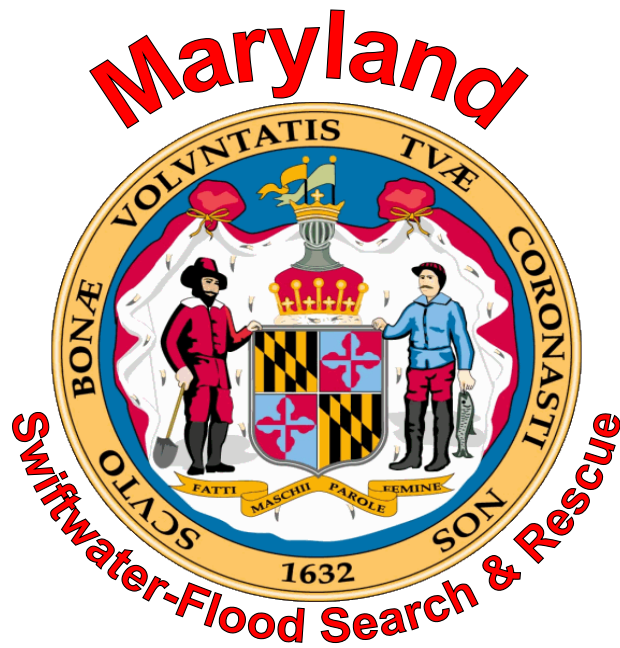


**MARYLAND
SWIFTWATER/FLOOD
SEARCH & RESCUE
RESPONSE SYSTEM**

WHITE PAPER



Swiftwater/Flood Search & Rescue Response System

Introduction

This document outlines and describes the Swiftwater/Flood Search & Rescue Response System developed to respond to flood disasters caused by natural and manmade disasters throughout Maryland. This document is sub-divided into sections that describe the critical components of the Swiftwater/Flood Search & Rescue System.

Under the Maryland Emergency Management Plan, Annex R (Search and Rescue) the Maryland Fire Service has the primary responsibility for rescue functions. Other state agencies support the Maryland fire service as coordinated by the Maryland Emergency Management Agency (MEMA). The State of Maryland as well as the majority of jurisdictions in Maryland have adopted the National Incident Management System (NIMS). This white paper incorporates NIMS, to ensure standardization and facilitate integration of local, state and state military resources.

The purpose of developing a Swiftwater/Flood Search & Rescue Response System is to help communities that have been overwhelmed by the affects of natural or manmade flood disasters by providing them with specialized resources to assist local jurisdictions with search and rescue operations. This system focuses on providing “quick strike” capability to ensure maximum victim survivability as well as sustaining operations.

Physical resources necessary, such as specialized swiftwater/flood search and rescue personnel, tools, personal protective equipment and Base of Operations equipment would be provided by the teams and could be strategically placed throughout the state before the event when requested by the local jurisdiction. Strategic placement of these assets would be based on several factors such as proximity to transportation corridors, trained personnel and communities historically prone to flood disasters. Physical assets would be packaged for rapid movement to the disaster sites. Human resources necessary to staff the Swiftwater/Flood Teams would come from participating public safety agencies. Personnel staffing of teams would be determined on individual qualifications, certification, credentialing and commitments from their sponsoring organizations or employers under the current MEMAC Compact (MEMAC) agreement.

Situation and Assumptions

Maryland has always been plagued by various weather systems with large-scale flood disaster potential. Historically, hurricanes, tropical storms, and tornadoes have brought death and destruction to all regions of the state. Maryland is prone to three types of flooding: inland (flooding from rivers and streams), tidal flooding (flooding from tides and storm surge), and coastal high hazard flooding (the addition of wave action to tidal flooding). Approximately 1,328 square miles, or 13 percent of the state's land area fall within the 100 year flood zone. Causes of flooding in Maryland include winter-spring snow melt combined with heavy rains, Northeasters storms, hurricanes, tropical storms and localized thunderstorms. Maryland's diverse topography creates conditions favorable for flash flooding associated with heavy rainstorms. With a large influx of new residents and increased commercial and residential development throughout Maryland, the potential for mass-casualty disaster is ever present.

Statistics show that 90 percent of all savable victims of flood disasters are saved within the first few hours following such an occurrence. Lengthy deployment times of state and federal urban search and rescue (USAR) teams; exponentially decrease the rescue of victims with every passing hour. The formation of state-wide NIMS typed Swiftwater/Flood Teams provide immediate rescue in the critical hours during a flood disaster.

