other reading.
NOTE: Coast Guard CFR 46 4.03-2 defines "An injury to a crewmember, passenger, or other person which requires professional medical treatment beyond first aid, and, in the case of a person employed on board a vessel in commercial service, which renders the individual unfit to perform routine vessel duties" as a "Serious marine incident" which requires mandatory chemical testing of "individuals directly involved" for evidence of drug and alcohol use. This requires the filing of form CG-2692B appended to form CG-2692.
NOTES ON SHIPBOARD PRACTICES: The Captain is responsible for the overall safety of everyone on board. The Master is the First Aid officer. When any injury or illness arises, the Master should be notified ASAP.

7.3 BLEEDING

There are four techniques used in the field to stop bleeding. They are listed here in the order they should be used; direct pressure, elevation, pressure points, and tourniquet.
1) Using your hand to apply direct pressure to the wound for a few minutes can stop almost all bleeding. (See CAUTION below). The gloved hand may be used, but a cloth or dressing is preferred, the cleaner the better. If the bleeding persists, the wound should be dressed and wrapped tightly with a bandage. These bandages should not obstruct circulation to the rest of the limb. The absence of pulse below the bandage, discoloration, tingling sensation and pain are all signs that the bandage is too tight.
2) If the flow of bleeding is not stopped by applying direct pressure, the limb should be elevated above the level of the heart.

3) Should elevation not stop the bleeding, you should apply pressure to one of four appropriate pressure points. Pressure points are located where the femoral or brachial arteries pass over the femur, or humerus on either arm or leg. Applying pressure to one of these points will reduce the flow of blood to the wound.
4) The tourniquet should be regarded as an extreme measure to save a life by sacrificing a limb and its use is almost never justified unless used to stop uncontrollable bleeding from a severed arm or leg. The tourniquet should be placed immediately above the amputation and secured by a knot. A small stick is tied on top of the knot and twisted until the bleeding stops, then tied or taped in place. Do not loosen a tourniquet until the victim is in a physician’s care.

CAUTION: Wear gloves and use barriers when handling or in contact with body fluids.

7.4 BURNS

The most common causes of non-fatal burns are scalds from hot liquids or foods, contact with hot surfaces, or exposure to certain kinds of chemicals.
Burns destroy layers of skin and are classified by the depth of the burn (how many layers of skin they destroy).
Superficial (1st degree) burns involve only the top layer of the skin. The burned skin is red, dry, painful, and may be accompanied by swelling.

Deep Burns (2nd or 3rd degree) may be red and have blisters that open and weep. Often the area around the burn becomes swollen.
Deep 3rd degree burns may destroy all layers of skin and underlying structures. They may look brown/black or charred with tissue underneath sometimes appearing white. The victim's age, general health, the total surface area of the body affected, and lastly the location of the burns may influence the overall severity of the injury.

TREATMENT
1) Cool the burn area with large amounts of cool water (NOT ice)
2) Remove clothing from the area unless it is sticking to the skin
3) Cover the burn with dry sterile dressing loosely bandaged into place (Do NOT apply pressure to the bandage)
4) Treat for infection. Do NOT put ointment or anything else except perhaps water on severe burns. For superficial burns use Silvadene.
5) Treat for shock.

7.5 HYPOTHERMIA

We usually relate the condition of hypothermia to victims who have been exposed to cold water, however, it can also occur under a variety of other circumstances that result in the loss of core body heat. This could be because of inadequate clothing during long term exposure to cool temperatures and the onset can be hastened using alcohol, the rapid evaporation of perspiration, hyperventilation, vomiting and the excessive loss of fluids.

SYMPTOMS

Victims are strikingly pale, frequently have generalized muscular rigidity, are shivering, and exhibit varying levels of consciousness and shock.

TREATMENT

The treatment for hypothermia will depend on the condition of the victim. Generally speaking, victims who are rational and capable of recounting their experiences, although shivering dramatically, merely need to have all their wet clothes removed and replaced with dry clothes or blankets. However, it is essential to keep in mind that even conscious victims can collapse and become unconscious shortly after rescue. Alcohol should be avoided at all costs.

In more serious cases, in which the victim is not shivering and is semi-conscious, unconscious or apparently dead, immediate first aid measures will be necessary:

1. Check Airway, Breathing, and Circulation.
2. Provide basic life support
3. If the victim is breathing but unconscious, make sure the airway remains open and is

not obstructed by the tongue or vomit.
4. Avoid all unnecessary manhandling; do not even remove wet clothes; do not massage.
5. Prevent further loss of heat through evaporation and from exposure to the wind. Wrap the patient in blankets, keeping the victim horizontal with their head slightly down.
6. In serious cases, rewarm at body temperature- body to body.

7.6 HEAT EMERGENCIES

Heat exhaustion and heat stroke are conditions caused by overexposure to heat. Heat exhaustion is less severe than heat stroke, but can quickly become serious if the symptoms are ignored. Heat stroke develops when the body systems are overwhelmed by heat and begin to stop functioning. This is a serious medical emergency.

SYMPTOMS

1) Heat exhaustion is characterized by cool, moist, pale or flushed skin, headache, nausea, dizziness, weakness and exhaustion.
2) Red, hot, dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing accompany heat stroke.

TREATMENT

When you recognize heat-related illness in its early stage, you can usually reverse it. For both heat exhaustion and heat stroke, it is imperative to remove the victim from the heat.
1) For heat exhaustion, remove the victim from the heat, remove excess layers of clothing, and have the person lay down. If the person is conscious, have them drink water or Gatorade, but do let them drink more than about one glass every 15 minutes.
2) For heat stroke, it is important to get the body temperature down by any means available. Remove their clothing, cover them with wet towels or sheets, and direct a fan towards them. Watch for signals of breathing problems and changes in consciousness. Keep the person lying down and continue to cool the body.

7.7 SHOCK

Shock must be anticipated and treated in every serious injury regardless of whether the symptoms are observed. It can be caused by fractures, internal or external blood loss, or any significant injury combined with cold or pain.
1) Symptoms include; weakness, pale and clammy skin, dilated pupils, eyes often vacant, nausea, shallow and irregular breathing, and pulse rapid and weak.
2) Treat for shock by lying the patient on his or her back, legs elevated, (unless there is a head injury or it causes pain or difficulty in breathing), maintain body warmth, and reassure victim. If conscious, you may give the victim liquids. Do not give any stimulants or alcohol.
3) It may be necessary to treat for shock before you actually know the cause of the

injury or accident in the case of an unconscious victim. Assume a neck injury in all cases unless circumstances make it appear very unlikely. Assume broken limbs and check them before moving the victim.

7.9 SPRAINS, STRAINS, AND BREAKS

Break – Any break in the continuity of the bone.
Dislocation – A disruption of a joint so that the bone ends are no longer in contact.
Sprain – A joint injury in which the joint is partially, temporarily dislocated and some supporting ligaments are either stretched or torn.
Strain – A stretch or tear of a muscle.
Fractures – A broken bone that is serious due to their associated blood loss and threat of infection. An open fracture is one that penetrates the skin.

SYMPTOMS

Fracture – Deformity, tenderness, swelling, exposed fragments, grating felt or heard from bone ends rubbing together.
Dislocation – Deformity of the joint, swelling, pain aggravated by movement, “locked” joint, tenderness of the joint.
Sprain – no dislocation. Most often seen with the knee and ankle. There may be tenderness, swelling, and the inability to use the extremity.

