


<b>7002.20</b>	<b>Billy Pugh Net Policy</b>	
<p><i>This procedure is for internal use only and does not enlarge an employee's civil liability in any way. The procedure should not be construed as creating a higher duty of care, in an evidentiary sense, with respect to third party civil claims against employees. A violation of this procedure, if proven, can only form the basis of a complaint by this department for non-judicial administrative action in accordance with the laws governing employee discipline.</i></p>		
<p><b>Related Policies:</b> Chief's Memorandum NO. 2017-026  <b>Applicable HI Statutes:</b></p>		

**I. PURPOSE**

The purpose of these policy is to establish safe and acceptable guidelines / actions governing the use of the Billy Pugh Net during Hawai'i Fire Department (HFD) Air Operations.

**II. APPLICABILITY**

This policy applies to all Hawai'i Fire Department (HFD) Rescue personnel assigned to a Rescue station as part of the Rescue Team who may respond to an incident utilizing the Billy Pugh net.

All operations utilizing either Chopper-1 or Chopper-2 shall adhere to the policies and procedures established within 7002.01 Helicopter Operations SOP and 7002.02 Aviation Procedure Manual.

**III. PROCEDURES**

a. Chopper 1 Billy Pugh Land Operations:

1. Only Fire Rescue Specialist (FRS) or TA FRS shall utilize the Billy Pugh net for land extraction.
2. Personnel utilizing the Billy Pugh net shall don all land rescue Personal Protective Equipment (PPE) including but not limited to, rescue helmet, gloves, safety hiking boots, and NFPA approved (or equivalent) harness, and must be directly attached to the Billy Pugh net load ring prior to lift off. Appropriate HFD identified shirts and long trousers shall be worn.
3. All considerations to extract the victim by ground shall done before a decision is made to extract the victim via chopper-I in the Billy Pugh net.

b. Chopper 1 and Chopper 2 Billy Pugh Water Operations:

1. Only HFD personnel trained in the use of the Billy Pugh net shall utilize the net for water extraction. If FRS personnel are not available, those utilizing the Billy Pugh net shall meet the minimum requirement of having an ACC Operations level certification and the proper Personal Floatation Device (PFD) with documented training.
2. Personnel must wear a PFD and secure it to the restraint line when safe to do so. The PFD has a clip attachment that is designed to "catch" the user should an unexpected action occur, such as the sudden jerk or tipping of the net. The pilot shall lift the rescue personnel and victim out of the water, stop and hover until the Rescue personnel attaches their restraint line then gives the signal to continue. All non-essential human cargo (injured or rescued parties) shall be secured as applicable. The identified drop off zone for the victim and rescuer shall be as close to the shoreline as feasible and the pilot shall minimize the flying altitude when performing this extraction.



**Note:** Chopper-2 shall not be used for land extraction unless Chopper-1 is not readily available. Chopper-2 can be utilized in emergent situations as deemed so by the Operations Battalion Chief. The extraction operation is to be controlled by FRS or TA FRS personnel when equipped with the proper land rescue PPE. The pilot has final say on the safety of all Air Operations.

#### IV. AIR OPERATIONS

##### a. Background

1. The Hawai'i Fire Department (HFD) owns and operates a MD 500 E, single engine, light helicopter. All flight operations conducted by HFD with this helicopter are classified by the Federal Aviation Administration (FAA) as "public use aircraft" operations that are generally exempt from compliance with FAA flight regulations.
2. While compliance with Federal guidelines for safety are not mandatory, in the case of HFD flight operations, it is strongly recommended that operating procedures are adopted to mirror these policies. Recommendations made by the FAA following an accident investigation suggest that safety considerations found in Federal Aviation Regulation (FAR) Part 133, Rotorcraft External Load, should be implemented to improve safety in flight operations.

##### b. Methods for Compliance

1. Listed below are recommendations for compliance with FAR Part 133, that HFD should acknowledge for all external load operations involving human cargo.
  - FAR Part 133 prohibits the carriage of passengers during external load operations except person(s) determined essential for the operation.
  - FAR Part 133 Class D, allows the carriage of passengers during external load operations, however, require the use of a multi-engine helicopter. HFD Chopper 1 does NOT meet requirements of FAR Part 133 Class D.
  - FAR Part 133 Class B, are external load operations conducted with a jettisonable load. The process to jettison a load is incorporated to allow emergency release of a load if it becomes entangled, or oscillation of the load represents hazard to the aircraft.
  - FAR Part 133 Class B, allows the carriage of a crewmember externally (Billy Pugh net, or sh01t haul) in a configuration that must be jettisonable.
  - Examples of Class B external load with human cargo are: Powerline patrol/maintenance personnel; Rescue personnel who are performing emergency medical and rescue services.
  - Under FAR Part 133 Class B with human cargo, attachment means to the aircraft must utilize a minimum of two attachment points in accordance with FAR Part 27, external load with human cargo. Each attachment point must be designed with an emergency release mechanism that requires physical release initiated by the pilot in command. Chopper 1's two cargo hook system complies with this requirement.
  - Essential flight crewmembers carried as human cargo must acknowledge that operations are conducted under FAR Part 133 Class B, jettisonable external loads. This is the only flight configuration allowed for single engine helicopters with externally carried human cargo.

**7002.20**

**Billy Pugh Net Policy**



- HFD will carry injured or rescued parties under FAR Part 133 Class B. Each injured or rescued person(s) must provide consent to be carried under FAR Part 133 Class B, jettisonable human cargo.
- All crewmembers carried as external human cargo shall be directly attached to the primary load line using NFPA approved harnesses (or equivalent). A secondary/belay line must be used when applicable.
- For over land short haul, all non-essential human cargo (i.e. injured or rescue parties) shall be secured to primary load line using NFP A approved harnesses (or equivalent), with secondary/belay as applicable.

c. Summary

Guidelines contained in this procedure outline is designed to only meet minimum safety standards as dictated by the FAA. Additional procedures may be adopted by HFD in order to comply with NFPA standards or OSHA regulations.

-END-

2. Arm Signals:

Implemented: February 2017

Revised: July 2018

Next Review: September 2025