- Weather patterns known as "El Nino and La Nina" will continue to produce unusual and often violent disturbances such as hurricanes, tropical storms, tornadoes and thunderstorms.
- Hurricanes and tropical storms will periodically make landfall causing widespread damage such as tidal surge and inland flooding with the potential for mass-rescue and casualties that will completely overwhelm the local public safety agencies and hospital system.
- Heavy rains will cause flash floods and widespread flooding that overwhelms the local authority's ability to rescue/recover victims affected by these natural disasters.
- Public safety organizations and resource capability will be stretched beyond their ability to deliver timely and effective search and rescue services to victims of flood disasters.

Due to the adoption of the National Incident Management System (NIMS) and the events of Hurricanes Floyd, Isabel and Katrina, stake holders from across the state came together to develop a plan of action based on the lessons learned from these devastating events.

In January of 2006, a working group called the Maryland Water Rescue Technical Advisory Group composed of public safety entities from across the state, the Maryland Fire Service, Maryland Emergency Management Agency (MEMA), The Maryland State Police (MSP), The Natural Resources Police (NRP), and the Maryland National Guard (MDARNG) came together. This group researched how Maryland could develop a model compliant with the NIMS Swiftwater/Flood Rescue Team Typing standard and provide a robust integrated flexible and responsive system. States such as California, Texas, and North Carolina developed similar systems to meet state level flood rescue requirements several years ago, and they have been time tested and proven effective. The Maryland Water Rescue Technical Advisory Group has developed a NIMS compliant model and developed a plan to meet Maryland swiftwater/flood rescue requirements.

Based on the fact that floods and rescues in this environment are very dynamic, the working group believes that swiftwater/flood teams that wish to be deployed throughout the state and outside the umbrella of mutual aid agreements must meet minimum criteria as outlined in the NIMS document and this document as well. **Jurisdictions are not required to adopt this plan for their swiftwater/flood rescue team(s) unless they wish to be rostered at MEMA as a resource for state-wide deployment in which case NIMS and the swiftwater flood search and rescue response system standards shall be met.**

Concept of Operations

A. Deployment Model

The current plan for managing large-scale emergencies in Maryland calls for the utilization of local resources prior to requesting assistance from the outside. If the incident were bigger than the local public safety agency can effectively manage with their resources, a call would be placed requesting assistance from the neighboring mutual aid organizations within the area. If the mutual aid resources were exhausted, a call to the Maryland Emergency Management Agency would request additional resources within the state. By the time assistance is requested through MEMA, the event would be considered a significant event.

Based on the location and type of incident, MEMA will identify the nearest appropriate rostered and typed Swiftwater/Flood Search & Rescue Team. The determination on which and/or how many Swiftwater/Flood Teams will be dispatched would be based on the type of services requested, the magnitude of the incident, the proximity to the disaster site as well as the projected path of the weather disturbance by the requesting jurisdiction. **The proper approach to dispatch would be not to deploy a Swiftwater/Flood Team from an area that was predicted to be affected by the storm. The sponsoring agency for a swiftwater/flood team would advise MEMA that their team(s) would be held in their jurisdiction and are unavailable.**

If the event has overwhelmed the state resources, EMAC and federal assets would be activated and mobilized to the scene. This approach provides a graduated and time-phased deployment model that puts properly trained and equipped personnel on the scene. Having trained and equipped personnel on the scene assures the highest survivability potential possible.

If the event is anticipated, such as an impending hurricane or tropical storm, a push package of available rostered Swiftwater/Flood teams as well as specialized state resources could be pre-deployed to a potential effected jurisdiction when requested, prior to the event.

Based upon the FEMA resource typing definition, Swiftwater/Flood Search & Rescue Teams would be typed as Type I, Type II, Type III, and Type IV teams. **Due to the fact the FEMA typing and credentialing working groups final matrix is still in draft, it is the intent that this document be considered a “living document” so we can remain current under NIMS and the Governors Executive Order 01.01.2005.09 “State of Maryland Adoption of the National Incident Management System” signed March 4, 2005. As the team typing and job performance requirements as well as credentialing standards become final, this document will reflect those changes.** As these teams are deployed or pre-deployed into requested jurisdictions, they would ultimately be operating under the command of the requesting jurisdiction.

The integration of swiftwater/flood teams with specialized state resources will expand and enhance flood rescue operation effectiveness. See the following pages for state assets integration plans.