TREATMENT

If the break has caused an open wound, cover the wounded area with a dry sterile dressing and apply local pressure to control the bleeding. All sprains, dislocations, and breaks should be splinted to immobilize the area and reduce the risk of further damage during transport. We carry a variety of both rigid and air splints onboard for this purpose. Elevating and icing the limb can minimize swelling of the affected areas.

7.10 HEAD, NECK, & SPINE INJURIES / BACKBOARD IMMOBILIZATION

SYMPTOMS

Injuries to the head, neck, or back can damage bone, musculature and/or the Central Nervous System. It is usually difficult to determine the extent of damage in these injuries. You should assume that anyone who has fallen from a height greater than the victim’s height, a person found unconscious for unknown reasons or in water 5 feet deep or less, or anyone with any violent mechanism of injury, has suffered a head, neck or spine injury Other signs include a change in the level of consciousness, blood or other fluids draining from the ears or nose, nausea or vomiting, seizures, and/or combative or aggressive behavior.

TREATMENT

A serious head, neck or spine injury can cause a victim to stop breathing. It is vital to minimize movement of the head, neck and back. Maintain an open airway, control any external bleeding, monitor vital signs and symptoms of shock.

7.11 CARDIAC EMERGENCIES

Cardiac arrest is a condition in which the heart has stopped beating; a heart attack is a sudden illness involving the death of heart muscle tissue when it does not receive oxygen rich blood. This is also known as myocardial infarction, or MI.

SYMPTOMS

1) Persistent chest pain or discomfort ranging from uncomfortable pressure, squeezing, tightness, aching, to constricting or an unbearable crushing sensation in the chest. The pain is often felt in the center of the chest behind the sternum, but may spread to the left shoulder, arm, neck, or jaw. The pain is usually constant and is not relieved by resting, changing position, or taking medication, such as nitroglycerin.
2) The victim might have breathing difficulty or may be breathing faster than normal.
3) Generally, the pulse rate increases as a normal response to stress, fear, or the actual injury of the myocardium. You may also feel an irregularity of the pulse.
4) Blood pressure falls because of the diminished capability of the heart to pump.
5) The victim may feel nauseated and may vomit. Occasionally, there may be a bluish tint to the skin. The victim might comment on an overwhelming feeling of impending doom.

TREATMENT

1) Reassure the patient to calm them and provide comfort.
2) Take the patient's medical history, obtain and record vital signs. Monitor vitals closely, as a patient with an acute MI is always at risk for sudden cardiac arrest, in which case, CPR must be instituted immediately.
3) Position the patient in a comfortable position, usually sitting and well supported.
4) Administer oxygen by facemask.
5) Contact emergency medical personnel.

7.12 STROKE

A stroke is a set of symptoms and signs caused by any interruption of blood flow to the brain that lasts long enough to cause damage.
SYMPTOMS
Because there are at least three different causes of interrupted blood flow to the brain, there can be at least three different and distinct clinical pictures. The victim may experience a sudden, violent, severe headache, they may rapidly lose consciousness, or experience a sudden seizure, paralysis, or loss of consciousness without headache or pain. Regardless of its cause, a stroke may produce any of the following signs or

symptoms:
1) Paralysis of one or both extremities on one side of the body. Note which part of the body became paralyzed first, in case it spreads later.
2) Diminished level of consciousness, which may vary from confusion or dizziness to coma.
3) Difficulty with speech or vision, swallowing, and/or breathing.
4) High blood pressure with a slow pulse is often a sign of increased pressure on the brain tissue.

TREATMENT

1) Check and monitor vitals and victim's airway.
2) Assume that the victim is aware of their surroundings and conversations going on around them, even though they may appear to be unconscious.
3) The semi or unconscious victim should be positioned with the paralyzed side down and well protected with padding. The head should be elevated about 6 inches.
4) Provide oxygen by facemask.

7.13 DIABETES

Diabetes is a disease associated with the passage of large quantities of urine containing glucose. It is a condition in which the body does not produce enough insulin or is incapable of using the insulin effectively. The result is an imbalance of insulin and sugar in the bloodstream. Some people require insulin injections (Type I) to regulate them disease while others can control it by monitoring their diet (Type II).
There are two types of diabetic emergencies. A ***Diabetic Coma*** occurs when the insulin level in the body is too low and the body's cells become starved for sugar.
The other is ***Insulin Shock*** in which the patient's insulin level is too high for a variety of reasons; 1) Taking too much insulin, 2) Failing to eat adequately, 3) Over-exercising, or 4) Emotional or physical stress. Both emergencies can be life threatening.
SYMPTOMS
Signs of diabetic emergencies include:
1) Changes in the level of the patient's consciousness including dizziness, drowsiness and confusion
2) Irregular breathing
3) Abnormal pulse
4) Feeling or looking ill.
TREATMENT
For a conscious patient, give them sugar. If they have low blood sugar, this will reverse the process within several minutes. If not, it will do no additional harm. The conscious patient will often know what they need. If they are unconscious, monitor pulse and breathing and call emergency medical help.

7.14 SEASICKNESS

SYMPTOMS

Seasickness is largely attributable to the motion of the ship. Persons not accustomed to the sea are most susceptible, but even experienced sailors may be affected in rough conditions. Seasickness has nothing to do with how "good" of a sailor one might be. The effects of seasickness vary from a slight sense of nausea, dryness of the mouth, headache, weakness, and cold sweat to repeated vomiting. In severe cases, extensive vomiting can lead to loss of body fluid causing dehydration.

PREVENTION

Take an over the counter remedy (Dramamine, Meclizine, etc.) at least one hour before getting underway or before hitting rough water. Follow directions on the package for follow up doses. Some side effects of the drugs might be drowsiness (Dramamine seems to cause more drowsiness than Meclizine, but this varies from person to person) and dry mouth. Consult the Master for further information.

TREATMENT
In mild cases the condition will gradually wear off, usually during sleep. Try to eat small amounts of dry food, such as crackers, dry bread, or toast to settle your stomach. Only sip small amounts of liquid. Also, a reclined position with the eyes focused on a fixed distant point or closed diminishes the nausea. If it is going to be awhile before you can lie down, try to take fresh air breaks. Go outside for a few minutes and fix your eyes on horizon.

7.17 HELICOPTER RESCUE

There may be times when it is necessary to conduct boarding or evacuation by helicopter, as this may be the most expedient solution in remote operating areas. Radio communication will be on 2182 KHZ, VHF Channel 16, or another specified channel. The
following should be taken into consideration with helicopter operations:

Preparations on the vessel or survival craft

- All antennas and other obstructions should be lowered when possible.
- All loose gear, lines, etc. must be secured or removed from the weather decks.
- Uninvolved crewmembers and passengers are to remain below deck.
- Crewmembers participating in the helicopter operation should empty their pockets and must wear hearing and eye protection while on deck.
- All doors and windows must be closed.
- If in a survival craft, persons should gather in the middle of the craft or spread out evenly to keep the craft balanced.
- Those persons on a survival craft that are not involved with the operation should remain seated.

Pennants, flags or a piece of fabric can be used to help the helicopter determine wind direction. Do not use parachute flares. Keep an orange smoke distress signal at hand to indicate wind speed and direction for the pilot. Do not ignite the signal unless directed by the pilot.

- Do not shine lights directly at the helicopter, use vessel lights to illuminate decks and the working area.
- If the helicopter lowers a cable or hook, ***let the hook touch water or the deck to release the static electricity before touching it.***
- Ensure the cable or hook does not snag any deck equipment and do not tie the cable or hook to the vessel.

