

# Tempe Fire Department Policies and Procedures

## Fire Boat Operations

### 208.07

### Rev 01-26-06

#### PURPOSE

To define the operation of the Fire

#### POLICY

This policy defines the operational guidelines for use of the Fire Boat when conducting water rescue, fire suppression, training, and standby activities on the lake.

#### Personal Safety:

Personnel are expected to ensure proper safety equipment is available prior to departure from land. They are also expected to bring with them any equipment necessary to provide the services required for that particular situation.

#### Personal Flotation Device (PFD) Use:

The greatest risk to rescue personnel is that of drowning. The only adequate protection is by wearing a properly fitting, USCG approved type III (or better) PFD.

#### **Fire Department personnel shall wear an approved PFD at all times while:**

- **Riding in or on any watercraft while moving under power.**
- **Engaged in any emergency response on or near the water.**
- **Engaged in any operation in the water.**
- **In any situation where the member is at risk for falling into the water.**

Personnel are expected to know their own swimming ability limitations, and take appropriate measures to ensure their own safety, as well as the safety of any potential victims.

#### Thermal Protection:

Tempe Town Lake surface water temperatures usually range into the low 50 degrees during the winter months. Operating in this environment can cause rapid incapacitation of rescuers and/or victims due to hypothermia.

Fire personnel will not enter the water to perform rescue functions unless they have an adequate level of thermal protection for the existing water temperature. This may include a wet or dry suit, exposure suit, or other approved method. The dive team should be requested and utilized for cold water entries. If the dive team is unavailable or if suitable thermal protection is unavailable, alternative (non-entry) methods should be employed.

Additionally, personnel should expect ambient air temperatures to be much lower while operating on the lake. Wind blown across the water surface can significantly lower the air temperature. Fire personnel should anticipate and prepare for this factor prior to boarding any watercraft, taking a pessimistic approach to planning their environmental exposure. Adequate layering of suitable clothing is the most effective method for combating hypothermia. Hypothermia protection and treatment should also be considered early for all rescue victims.

#### Additional Personal Protective Equipment (PPE):

Fire Department personnel are expected to evaluate each situation and utilize an appropriate level of personal protection to ensure the safety of each individual member. In addition to thermal protection and an approved PFD, this may include head protection (water rescue helmet), gloves, foot protection, safety lines, waterproof flashlights and/or strobes, etc. If an appropriate protection level cannot be achieved with the available resources, additional resources should be requested and alternative measures should be employed until an acceptable protection level can be attained.

### **General Watercraft Safety:**

Fire personnel may operate from fire department or another agency's watercraft (as available and appropriate). They should avoid operating from civilian watercraft, if possible, and should never operate from any watercraft in which the operator is impaired or when safety is in question.

Personnel must maintain adequate situational awareness at all times. Wind shifts, wakes & waves, and evasive steering movements may cause the watercraft to shift suddenly throwing riders about (causing injury). Personnel may also be thrown overboard, without warning. Good shoes, sure footing, good balance, and an adequate hand hold should be maintained whenever possible.

All deck areas and surfaces should be kept clear and clean. Lines not in use should be properly stowed. Excess water should be cleared when possible. Emergency equipment should be properly managed, secured, and stowed when not in use. Adequate deck lighting should be used at night, when it does not interfere with operations.

When entering the water (either purposefully or accidentally), personnel are in danger of propeller strikes, getting hit by the hull, hypothermia, becoming entangled in lines, and other dangers. If incapacitated in the water (even while wearing an approved PFD), personnel can be in danger of drowning.

***It is the responsibility of every member of the crew to manage safety practices for the entire operation.***

### **Emergency Operations:**

At anytime personnel are operating on the water from a watercraft, the operator is ultimately in charge of and responsible for the watercraft. The ranking Fire Department officer is ultimately in charge of the emergency operation. The operator or fire department member in charge should limit the number of personnel on the craft to the minimum necessary to safely manage the incident. The operator or fire department member in charge must ensure that all rescue or fire fighting operations are conducted in a safe manner. If safety is compromised, the operation must be aborted or modified so that it can be carried out safely.