The Maryland National Guard, pages 8-9.

The Maryland Natural Resources Police, page 10.

The Maryland State Police, pages 11-12.

2. Equipment

Equipment utilized by Swiftwater/Flood Rescue Team members would be compliant with the NIMS/Firescope Swiftwater/Flood Search & Rescue team typing document. The design and intent of the equipment ensures the proper equipment is available to do the work required depending on the type of emergency situation.

3. Personnel

As part of the overall rescue responsibility assigned to the Maryland Fire Service, personnel management and staffing of Swiftwater/Flood Search & Rescue Teams will be critical to the success of the program. When called-out, they would be rostered according to their qualifications and staffing requirements per the NIMS Search and Rescue (SAR job titles for swiftwater/flood) as outlined in the National Emergency Responder Credentialing System

Upon MEMA notification, Swiftwater/Flood Rescue Team(s) would be activated/deployed for response. Local emergency dispatch center would alert rostered team(s) within their identified jurisdiction. Swiftwater/Flood Rescue Team(s) would be staffed with qualified personnel and given specific instructions for deployment. On very short notice, personnel accepting the mission would be expected to remain on the disaster scene for a minimum of 12 hours and a maximum of 24 hours or until the emergency has been terminated. Swiftwater/Flood Rescue Team personnel would also have to be willing to live in austere conditions for the duration of the disaster.

After activation, a proper check-in of personnel would be conducted to assure accountability measures. Once check-in is complete, the Swiftwater/Flood Team would be given a specific assignment under the command and control of the incident commander and the Swiftwater/Flood Team Leader. On extended multi-day operations, Swiftwater/Flood Team personnel would be rotated out of the disaster area according to their personal desires and the operational necessities of the incident commander and Swiftwater/Flood Team Leader.

Integration of Maryland National Guard Assets

One of the key elements to successful swiftwater/flood rescue operations is the integration of specialized assets. The Maryland National Guard presently holds several specialized assets that would enhance the capabilities of the Swiftwater/Flood Search & Rescue Response System.

As learned in Hurricane Katrina, National Guard rotary wing aviation proved crucial during the life saving efforts of this biblical flood. However, the use and integration of state military assets have been in use for several years in the California, Texas, and North Carolina Swiftwater/Flood Rescue models. This integration has been time tested and proven, saving the lives of many civilians during flood disasters. The Maryland Water Rescue Technical Advisory Group feels the integration of Maryland National Guard assets into the Maryland plan is essential, and places Maryland into compliance with NIMS typing for Swiftwater/Flood Air Rescue Resources.

The Plan for the use of Maryland National Guard air resources is twofold. UH60 Blackhawk helicopters would be used for rescue operations by providing winch and shorthaul maneuvers to rescue entrapped victims otherwise inaccessible to ground based teams. This phase of the program would be known as a “Helo Squad” and would consist of the following on each UH60, 1 Helo Squad Officer (MDARNG personnel), 2 Crew Chiefs (MDARNG personnel), 2 Rescuers (Maryland Fire Service personnel). The Helo Squad would be deployed to the impacted area and would coordinate rescue efforts with the embedded Swiftwater/Flood teams. This model is flexible by offering several Helo Squads operating in one area of Maryland, or operating several Helo Squads in multiple flooded areas throughout the state. Once again this mirrors the “Quick Strike” approach needed in this dynamic environment.

The other use for MDARNG air resources would be to transport Type III Swiftwater/Flood Rescue Teams and equipment into inaccessible areas of the disaster district. This would enhance the operational capability of the teams as well as providing quick deployment of swiftwater/flood resources to the effected area. A pre-planned “Quick Strike”, load package of the swiftwater/flood

equipment cache as would be loaded into the aircraft to start expedient rescue operations in the impacted area. The remaining Swiftwater/Flood team members and the full equipment cache, if needed, would proceed by ground convoy to the impacted area.

With the use of a CH-47 Chinook, an entire Type I, II, III, Swiftwater/Flood Team as well as a full equipment cache could be expeditiously transported into the disaster district. The National Guard can also provide a NIMS Type III light utility helicopter equipped with an Association of Public-Safety Officials (APCO) Project 25 compliant 25 multi-band radio, day TV/forward looking infrared camera and video downlink capability to serve as an airborne platform for on scene incident commanders.