Hoisting

- If a stretcher or litter is lowered from the helicopter it should be detached from the lifting device during the strapping procedure. After the hoist basket or litter is lowered, move patient after ensuring the patient has PFD on and strap patient into litter tightly.
- Include patient information including medications given with patient.
- After strapping in securely and all is ready, signal hoist operator with a “Thumbs up” signal to haul away litter basket.
- Use the tag line attached to the hoist basket/litter to prevent the basket from swinging or spinning.

Hoist Equipment

Rescue basket - person should climb in and hold on while sitting.
Rescue net - individual should enter the opening and sit.
Rescue litter - strap the patient to the litter.

8.0 OIL POLLUTION

Sundog Charters is committed to protecting the environment in which it operates. Operations will be conducted in a deliberate manner proactively preventing oil spills. If spills occur, actions will be taken to control and contain and recover oil. Any deliberate or disregard of company policies or procedures designed to prevent spills will result in the immediate termination of employment.

8.1 OIL TRANSFER PROCEDURES (Post on Board)

The Vessel Master has overall responsibility for fuel transfers. They must know total tank capacities and on-board volumes before initiating a transfer. The Master will conduct a pre-transfer meeting with crew and the transferring facility to discuss rate and amounts of transfer, means of communication and emergency procedures. If any amount of fuel is observed to have spilled, transfer operations will end and cleanup efforts will begin immediately. In such an event, the Master will contact company personnel on shore to make proper notifications to State and Federal agencies.

Transfers will be conducted per the following checklist:

- ☐ Secure boat to the dock
- ☐ Switch off engine(s)
- ☐ Extinguish all open flames
- ☐ Do not use electrical switches
- ☐ No smoking
- ☐ All passengers must disembark vessel during fueling
- ☐ Conduct a pretransfer conference with all participants
- ☐ Establish and maintain a means of communication throughout transfer
- ☐ Ports, hatches, and doors closed
- ☐ Keep absorbent material nearby
- ☐ Make certain all passengers are ashore
- ☐ Determine quantity of fuel required and make sure it is the proper type of fuel
- ☐ Hold hose nozzle firmly against fill pipe opening. Do not leave unattended
- ☐ Do not overfill
- ☐ STOP FLOW OF FUEL LEAK OF ANY SIZE IS DETECTED
- ☐ Wipe up all spillage from coffer dams
- ☐ Open ports, hatches, and doors to ventilate
- ☐ Log fuel transfer amount, date, time and fuel provider

_____ is designated PIC for transfer. All participants understand their duties during transfer procedures:

Participant: Date:_____

_____ _____

_____ _____

_____ _____

8.2 Shipboard Oil Pollution Response

Spill kits including absorbent pads, boom, and oily waste bags are located on every vessel. Before attempting to cleanup spilled oil, employees must don proper PPE such as gloves, Tyvek suits or raingear and eye protection. Use of PPE and spill response tactics is taught in HAZWOPER classes provided by Sundog Charters.

9.0 SHIPBOARD SECURITY (Post Onboard)

Sundog vessels often operate at USCG regulated facilities under strict security regulations. Many facilities require TWIC cards for entry and a security orientation to be conducted before our employees can enter. Sundog Charters employees will abide by all facility regulations at all times.

The vessel Master will serve as the security officer and will ensure all crew are trained in security procedures. In general, all crewmembers of the Sundog and My Marie are expected to be familiar
with the following:

- Security responsibilities related to their position on board.
- An awareness of all designated restricted areas on board.
- An awareness of all procedures to control access to the boat.
- Their responsibilities to maintain proper identification badges.

9.1 MARSEC LEVELS

There are three maritime security levels (MARSEC Levels) which determine the level of security on board all ships. Each MARSEC Level is described below with its relationship to the Department of Homeland Security's color scheme.

MARSEC LEVEL	DESCRIPTION	HOMELAND SECURITY LEVEL
1	The level for which minimum appropriate protective security measures shall be maintained at all times	Low: Green Guarded: Blue Elevated: Yellow
2	The level for which appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a transportation security incident.	High: Orange
3	The level for which further specific protective security measures shall be maintained for a period of time when a transportation security incident is probable or imminent, although it may not be possible to identify a specific target.	Severe: Red

11.0 PREVENTATIVE HEALTH INFORMATION

While many preventative health practices are simply a matter of common sense, others are not as straightforward. Information about maintaining personal health and preventing occupational accidents is also provided to guarantee your health and welfare. A summary of Sundog Charters' policies on drugs and alcohol and general healthy work habits such as stretching, hand care, tool grips, etc. are enclosed as a reference.

11.1 GENERAL SHIPBOARD HEALTH

As crewmembers on a small vessel, your health will greatly affect co-workers and passengers. A virus can be spread throughout the ship in a short period and you will be in a direct line to contract or carry it. Good habits of personal hygiene are your best defense against contracting or passing along germs in this small environment.
Wash your hands thoroughly and frequently. Good shipboard health is primarily a matter of good hygiene practices and common sense.

11.2 NICOTINE

Nicotine poses a serious health risk for the person using tobacco as well as their coworkers.
The 1988 Surgeon General's Report entitled "The Health Consequences of

Smoking: Nicotine Addiction" drew the following major conclusions:
a) Cigarettes and other forms of tobacco are addictive.
b) Nicotine is the drug in tobacco that causes addiction.
c) The pharmacological and behavioral processes that determine tobacco addiction are like those that determine addiction to drugs such as heroin and cocaine.
d) Nicotine has a powerful effect on the brain and central nervous system. When smokers inhale, nicotine goes into their lungs and bloodstream. Within 7 seconds, a significant portion of the nicotine has traveled through the bloodstream directly to the brain.
e) Nicotine causes an increase in the heartbeat and in the rate of breathing. The blood vessels constrict and peripheral blood circulation slows. It spurs an increase in the consumption of oxygen, thereby making the heart work harder.
f) Smokers develop a tolerance to nicotine. This means that, up to a point, they need increasing doses to achieve the same effect. This pattern of tolerance is characteristic of dependence on alcohol, sedatives, stimulants and narcotics.
Per the American Lung Association cigarette smoking is the leading cause of preventable disease and death in the United States. It is a major cause of emphysema, chronic bronchitis, lung cancer and heart disease. In addition, smokers have twice the accident rate of nonsmokers on the job. Suggestions about the reasons for this include loss of attention, the fact that a person's hands may be busy with the activity of smoking, irritation of the eyes and coughing. Higher carbon monoxide levels caused by smoking may lower alertness and reflex speed. Smoking can also contribute to fire and explosions in occupational settings where flammable and explosive chemicals are used.

According to the American Cancer Society, about half of all Americans who continue to smoke will die because of the habit. Each year, a staggering 435,000 people die in the US from tobacco use. Nearly 1 of every 5 deaths is related to smoking. Cigarettes kill more Americans than alcohol, car accidents, suicide, AIDS, homicide, and illegal drugs combined.

11.3 GUIDELINES TO HEALTHIER WORK HABITS

1) Most proper body mechanics are common sense. The information provided here should act as a supplement to prior training. It will help prepare crew members to the work duties encountered aboard ship. The techniques mentioned here might appear obvious and repetitive to those who use them already in which case they should only be observed as a reminder.

Working in Rough Seas
Proper body mechanics in rough seas will be a bit of an adjustment for those not used to rocking conditions.