If it becomes necessary to enter the water to perform a rescue, an operator will remain on-board the watercraft at all times. Watercraft will not be abandoned during emergency operations unless anchor or dock lines properly secure it.

The remaining personnel will perform watercraft positioning, scene safety & protection, radio, and rescue support functions. Radio contact with command and/or land units will be maintained whenever possible.

### **EMS/Rescue Operations:**

When responding to EMS or rescue incidents, fire personnel will ensure that appropriate EMS equipment is loaded on to the craft prior to departing the dock. This equipment will ensure that proper treatment can be initiated if indicated on a patient or victim while in the boat prior to transferring the patient to shore units.

Fire department personnel operating from watercraft should enter the water (such as to perform a rescue) **only as a last resort**. Crews should consider less dangerous intervention methods first, such as reach, throw, and then go. Entry into the water should only be considered if it could be accomplished safely and effectively. The dive team and a BC should be requested any time our crew members are entering the water to effect a rescue. Early deployment of the dive team will be critical to the survivability profile of a victim in the event the surface rescue is unsuccessful.

If water entry is deemed the best possible option, personnel are expected to utilize an appropriate level of personal protection that will ensure their safety. If an adequate personal protection level is unavailable, alternative (non-entry) methods should be employed.

Fire department personnel will not enter the water unless trained and equipped to perform the expected tasks. Adequate backup personnel should be readily available whenever possible. Only the minimum number of personnel needed to perform the expected tasks should be used, and exposure time in the water should be minimized as much as possible.

If unable to complete the required tasks, personnel should move to a safe location (out of the water) to regroup. Additional resources should be requested to address the specific type of emergency at hand. Personnel

operating in the water should be closely monitored for signs of hypothermia and distress. It may be necessary to rotate personnel to ensure safety.

Water rescue operations may require multiple companies to complete the rescue safely. Boat based operations require personnel on the boat to pick up the victims and personnel on shore, to receive victims and personnel on shore to receive victims. An early request for additional resources (ALS, BC, Ambulance, etc.) will help to ensure that adequate personnel are deployed to safely manage the incident.

Operations during cold weather indicate that personnel that enter the water will need to be evaluated as potential hypothermic patients. This factor will increase the total number of patients rapidly. The incident commander will need to be aware of this fact over and above the initial incident.

A Pointer shall be assigned from the first arriving company on scene whose SOLE RESPONSIBILITY is to watch and monitor status of victim(s) in the water. The Pointer shall maintain constant eye contact with the victim until 1) The victim is rescued, 2) The individual is relieved or 3) The victim goes subsurface. The pointer shall note the victim's last position and relay information concerning the victim.

Initial size up should include the following:

- \*Determine if incident is rescue or recovery.
- \*Who is the Pointer? Does she/he need assistance?
- \*Consider the following factors:
  - Access to water
  - Proximity to shore
  - Number of victims
  - Weather conditions/ air and water temperature
  - Technical Rescue Team/Dive Team
  - Additional resources
  - Other hazards- fire, HazMat, submerged objects
  - Water "Rapid Intervention Team"

Rescue options from watercraft should be considered and executed from low risk to high risk:

Reach: The first method of water rescue is to reach the victim with an object such as a pole, backboard, ladder, etc. Either the victim can pull themselves or be pulled to safety.

Throw: If reach is not possible then throw an item that will float such as a PFD, throw ring, or a rope bag to the victim. The device thrown should be attached to a rope so the victim can be rescued.

Go: The last resort is to enter the water and swim to the victim.

If the decision is to "GO" to effect the rescue, the Incident Commander will consider the following factors:

- Need for additional pointers
- Exposure time of rescuers
- Debris in water on surface and submerged
- Distance to victim
- Condition of victim

If the hazards associated with placing a rescuer in the water is too high, Command should consider the use of a helicopter. Command should consult with the pilot and TRT Company officers prior to the commitment of a helicopter for water rescue.