The other key National Guard assets are ground transport vehicles such as high clearance vehicles (5 ton trucks) and Humvee's. These ground assets have also proven valuable for the North Carolina and Texas Swiftwater/Flood Rescue models and most recently in New Orleans during Hurricane Katrina. The vehicles are helpful for the support of moving the convoyed Typed I, II or Typed III Swiftwater/Flood teams into the disaster district as well as assisting the teams with evacuation of victims from the flood zone. A Typed Swiftwater/Flood Team would integrate with the National Guard using one High Mobility Multi-purpose Wheeled Vehicle (HMMWV) and two high clearance (5 ton) vehicles.

Pre-planned load package for loading the MDARNG vehicles would facilitate operations. As the members from the Swiftwater/Flood Rescue team would load the support vehicles, personnel from the MDARNG would attend an expedient Swiftwater/Flood Awareness training program during mission planning and rehearsal. The MDARNG personnel would be equipped with minimal personal protective equipment.

Integration of the Natural Resources Police/NRP Assets

The Natural Resources Police (NRP) possesses resources that will enhance the capability of rescue in the disaster district. They currently own and operate many types of watercraft that could be integrated into the Swiftwater/Flood Search and Rescue Response System. Often, different types and styles of boats prove to be effective in the flood zone by offering flexibility. No single type of boat is perfect in this dynamic environment. By providing different types of watercraft, the rescue missions can be matched to a specific type of craft that would be best suited for the mission.

Many victims in the disaster district wait for long periods of time for rescue/rescue evacuation due to the fact that there are never enough boats and trained operators pushed into the flood zone. With having the NRP assets, a push package of watercraft as well as operators could be deployed into the disaster district in a timely fashion. The NRP would presently fit into the Type IV team typing standard with minimal training and equipment upgrades from their current operators. While rescues in the deadly swiftwater zone are important, usually highly trained swiftwater/flood teams concentrate on these areas only, leaving victims stranded in standing flood waters for long periods of time. This is generally due to the lack of trained boats crews and boats with a high carrying capacity to effectively remove these types of victims. The NRP would be a great asset in these low impact areas by providing a fluid process of removing victims from the low impact areas as swiftwater/flood teams rescue victims in the high impact areas at the same time. This would increase the overall efficiency of the operation by allowing these valuable resources to move into the next flooded community.

The additional resource that the NRP can bring into the disaster district is force protection for the deployed swiftwater/flood rescue assets in the flood zone. NRP officers have statewide law enforcement jurisdiction, coupled with their fleet of vessels and operational experience could serve as a force protection asset during flood related events. The NRP also has the capability to patrol the flood zone by boat and prevent looters as well as residents from retuning into the hazardous areas.

Integration of Maryland State Police Assets

One of the key elements to successful swiftwater/flood rescue operations is the integration of specialized assets. The Maryland State Police (MSP) holds several specialized assets that will enhance the Maryland Swiftwater/Flood Search & Rescue Response System. The Maryland Water Rescue Technical Advisory Group believes the integration of MSP assets into the Maryland plan is essential.

The Maryland State Police possess helicopters and fixed wing aircraft that will enhance operations in the disaster district. The fixed wing aircraft may be used to move rescue personnel to the staging area, and for air reconnaissance missions to assist the incident commander's size up and decision making. This will allow for rapid and appropriate deployment of rescue resources in the flood zone.

MSP helicopters will serve multiple roles throughout the incident. As with the fixed wing assets, the helicopters may be used to deliver rescue personnel and equipment, for air reconnaissance, and for transport of a Rapid Assessment Team into the requesting jurisdiction to determine resource allocation and deployment. The helicopters are equipped with Forward Looking Infrared (FLIR) scanners, night vision goggles (NVG), and Night Sun search lights; all for locating survivors.

MSP helicopters will directly support swiftwater and flood rescue operations with hoist techniques. MSP helicopters are a TYPE III Air Resource, based on National Incident Management System (NIMS) SF/SAR Air Resources Typing. In a rescue configuration, known as a "Helo Team," the crew will consist of 1 pilot (MSP), 1 Crew Chief (MSP), and 1 Rescuer (HEAT Team member). The Helo Team will be well suited for rescue missions as MSP helicopters are stationed across the State, and can be immediately deployed at anytime. MSP will play a critical role in providing immediate life saving services in the disaster district.