- If necessary, wedge yourself against the bulkhead (wall).
- Keep your center of balance low – i.e. don't carry heavy items
  Don't hang onto a door or an object that could move or swing.
- In turn, watch out for objects that move or swing - such as cabin doors, medicine cabinets, storage closet sliders, items that are not secured
- "Anchor" your working tools

- When possible, keep one hand free at all times

Line Handling/Anchor Hauling

When bringing in lines or tightening them:

- Be sure to keep your elbows at your side.
- Knees slightly bent
- Keep you back flat.
- Use a hand-over-hand pull
- Don't over extend your arms.

When pulling up the fenders over the railing, position your legs at shoulder length in a "stepping position" and keep knees slightly bent.

Lifting is one of the most stressful work activities, especially if the correct body mechanics are not used. Follow these tips for good lifting habits:
a) Size up the load. Don't try to lift if alone if you think it is too heavy. Check for tripping hazards on the deck.
Make sure your feet are secure. One foot should be ahead of the other to have good balance. Many injuries, such as muscle pulls, occur from losing balance.
c) Bend your knees and crouch, keeping your back as straight as possible. Spread your knees apart or lower one knee to get closer to the load. Keep your arms in close. Good leverage is the key.
d) Now start pushing up with your legs. Keep the load close to your body as you come up and keep your back straight.
e) Lift the load to the carrying position. If it is necessary to change direction when standing, be careful not to twist your body.
f) In lowering the load to the floor, bend your knees. Keep your back straight with the load close to your body, lowering it with the arm and leg muscles.
4) It is important to practice good hand and wrist mechanics to reduce the risk of musculoskeletal disorders, such as carpal tunnel syndrome and tendonitis. Here are some guidelines regarding proper hand and wrist placement.
1. Keep the wrist in a neutral position whenever possible. Avoid flexing the hand (hand bent downward) or extending the hand (hand pulled upward). For example, when pouring coffee or using a paint brush, use a neutral hand position.
2. Use the whole hand and all fingers to grasp an object when possible. Placing a large amount of pressure on the thumb and index finger increases the pressure in the carpal tunnel of the wrist. For example, when using a knife to chop or cut, use the large muscles in your upper body as well as your hands.
3. Minimize repetitive motions. Avoid holding an object in the same position for an extended period of time.
4. By whatever method, give the hands frequent rest during heavy activity periods. This may entail alternating easy and hard tasks, switching hands or rotating work activities.
5. Reduce the speed and force with which a task is done when possible. Reducing

speed affords rest for the wrist during peak activities. For example, when loading provisions or laundry, pass the boxes or bags in a slow and controlled manner.
5) Slips, trips and falls can be a serious hazard on a ship. Even without factoring in the motion of a vessel, many people on shore fall on level ground, mostly because they slipped or tripped on wet or worn surfaces. Here are some tips on how you can prevent slips and falls.

a) Don't run up or down stairs. TAKE YOUR TIME.
b) Use the railings. Remember the old adage, one hand for you, one hand for the ship.
c) Don't block your vision by carrying a load that is too large.
d) Check to make sure that stairwells are not blocked with obstructions.
e) Do not run anywhere on the ship.
f) Clean up spills, drips and leaks immediately.
g) Report any hazards immediately.

11.6 ACCIDENT, INJURY, AND ILLNESS REPORTING

In the event of an accident, injury or incident involving a crew member, injury to a passenger, or the damage of any property, Management should be notified immediately by the Master.

All illnesses and injuries, regardless of severity, must be reported to your supervisor immediately.

There are Coast Guard regulations requiring the reporting and the mandatory chemical testing of individuals involved following a "serious marine incident". (CFR 46 4.06).
One example of a "serious marine incident" requiring chemical testing for drugs and alcohol is described as follows:
"An injury to a crewmember, passenger, or other person which requires professional medical treatment beyond first aid, and, in the case of a person employed on board a vessel in commercial service, which renders the individual unfit to perform routine vessel duties."

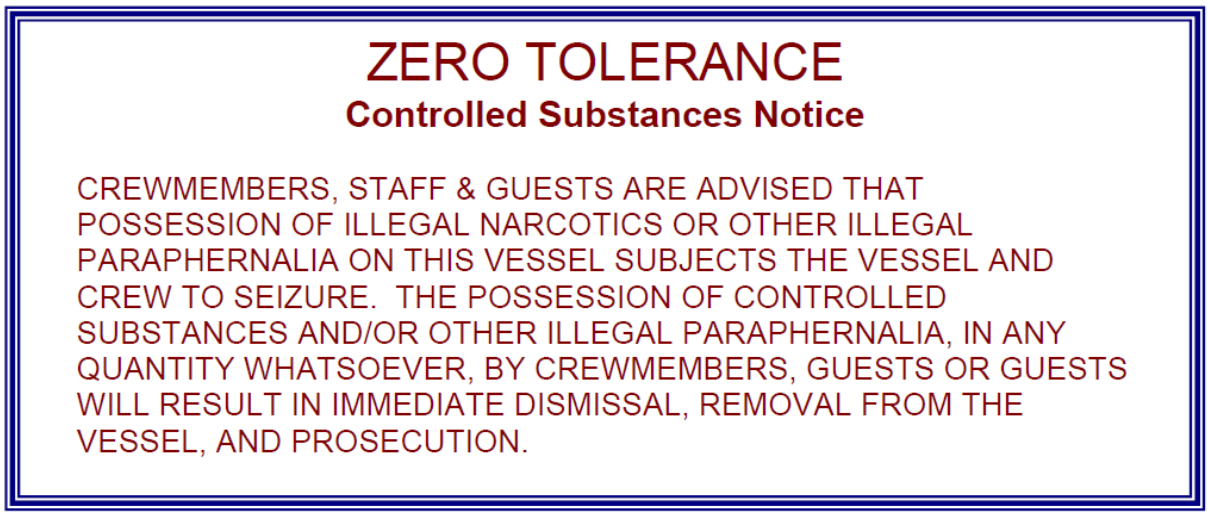
12.1 DRUG POLICY AND TESTING

The Company has adopted a ZERO TOLERANCE policy for the possession and/or use of illegal narcotics or other illegal paraphernalia by crewmembers, staff, and guests. Possession of illegal narcotics and/or illegal paraphernalia in any quantity will result in immediate dismissal, removal from the vessel, and prosecution.
The use of legal prescription drugs is permitted only if it does not impair an employee's performance. Any crewmember who is taking prescribed narcotics must report this immediately to the Captain. The Captain may take such action to control the narcotic including keeping the medication locked in their cabin. They may also place the crewmember on restricted duty up to and including placing the crewmember on shore leave.