#### Subsurface Operations:

Fire Department personnel will operate below the water surface only when properly trained and equipped to do so. **"Breath hold" dives by untrained individuals are dangerous, ineffective, and should not be attempted.**

Qualified and equipped safety divers should be called to handle submersion incidents, such as a drowning situation.

### Fire Boat Operations:

When responding to reported boat fire, crew members will load the proper amount of foam on the prior to leaving the dock. Additional shore based resources and command should be requested as needed to assist the extinguishment of any working fires.

Personnel responding to on-water fire incidents via water craft are expected to know and work within their limitations.

***Firefighters wearing personal protective equipment (i.e. turn-out gear with or without an SCBA) WILL NOT operate within 15 feet of the water's edge (including ALL operations on watercraft) unless they are properly trained in Accident Water Immersion for Firefighters. Personnel who do not meet this criterion will not operate near water while wearing PPE.***

Firefighters will not board a burning vessel unless properly trained and equipped to do so. The only time necessary to board a burning vessel is if there is an imminent rescue situation.

When responding to a fire boat incident, one of the crew will don full personal protective equipment, including SCBA. This person is designated the "firefighter". Two crewmembers will don water rescue gear, including a foam type III PFD, one is designated the "rescue swimmer". Upon arrival the appropriately equipped member will perform the actions (water rescue vs. fire suppression) indicated by the tactical priorities.

The fire operator should make a wide turn toward the burning vessel as they approach it. As this occurs, the crew will be able to survey the water immediately around the burning vessel on all sides for potential victims.

Approach to the burning vessel should ALWAYS be made from UPWIND if possible. ***This is the only time when a vessel is NOT approached into the wind.*** Doing so will keep the smoke and heat away from the fire and crew, and provide for better visibility. A rescue situation, obstacles, and onlookers may prevent this from being possible.

If necessary, the boat operator should advise "on-looking" boats to clear the area on all sides of the burning vessel. It is common for boats to crowd the burning vessel, which makes it difficult to maneuver the fire boat for fire and rescue operations. It is also difficult to account for and locate victims in the water.

If a rescue situation is apparent, all actions will be directed toward those efforts until the life safety hazard has been controlled.

Boat fires will be managed in the defensive strategy UNLESS there is an imminent rescue situation, the fire is in the incipient stage, or the fire is already controlled and the structural integrity of the boat is intact.

As the burning vessel is approached, the crew should be ready to apply water. The deck gun should be set on a wide-fog pattern. Foam should not be applied at this time. The operator will need to maneuver the vessel to counteract the nozzle reaction created by the deck gun. A handline may be attached to the deck gun to assist in the fire attack or to complete the overhaul process if indicated.

Under the protection of a fog pattern, the fire will slowly approach until close enough to toss a chain led grappling hook into the burning boat. The grappling hook is then secured by rope to the fire. Usually the combination of chain and rope is about 20-30 feet long. This is called "***Capturing***" the vessel. Doing so will allow the fire crew to control the movement of the burning vessel from a safe distance, while simultaneously applying fire suppression agents.

Once captured, the boat operator will slowly back the fire and begin towing the burning vessel to a location accessible to responding fire apparatus.

Once backed to a distance that radiant heat no longer causes any danger to the fire boat and crew, the crew can change to a direct (straight stream) attack. ***Foam is the preferred suppression agent.***

When the fire is knocked down, suppression efforts should be suspended so as to keep the vessel afloat. Crews should be ready to reapply suppression agents if the fire begins to burn again. This is common and should be expected.

The burning vessel should be towed to a shore location to meet with land based fire apparatus. The vessel can then be overhauled properly and safely at that location.

Arrangement for removal from the lake (environmental control) should be made as soon as the fire is completely extinguished.

**Stowing the Watercraft:**

After every use, the boat will be properly secured, locked, covered, and cleaned at the dock. Any service needed or problems encountered should be documented on the boat check sheet, and reported to the Shop and Special Operations Deputy Chief.