In the case of an unanticipated incident, MSP will be the primary air rescue resource in the state until activation or deployment of MDARNG air assets. Once MDARNG Helo Squads are in service, they will be the primary air rescue resource. MSP Helo Teams will be deployed in concert with Helo Squads to increase air rescue capabilities, and fill support roles such as search, reconnaissance, medevac, and personnel/equipment transport.

In the case of an anticipated incident, MDARNG Helo Squads will be the primary air rescue resource when they are activated and staged prior to the incident. As part of an integrated air asset plan, MSP Helo Teams will be deployed in concert with Helo Squads to increase air rescue capabilities, and fill support roles such as reconnaissance, medevac, and personnel/equipment transport. MSP will be the primary air medical evacuation asset in accordance with Maryland Medical Protocol and the local jurisdiction's incident management system.

A written Integrated Air Asset Action Plan will be developed to ensure safe, successful, and well coordinated operations that do not waste resources do to duplication of efforts. The plan will address anticipated and incident driven mission operations. The primary stakeholders for this plan are MSP and MDARNG. Additional stakeholders include Aviation Units from US Park Police, Prince Georges County Police, Baltimore County Police, and private air ambulance providers.

As part of the Unified Incident Command, MSP and MDARNG will coordinate all air assets under the direction of the local jurisdiction's Incident Commander.

Roles and Responsibilities

The basic structure of the Type I, Type II, Type III, and Type IV as outlined in the FEMA Typed Resource Definitions are listed below. The positions represent on-scene points of responsibility and standards that are part of the National Emergency Responders Credentialing System (Search and Rescue- Swiftwater/Flood) listed below as well as the equipment list for each typed team.

RESOURCE	SWIFTWATER/FLOOD SEARCH AND RESCUE TEAM					
CATEGORY:	Search & Rescue (ESF #9)	KIND:		Team		
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Personnel	Team Composition	14 member team 1 Task Force Leader 2 Squad Officers 11 rescue technicians **	14 member team 1 Task Force Leader 2 Squad Officers 11 rescue technicians **	5 member team 1 Squad Officer 4 rescue technicians**	5 member team 1 Squad Officer 4 rescue technicians**	
Personnel	Minimum number Swiftwater/Flood Rescue Technician-Animal Rescue (SAR JT 22)	2	2	1	0	
Personnel	Minimum number Helicopter Rescue Technician (SAR JT 4)	4	0	0	0	
Personnel	Minimum number Boat Operators (SAR JT 20)	4	4	3	5 (endorse vessel operator such as john boat, airboat, PWC) ²	
Personnel	Minimum number Boat Bowman (SAR JT 19) ¹	4	4	2	0	
	Minimum number Swiftwater/Flood Rescue Technical Specialist (SAR JT 21)	1	1	0	0	
Personnel	Number and level EMTs	2 EMT – P (Medical Specialist; SAR JT 12) 12 EMT-B	1 EMT-P (Medical Specialist; SAR JT 12) 13 EMT-B	1 EMT-B	0	
Personnel	Minimum number Logistics Specialist (SAR JT 11)	2	2	1	1	
Team	Sustained operations	24-hour operations	24-hour operations	12-hour operations	12-hour operations	
Team	Capabilities	Manage search operations Power/paddle vessel operations Helicopter rescue operational Technical rope systems (including high line) HazMat (first responder operations) Animal rescue ALS BLS Communications Logistics Offensive water rescue Flood response management	Manage search operations Power/paddle vessel operations Technical rope systems (including high line) HazMat (first responder operations) Animal rescue ALS BLS Communications Logistics Offensive water rescue Flood response management	Manage search operations Power/paddle vessel operations Low angle rope rescue HazMat (first responder operations) Animal rescue BLS Communications Logistics Offensive water rescue Flood response management	Participate in search, rescue and evacuation operations Power/paddle vessel operations HazMat (first responder operations) Communications Logistics Offensive water rescue	
Team	Training	Search management/operations Class 3 paddle and powerboat skills Helicopter operations Technical rope rescue (high angle)	Search management/operations Class 3 paddle and powerboat skills Technical rope rescue (high angle) HazMat (first responder	Search management/operations Class 3 paddle and powerboat skills Low angel rope rescue HazMat (first responder operations)	Class 1 paddle/power boat skills Contact and self-rescue skills HazMat (first responder	