As a condition of initial employment in accordance with U.S.C.G. requirements, crew members will be subject to pre-employment testing to detect use of drugs. A positive test will result in the refusal to hire. All employees whose drug test results are negative but low in creatinine and low specific gravity will be retested immediately. Information about the testing procedures will be provided prior to testing.
Also, in accordance with the above-mentioned regulations and policy, drug testing will also be conducted regardless of the location of the vessel in domestic or foreign waters:
1. At random,
2. In the event of a serious marine incident or
3. For reasonable cause as determined by the marine employer.
Refusal to submit to testing in either of these events, or a positive test, will result in discharge. These regulations are available on board ship for your review upon request to the Captain.
Chemical testing for dangerous drugs includes analyzing each specimen in accordance with 49 CFR 40.29, which requires testing for -

- Marijuana;
- Opiates;
- Phencyclidine (PCP);
- Amphetamines
- Codeine/Morphine; and
- Heroine

If an individual holding a license, certificate of registry, or merchant mariner's document fails a chemical test for dangerous drugs, Sundog Charters shall report the test results in writing to the nearest Coast Guard Officer in Charge, Marine Inspection (OCMI) and they shall be subject to suspension & revocation proceedings against their license, certificate of registry, or merchant mariner's document. The following statement of our policy is posted in clearly visible locations normally accessible to passengers and crew:



12.2 ALCOHOL POLICY AND TESTING PROGRAM

The personal consumption of alcohol by crewmembers working aboard Sundog Charters' vessels is strictly controlled. Consuming alcohol while employed as a crewmember requires a high degree of responsibility. It is paramount for the safety of the ship and everyone aboard that these policies and procedures be strictly followed and enforced. Failure to abide by these policies jeopardizes the safety, efficiency and reputation of the entire operation.
As stated in US 33 CFR 95.045, crewmembers shall not perform or attempt to perform any duties within four hours of consuming any alcohol; shall not be intoxicated at any time; and shall not consume any intoxicant while on watch or duty. To clarify intoxication, 33 CFR 95.020 states an individual is intoxicated when they have a blood alcohol concentration (BAC) of 0.04 % by weight or more in their blood.

Company housing will be "dry"; free from alcohol unless otherwise determined by management. Violation of this policy may result in termination of employment.

In the event of a serious marine incident, all onboard personnel will, as soon as it is safe to do so, be administered alcohol test kits and results will be documented.

13.0 OCCUPATIONAL HAZARDS

As an employee, you have the right to know what materials and activities may pose a threat to your health and safety. Some examples of hazardous materials such as corrosive chemicals and hazardous activities such as hot work are discussed for your information. The types and purposes of Personal Protection Equipment (PPE's) and safe practices are also listed for your reference. The Master of the vessel has more detailed information about Sundog Charters' occupational safety and health program.

13.1 SAFETY AND HEALTH

Sundog Charters has an obligation to protect the integrity of the owner's human, physical and financial assets and resources. We recognize our responsibility to manage our business in such a way that these assets and resources are managed effectively. Accordingly, it is Sundog Charters' policy to:
1. Furnish work places that are free from recognized hazards, which are likely to cause death, injury or illness.
2. Recognize the priority of safety and health factors where there is competition with economic factors.
3. Train employees in safe work procedures and require compliance with safety procedures.

13.2 PERSONAL PROTECTIVE EQUIPMENT PROGRAM

Sundog Charters provides a variety of Personal Protective Equipment (PPE) designed to prevent employee exposure to unsafe equipment and situations.

Employees must be aware that the use of this equipment does not eliminate the hazard. If the equipment fails or is used improperly, exposure will occur. To reduce the possibility of failure, equipment must be properly fitted and maintained in a clean and serviceable condition.

Selection of proper PPE for a job is important. An employee should always consult the M.S.D.S prior to beginning any job. The M.S.D. informs the employee as to which PPEs will work for a specific chemical. Employees must understand the equipment's purpose and its limitation. The equipment must not be altered or removed even though an employee may find it uncomfortable. Employees should consult their supervisor if they have any questions or concerns about the availability and use of PPE. The following list provides a description of many of the items of PPE available aboard company vessels and a short description of many (but not all) tasks that would require their use.

13.2.1 Hand Protection

• Latex gloves must be used for cleaning or exposure to body fluids
• Latex or rubber gloves will be used when handling hazardous chemicals
• Work gloves shall be used when handling wire rope and mooring lines

13.2.2 Eye and Face Protection

Safety glasses or goggles shall be worn when flying particles may cause eye injury; chipping, grinding and wire brushing require the use of eye protection.

Goggles

- When a serious hazard exists from flying particles, a face shield should be worn over the glasses or goggles for added protection.
- Goggles and/or a face-shield will be used for protection against bloodborne pathogens when the risk of spraying or spattering body fluids is present.
- Goggles and/or a face-shield shall be used when handling hazardous chemicals. Full facial protection is required when handling corrosives.

Note: Employees should wear appropriate shaded eyewear with a UV protection rating when necessary.

13.2.3 Hearing Protection

Earplugs or earmuffs should be worn when employees are exposed to noise levels in excess of 85 decibels.

13.2.4 Drowning Protection

A Coast Guard approved Personal Flotation Device (PFD) must be worn when there

is a danger of falling into the water. Sundog's vessels carry several types. Crewmembers should wear a USCG approved Type III work vest when operating small boats or working on deck.

13.2.5 Head Protection

A hardhat must be used whenever working around the crane or when working in an area where the risk of an overhead hazard exists.

13.2.7 Foot Protection

Steel-toed shoes/ boots must be worn at all times while on duty. Steel toe rubber work boots such as Extra Tuffs are highly recommended and are required when launching boats and landing on shore.

13.3 HAZARD COMMUNICATION PROGRAM (HAZCOM)

The Company Hazard Communication Program is provided to inform employees of potentially dangerous substances in the workplace, to prevent over exposure and to provide procedures to be followed if exposure occurs. Hazardous materials may pose either a potential physical hazard (fires, explosions, violent chemical reactions) or health hazard (illness or injury when inhaled, ingested, or absorbed through the skin.)
It is the responsibility of the manufacturers of hazardous materials to determine the material's potential for hazard and to communicate that information to the end-user through the use of labels and Material Safety Data Sheets (MSDS's).
Sundog Charters' HAZCOM program consists of four parts:

1. Part One- Identification of Hazardous Materials aboard the vessels.
   Part Two- Proper Labeling of Hazardous Materials.
2. Part Three- Ensuring MSDS's are available on board the vessels for the review of vessel personnel.
2. Part Four- Training of all vessel personnel.

Sundog has developed the following Hazard Communication Program in order to protect employees against hazardous chemical exposure. The potential hazards of chemical in use on Sundog Charters' vessels are evaluated, and information concerning these hazards and appropriate protective measures are communicated to affected employees.
Information concerning chemical Sheets" or MSDS's. The sheets can be located on vessels in marked binders. Each Sheet has at least seven sections. There may be up to twelve sections depending on the type of chemical. The seven standard sections are:

Section 1: Material Identification & Hazard Components hazards is available through "Material Safety Data

This section identified the substance by trade, common and/or chemical names, and lists all ingredients that have been determined to be health hazards.

Section 2: Physical/Chemical Characteristics

This information gives information on what the chemical is like and how it behaves. It lists data such as boiling point, vapor pressure, vapor density, water solubility, specific gravity, evaporation rate, and also indicates if the chemical is water reactive.

Section 3: Fire and Explosion Hazard Data

This section lists physical properties that indicate the relative flammability and volatility of the material. Information such as flash point, auto-ignition temperature, flammable limits in air, extinguishing media, fire-fighting procedures and unusual fire and explosion hazards are listed.

Section 4: Reactivity Hazard Data

Section four indicates the chemical properties of the material and gives information on stability, incompatibility, hazardous decomposition products, and hazardous polymerization.

Section 5: Health Hazard Data

This section is considered one of the most important sections for the average employee to be familiar with. It lists the primary route of entry into the body, indicates if the material is a carcinogen, gives acute and/or chronic effects of exposure, describes medical conditions aggravated by exposure, and gives signs and symptoms of exposure and first aid procedures.

Section 6: Control and Protective Measures

This is another very important section for employees to be familiar with. It lists the types of personal protective equipment and protective measures to be taken when handling the material.

Section 7: Precautions for Safe Handling & Use/Leak Procedures

Section seven indicates emergency measures to be taken for spills or unintended release of the material. It also lists waste disposal methods and precautions to be taken in handling and storage.
Federal regulations require labeling of certain hazardous materials. Packages, cans, bottles, drums or other containers requiring labeling must be marked or have a label affixed to the surface of the container. The nine Classes of Hazardous Materials and examples are:

1. Explosives - pyrotechnic devices (flares)
2. Gases - subcategories: flammable, non-flammable, poison, irritant.
   Common gases may have their own specific label: chlorine, ammonia, and oxygen.

3. Flammable liquids - (also includes combustible liquids) - gasoline, diesel fuel, alcohol, paints, solvents, etc.
4. Flammable solids - aluminum shavings and dust, magnesium in flares.
5. Oxidizers - organic peroxides, oxygen.
6. Poison and Infectious Substances - biohazard material, insect sprays.
7. Radioactive Substances - not normally carried on Sundog's vessels.
8. Corrosives - OSPHO, battery acid
9. Miscellaneous Dangerous Substances - also known as "ORM's" (Other Regulated Materials).

13.4 Watch Time

Vessel operators may not stand watch more than 12 hours with in a 24-hour period except in an emergency or when life or property are endangered.

13.5 Safety Orientation

Before getting underway, the master will conduct a safety orientation for all personnel onboard to include the following:

- ✓ Vessel Layout
- ✓ Vessel Safety and Survival Equipment Location and Use
- ✓ Emergency Instructions
- ✓ Emergency Station Location and Assignment
- ✓ Specific Duties/Procedures During Emergencies (Station Bill)

An Orientation Checklist, Safety Equipment Location Worksheet, sample emergency instructions, Station Bill template and Safety Orientation Log are included within this guide and are to be completed or referenced during orientations.

13.6 Passenger Count and Vessel Activity Documentation

The master shall keep a correct count of all passengers received and delivered. The total number of passengers shall be provided to the Coast Guard upon request.

Passenger counts and vessel activities are to be documented using the Vessel Log sheet included within this guide.

13.7 Pre-Work Safety Meetings and Job Safety Analysis

Prior to the beginning of a new shift, crews will conduct a pre-work safety meeting to discuss upcoming tasks and work plans. The Master will brief all crew regarding voyage plan, cargo transfer, fuel transfer or other tasks. All tasks beyond day to day duties (vessel mooring, anchoring, etc.) will be recorded on Job Safety Analysis forms (JSA's) to determine hazards, mitigation measures, PPE and work procedures. JSA's will be

made available for reference and will be followed by participants. Participants not adhering to work procedures or not wearing proper PPE may face disciplinary action.

14.0 Waste Disposal

There are many environmental considerations onboard in addition to the Oil Spill Response requirements reviewed earlier. There are proactive environmental programs onboard that aim to reduce waste, reduce toxicity of products used onboard, increase recycling, and support activities that reduce our impact on the environment. For additional information consult the Master.

14.1 WASTE MANAGEMENT PLAN

MARPOL is the international maritime pollution regulations. The Master shall ensure that the vessel is operated in accordance with the provisions of MARPOL Annex V and the U.S. Code of Federal Regulations (33 CFR 151.51-77).

The Master will ensure that all crew members and expedition staff have been oriented to the requirements of this Plan, and that all employees are specifically shown the MARPOL placard and instructed to retain all waste on board the vessel. This is done during completion of each crewmember's initial Familiarization Checklist. Passengers shall be informed of the prohibition of disposal of any waste, especially plastics, overboard.

Waste shall be routinely collected from all areas of the ship and placed in the garbage bin or appropriate recycling containers on the fantail. Discharge of all garbage into the sea is prohibited. Garbage is defined as all kinds of food wastes, domestic wastes and operational wastes, all plastics, cooking oil, and animal carcasses. Food wastes may be dumped while the ship is en route and as far as practical from the nearest land, but in any case, not less than:

- 3 nautical miles from the nearest land for food wastes which have been passed through a comminuter or grinder. Such food should be capable of passing through a screen with openings no great than 25mm. However, Sundog Charters' vessels do not currently have a method to grind food in such a way.
- 12 nautical miles from the nearest land for food wastes that have not been treated as stated above and are not in special areas.

En route means that the ship is underway at sea on a course or courses, including deviation from the shortest direct route, which as far as practicable for navigational purposes, will cause any discharge to be spread over as great an area of the sea as is reasonable and practicable.

The Captain shall ensure that every effort is made to reduce waste generated on board. This may include buying items in bulk to avoid the purchase of individually wrapped items. The quantity and presentation of food items should be calculated in such a way as to reduce waste.

A record of all discharges of garbage, at sea or ashore, shall be maintained in the MARPOL Garbage Logbook maintained by the Master. This record of garbage discharges must be prepared at the time of the operation, and certified as correct by the Master.

15.0 Safety Inspection

Vessels will be inspected prior to getting under way to ensure all mandatory safety equipment is onboard. Findings will be noted in the Pre-Departure checklist.

15.1 Inspection of Mechanical Systems

These tests/inspections will be documented daily using a Pre-Departure Checklist and Vessel Log sheets.

16.0 Crew Training

Crew and captains will receive cold water survival training and vessel procedure training prior to working onboard any vessel. Training will be conducted referencing AMSEA training guidelines and marine industry practices. Employees involved with oil spill response will receive, at a minimum, 8-hour site specific HAZWOPER training.

Training will be documented and records will be kept by management.

17.0 Responsibilities of Vessel Master

Vessel Masters have overall responsibility for vessel, passenger and crew safety. They will ensure that policies and procedures listed herein are followed, vessels are navigated safely, crew members have received an initial orientation, are listed on a Station Bill and are aware and capable of performing their duties. They will utilize all available resources (not and exhaustive list); Safety and Health Management System, charts, electronic navigation aids, RADAR, look outs, Coast Pilot, tide information and onboard checklists.

17.1 Documentation

Masters on shift will use vessel log sheets to document vessel activity. Vessel location will be logged no less than hourly. Prior to getting underway, tide, weather, fuel, cargo, passenger and crew details will be logged as well.

17.2 Chain of Command

Although Masters are responsible for overall vessel safety, they will follow Company policies and procedures unless unsafe to do so. They will report to the General

Manager and/or Operations Director as directed. Individual projects and charters will have a stated chain of command prior to the initiation of operations. When two shifts are necessary on one vessel, one master will have delegated overall lead and will leave standing or night orders for the second captain. This is intended to maintain continuity of operations and avoid ambiguity of command. It is the head captain's responsibility to interact with Management providing updates on a daily basis.