RESOURCE	SWIFTWATER/FLOOD SEARCH AND RESCUE TEAM					
CATEGORY:	Search & Rescue (ESF #9)			KIND:	Team	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
		HazMat (first responder operations) Contact and self-rescue skills ICS Swiftwater rescue technician Flood response management	operations) Contact and self-rescue skills ICS Swiftwater rescue technician Flood response management	Contact and self-rescue skills ICS Swiftwater rescue technician Flood response management	operations) ICS Swiftwater rescue technician	
Team	Medical Certification	ALS BLS	ALS BLS	BLS	Advanced First Aid & CPR	
Equipment	Transportation Resources	Equipment trailer; Personnel support vehicle	Equipment trailer; Personnel support vehicle	Equipment trailer; Personnel support vehicle	Equipment trailer; Personnel support vehicle	
Equipment	Communication	Cell phone Portable Radio Batteries Aircraft radio	Cell phone Portable Radio Batteries	Cell phone Portable Radio Batteries	Cell phone Portable radios Batteries	
Equipment	Medical	See FIRESCOPE SEL	See FIRESCOPE SEL	See FIRESCOPE SEL	See FIRESCOPE SEL	
Equipment	Personal	See FIRESCOPE SEL	See FIRESCOPE SEL	See FIRESCOPE SEL	See FIRESCOPE SEL	
Vehicle	Rescue Boat	2 - Fueled	2 - Fueled	1 - Fueled	1-Fueled	
COMMENTS:	<p>Conduct search and rescue operations in all water environments including swiftwater and flood conditions. Water rescue teams come with all team equipment required to safely and effectively conduct operations. For a complete listing of recommended training, skills, and equipment, please reference the FIRESCOPE Swiftwater/Flood Search and Rescue definition at: http://www.firescope.org/ics-usar/ICS-SF-SAR-020-1.pdf.</p> <p>**Some team members will be required to fill more than one Job Title.</p>					
FOOTNOTES:	<p>¹Boat operators may be sent in lieu of bowman at the discretion of the AHJ. ²Type IV must specify vessel kind upon request. Ordering shall be Type IV A: John boats; Type IV B: Airboats; Type IV C: PWC</p>					

SAR Job Title 17: Swiftwater/ Flood Rescue Squad Leader

Description: A *Swiftwater/Flood Rescue Squad Leader* is a mid-level position within a water rescue team that supervises Swiftwater/Flood Rescue Technicians and/or Swiftwater/Flood Boat Squads and provides direct supervision, general leadership, wellness and safety of team members within an ICS Unit.

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for a *Swiftwater/Flood Rescue Squad Leader* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System.

Category	Criteria
	<p>Fulfillment of applicable requirement(s) as stated in the following standard(s), or equivalent:</p> <ol style="list-style-type: none"> 1. NFPA 1006: Standard for Rescue Technician (2003), as it relates to surface water rescue, or equivalent 2. NFPA 1670 (2004), as it relates to surface water rescue, or equivalent 3. NFPA 472 HazMat Operations and/or OSHA 1910.120(Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident <p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 4. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection 5. Emergency Medical First Responder per NFPA 1670 (2004) 4.1.6 or equivalent 6. Per the job performance requirements as stipulated in NFPA 1006 (2003) 7. Training in rating of Class 3, per AW Section VI Safety Code or higher whitewater 8. Night operations 9. Use of related tools, devices, and equipment 5. Advance rope skills 6. Active and passive search techniques 7. Low head dam rescue operations 8. Multiple victims 9. Managing squad-sized teams during emergency operations 10. GPS/maps and compass <p>Completion of the following courses and/or curricula:</p> <ol style="list-style-type: none"> 11. ICS-100: Introduction to ICS 12. ICS-200: Basic ICS 13. ICS-300: Intermediate ICS 14. FEMA IS-700: NIMS, An Introduction 15. FEMA IS-800: NRP, An Introduction 16. Recertification of all training requirements listed above 17. Search training per ASTM F2209 or equivalent
Training	
Physical/ Medical Fitness	<p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 1. Medical requirements established by the AHJ 2. Minimum physical fitness and swimming standards, JRPAT, as required by the AHJ.
Certification	<p>Certification by the AHJ of all training requirements listed above.</p>
Experience	<p>Squad leaders should meet or exceed the requisites for personnel within their supervised squad</p>