APPENDIX:

The following reference documents should remain onboard all vessels

VESSEL ORIENTATION FOR NEWCOMERS

Show Vessel Layout

Show Vessel Safety and Survival Equipment

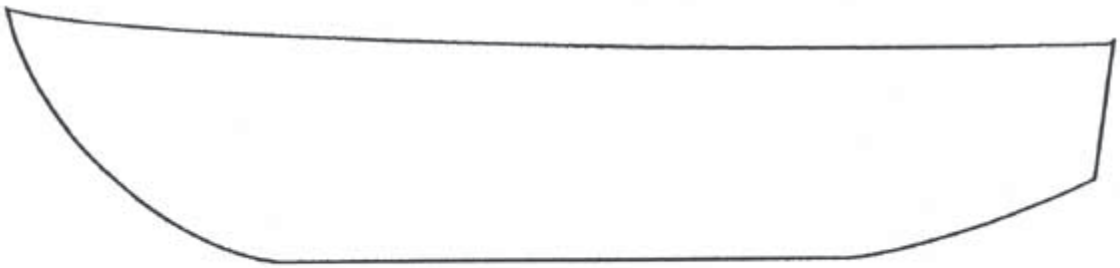
__Immersion suit/PFD: need, stowage, fit, donning
__Life raft/survival craft: need, location, function, deployment, what not to do
__EPIRB: need, location, function, deployment, what not to do
__Radio(s): need, location, function, use
__Electronic position fixing devices: function, how to find position
__Flares: need, location, function, use, what not to do
__Fire extinguishers: location, function, use, what not to do
__Other equipment: line thrower, person overboard recovery gear, first aid kit, etc.
__Engine: on/off, steering, gear selection, etc
__Shut off and crossover valves
__Alarms: what they are; what they mean; reporting inoperative alarms
__Entrapment: exit routes
__Hazards: hatches, winches, machinery, lines, slippery areas, etc.
__Hypothermia recognition and treatment
__Drug and alcohol policy
__Placards: report all injuries; report all malfunctions; waste disposal
__Emergency instructions: both posted and in book

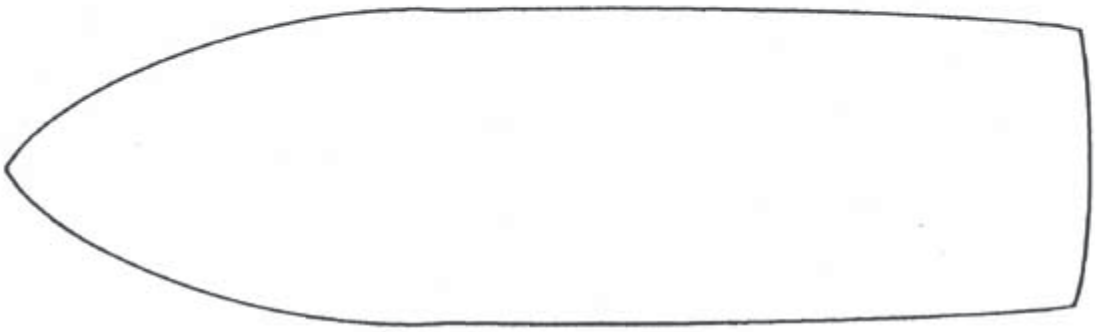
Emergency Assignments (Station Bill) – Each Crewmember's Specific Duties in:

__Abandoning the vessel
__Fighting fires in different locations onboard the vessel
__Recovering an individual from the water
__Minimizing the effects of unintentional flooding
__Launching survival craft and recovering lifeboats and rescue boats
__Donning immersion suits and wearable PFDs
__Donning fireman's outfit and self-contained breathing apparatus (if so equipped)
__Making a voice radio distress call
__Using visual distress signals
__Activating the general alarm
__Reporting inoperative alarm systems and fire detection systems

EMERGENCY EQUIPMENT AND ABANDON SHIP FOR

F/V_____





Codes to Use:

E	EPIRB
R	Radio
PFD	PFDs
FEX	Fire Extinguishers
ABSTA	Abandon Ship Station
ISUIT	Immersion Suits
O	Life Rings
RAFT	Life raft
FL	Flares

EMERGENCY ASSIGNMENTS

Note: Alternate signals may be determined and practiced by vessel operator	**PERSON OVERBOARD** Signal: 3 long blasts repeated at Least 4 times	**FIRE** Signal: 1 long continuous blast not less than 10 seconds	**FLOODING** Signal: 1 long continuous blast not less than 10 seconds	**ABANDON SHIP** Signal: At least 7 short blasts followed by 1 long blast
Position/Name	**Station/Bring/Duty**	**Station/Bring/Duty**	**Station/Bring/Duty**	**Station/Bring/Duty**
Captain				
Crew				
All Others				

DISTRESS BROADCAST

• Make sure communications equipment is on.

• Select 156.8 MHz (VHF channel 16), 2182 kHz or other distress frequency used in your area of operation. Note: VHF channel 16 and 2182 kHz are for emergency and calling purposes only.

• Press microphone button. Speak slowly, clearly and calmly. Say:

MAYDAY, MAYDAY, MAYDAY

This is the F/V____ , F/V___ , F/V___ . Over.

• Release microphone button briefly and listen for acknowledgement. If no one answers say:

MAYDAY, MAYDAY, MAYDAY

This is the F/V____ , F/V____ , F/V___ .

My position is . (Use latitude/longitude, nearby landmarks, distance from known points, LORAN readings, etc.) Repeat three times.

I am_____ .(Sinking, on fire, listing, etc.)

I estimate that I can stay afloat_____ hours/minutes.

I have _____persons on board.

My vessel is a _____type of vessel, _____feet long, has a____color hull_____ with color trim, and masts.

I will be listening on channel_____ .

This is the F/V_____ . Over.

• Release microphone button. If situation permits, stand by the radio to await further communications with the Coast Guard or another vessel.

• If no answer and situation permits, try another channel and repeat.

DONNING IMMERSION SUITS

Your life may depend on your ability to quickly don an immersion suit in an emergency, so it makes sense to have done it before. Monthly practice should reduce your donning time from minutes to seconds.

Practice donning the suit while sitting on deck. Vessel movement or list often prevents donning while standing.

Sit on the deck and work your legs into the suit, leaving boots or shoes on if possible. Placing plastic bags over your boots or shoes may make suit donning easier. Wear or bring extra warm clothing if possible. Pull the hood over your head, then place one arm into each sleeve of the suit and reset the hood on your head.

OR

Place your weaker arm into the sleeve of the suit.

Then reach up and pull the hood over your head with your free hand. Then place your strong arm into the sleeve of the suit.

Hold the zipper below the slide with one hand, and fully close the zipper by pulling on the lanyard. Then secure the flap over your mouth.

<u>WARNINGS</u>

- To prevent possible injury, do not inflate the air bladder until you are in the water.
- Ease or lower yourself into the water. Jump only if necessary.
- Beware of snagging on gear.
- Keep the hood on – it could save your life.

EMERGENCY INSTRUCTION FOR ANCHORING

1. Choose a location with protection from the wind and seas if possible, and with a suitable bottom.

2. Anchor in a maximum water depth of feet or_____ fathoms. (Note: This vessel has_____ feet or_____ fathoms of line/chain.)

3. Approach the anchorage location slowly and head the bow into the wind or current, whichever is stronger.

4. When the vessel starts to back slowly, ease the anchor to the bottom.

5. Quickly pay out a scope of five (in good weather) to 10times (in bad weather) times the water depth in anchor line/chain. Secure the anchor line/chain. If drift is not rapid, back down with minimum power to set the anchor.

6. Maintain an anchor watch to feel the anchor drag and look out for any vessel drift. Be prepared to get underway if vessel drags anchor.

PERSON OVERBOARD

1. Throw a ring life buoy or flotation as close to the individual as possible.

2. Post a lookout to keep the individual in the water in sight and communicate the distress and position to the pilothouse.

3. Pilothouse watch to sound alarm and maneuver as necessary. Mark position electronically.

4. Launch a rescue boat or platform to recover the individual, if appropriate.

5. Have a crew member put on a PFD or immersion suit, attach a safety line to the crew member and have crew member stand by to enter the water to assist in recovery if appropriate.

6. If individual overboard is not immediately located, notify the Coast Guard and other vessels in the vicinity; and continue searching until released by the Coast Guard.

UNINTENTIONAL FLOODING, ROUGH WEATHER AT SEA, CROSSING HAZARDOUS BARS

Signal: 1 long continuous blast not less than 10 seconds.

1. If unintentional flooding: notify pilothouse immediately to sound alarm & call Mayday.
2. If rough weather at sea or crossing a hazardous bar is anticipated, notify the entire crew.
3. Close all watertight and weather-tight doors, hatches, ports, and air vents to prevent taking water aboard or further flooding in vessel.
4. Keep bilges dry to prevent loss of stability due to water in bilges. Use power driven bilge pumps, hand pumps, fire pumps and buckets to dewater.
5. Check all intake and discharge lines that penetrate the hull for leakage. All crewmembers should know the location and operation of all through-hull lines.
6. On a small vessel, crew should keep their collective weight evenly distributed.
7. Personnel should don immersion suits/PFDs if the going becomes very rough, the vessel is about to cross a hazardous bar, or when otherwise instructed by the master or individual in charge of the vessel.

WARNING

If immersion suits/PFDs are worn inside the vessel, their buoyancy may hamper escape during a sudden capsizing.

FIRE

1. Notify pilothouse immediately to sound alarm and call Mayday.
2. Shut off air supply to fire: close hatches, ports, doors, vents, etc.
3. De-energize electrical systems supplying the affected space, if possible.
4. Assemble portable firefighting equipment.
5. Account for personnel and fight fire. Do not use water on electrical fires.
6. If fire is in machinery space, shut off fuel supply and use fixed extinguishing system if appropriate.
7. Maneuver vessel to minimize effect of wind on the fire.
8. Move survival gear that could be damaged by fire.
9. Check adjoining spaces to prevent spread of fire.
10. Once fire is extinguished, begin dewatering to avoid stability problems.
11. If unable to control fire, notify Coast Guard and nearby vessels. Prepare to abandon ship.

ABANDON SHIP

1. Preparations should include the following as time and circumstances permit:

    a. General alarm and mayday

    b. All personnel don immersion suits/PFDs and warm clothing

    c. Prepare to launch life raft; attach sea painter to vessel above weak link

    d. Get abandon ship kit including signals (EPIRB, flare signal smoke, flashlights, hand-held radios, etc.), first aid kit, water and food

    e. Gather other useful items

2. Meet at abandon ship station

3. When sinking is imminent or when remaining onboard is inappropriate:

    a. Close watertight openings

    b. Launch and board life raft

    c. Keep sea painter attached to vessel but be prepared to cut it immediately if there is risk to raft or if vessel begins to sink

    d. Activate EPIRB and begin Seven Steps to Survival

SEVEN STEPS TO SURVIVAL

In a survival situation, the decisions you make will be more important than the equipment you carry!

MAKE THE DECISION TO LIVE. FOLLOW THE SEVEN STEPS:

Recognition: Admit that your life is in danger. Act!

Inventory: Decide what can help and hurt. Do first aid.

Shelter: Preserve body heat with materials that insulate and protect you from the environment.

Signals: Help rescuers find you.

Water: Find a safe source. Drink two to four quarts a day.

Food: After you are safe and warm, food will help the long wait.

Play: Stay busy and keep a positive mental attitude.

Caution and creativity are your best friends . . . Use them!

SAFETY ORIENTATION LOG

FOR

Vessel:_____

This certifies that I have read and received a safety orientation briefing on this v

Date	Printed Name	Signature

This certifies that I have read and received a safety orientation briefing on this vessel including the instructions, emergency assignments and diagrams contained herein and understand the above.

Vessel Activity Log

Vessel:_____

Date:	Area:							
Weather								
Wind:			Seas:		Water:		Air:	
24 hour Forecast:								
Tides								
District:		High Tides			Low Tides			
	AM:	FT:	PM:	FT:	AM:	FT:	PM:	FT:
Station:		Time, High:		Time Low:		Height, High/Low:		
Corrected Tides								
	High Tides				Low Tides			
	AM:	FT:	PM:	FT:	AM:	FT:	PM:	FT:
Station:								
Pre-departure Checklist Completed Before Departure?								
Float Plan Filed with SUNDOG CHARTERS?								
Purpose of Voyage?								
Fuel Onboard:		Water Onboard:						
People on Board								

Time	Event/Action

Prepared By:	2 of 2

Predeparture Checklist			
Date:	Vessel:	Location:	
Person Attesting to Inspection:			
Personnel Participating:			
	Checklist Items		
Documentation			
	Current State Registration/Federal Documentation		
Publications			
	Rules of the Road (COLREGS)		
	Current Coast Pilot		
	Current Tide Table		
	Updated Charts for Area of Operation		
Postings			
	"Oil Discharge Prohibited" Placard		
	MARPOL V Waste Dumping Placard		
	Injury Notification Placard		
	Zero Tollerance Placard		
	Instructions for all Emergency Equipment		
Safety Equipment			
	Life Raft: Canister is secured, labeled, in current inspection and has current hydrostatic release.		
	Distress signals within experation dates.		
	EPIRB: Tested, marked with vessel name, current NOAA sticker and current battery		
	Life Ring: Retroreflective tape and vessel name		
	Fire Extinguishers: 3 B-1 hand held extinguishers readily accessible and verified as serviceable.		
	Carbon Monoxide Detector tested.		
	PFDS: Type I or III available for every passenger. PFDS should be damage free and accessible.		
	Immersion Suits required beyond inland waters. Suits to be accessible and in good repair.		
	Navigation Lights: Tested		
	Sound Producing Device Tested		
	Dewatering Pump: Inspected and tested		
	Damage Control Kits		
Electronics			
	GPS Tested		
	Radar Tested		
	VHF Radios Tested		
	Sounder Tested		
Mechanical			
	Propulsion tested forward and reverse before leaving dock/getting under way.		
	Steering tested before leaving dock/ getting under way.		
	Battery Voltage >12.5 Volts		
	Through Hull Fitting equipped with operational valve, hoses and clamps in good repair		
	Bilge is free of oily debris		
	Marine sanitation device is functioning properly		
Crew Issues			
	Crew has received vessel orientation.		
	Crew is trained in use of emergency equipment.		

Job Name:			
Job Location:	**Date:**	**JSA #:**	**For Permitted Work, indicate PTW#:**
Supervisor:	**Participants:**		
Summary of Job:			
List Associated SOPs or SEMS procedures:			
Standing Orders / Restrictions / Special Issues:			**Supervisor Approval Signature:**
			For Permitted work, need Master Signature:

Steps	**Potential Hazards**	**Controls and Barriers**	**Responsible for Control Verification (Name and Signature)**
Step 1….	a) b)	a) b) b.1 b.2	
Step 2…	a)	a) a.1 a.2	
Step 3…	a)	a)	


Fall Arrest Harness


Face/Eye Protection


Hearing Protection


Hard Hat


Respirator


Gloves


Protective Clothing


Safety Shoes


Goggles


Type V/III PFD

List Additional PPE required

I have participated in this JSA and understand the information contained herein.
Signature: _____
Signature: _____
Signature: _____
Signature: _____