SAR Job Title 17: Swiftwater/Flood Rescue Squad Leader

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Swiftwater/Flood Rescue Squad Leader* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	Completion of the following training courses: 1. EMT- B level or higher as defined by NIMS EMS Credentialing
Training	1. In accordance with ASTM F2209 or equivalent 2. Completion of a swift/water/flood rescue management program 3. Recertification of all training requirements listed above
Experience	1. Annual refresher of skills per AHJ requirements obtainable through training or incident operations. 2. Position taskbooks or equivalent documentation that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or actual incident operations. 3. Criminal Background Check
Physical/ Medical Fitness	Fulfillment of requirement(s) as stated in the following standard(s): 1. NFPA 1582, Standard on Medical Requirements for Fire Fighters ¹ , or equivalent. 2. When necessary additional inoculations specific to the incident environment may be required. CDC/WHO recommended inoculations as needed
Certification	1. Completion of certification as: • EMT-B level as defined by NIMS EMS Credentialing 2. Recertification of all training requirements listed above 3. Develop uniform national swiftwater/flood squad leader certification standards

¹ That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

SAR Job Title 18: Swiftwater/ Flood Rescue Technician

Description: A *Swiftwater/Flood Rescue Technician* is an entry-level position within a water rescue task force that responds to searches and rescues from shore and in water, consistent with NFPA 1006 (2003).

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for a *Swiftwater/ Flood Rescue Technician* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System.

Category	Criteria
Training	Fulfillments of applicable requirement(s) as stated in the following standard(s): <ol style="list-style-type: none"> 1. NFPA 1006: Standard for Rescue Technician (2003) as it relates to surface water rescue, or equivalent 2. NFPA 1670 (2004) as it relates to surface water rescue, or equivalent 3. NFPA 472 HazMat Operations and/or OSHA 1910.120(Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident
	Completion of the following baseline criteria: <ol style="list-style-type: none"> 4. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection 5. Emergency Medical First Responder per NFPA 1670 (2004) 4.1.6 or equivalent 6. .Per the job performance requirements as stipulated in NFPA 1006 (2003) 7. Training in rating of Class 3, per AW Section VI Safety Code or higher whitewater 8. Night operations Completion of the following courses and/or curricula: <ol style="list-style-type: none"> 9. ICS-100: Introduction to ICS 10. ICS-200: Basic ICS 11. FEMA IS-700: NIMS, An Introduction 2. FEMA IS-800: National Response Plan (NRP), An Introduction •
Physical/ Medical Fitness	Completion of the following baseline criteria: <ol style="list-style-type: none"> 1. Medical requirements established by the AHJ 2. Minimum physical fitness and swimming standards, JRPAT, as required by the AHJ.
Certification	Certification by AHJ of all training requirements listed above.

SAR Job Title 18: Swiftwater/Flood Rescue Technician

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Swiftwater/ Flood Rescue Technician* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	Completion of the following training courses: 1. EMT- B level or higher as defined by the NIMS EMS credentialing.
Training	Completion of the following courses and/or curricula: 1. Recertification of all training requirements listed above 2. Search training per ASTM F2209 or equivalent
Experience	1. Position taskbooks that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or actual incidents every year or as dictated by need 2. Criminal Background Check
Physical/ Medical Fitness	Fulfillment of requirement(s) as stated in the following standard(s): 1. NFPA 1582, Standard on Medical Requirements for Fire Fighters ² , or equivalent 2. When necessary additional inoculations specific to the incident environment may be required. CDC/WHO recommended inoculations as needed
Certification	1. Completion of certification as: • EMT-B level as defined by the NIMS EMS Credentialing 2. Recertification of all training requirements listed above 3. Develop uniform national swiftwater certification standards

² That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

SAR Job Title 19: Swiftwater/ Flood Rescue Technician- Boat Bowman

Description: A *Swiftwater/Flood Rescue Technician- Boat Bowman* is an entry-level position within a Swiftwater/ Flood boat rescue team that can affect in-water and boat-based (paddle and/or powered) rescues, while meeting the requirements to be a Swiftwater/ Flood Rescue Technician.

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for a *Swiftwater/Flood Rescue Technician- Boat Bowman* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System.

Category	Criteria
Training	Fulfillment of applicable requirement(s) as stated in the following standard(s):
	1. NFPA 1006: Standard for Rescue Technician (2003), as it relates to surface water rescue, or equivalent
	2. NFPA 1670 (2004), as it relates to surface water rescue, or equivalent
	3. NFPA 472 HazMat Operations and/or OSHA 1910.120(Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident
	Completion of the following baseline criteria:
	4. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection
	5. Emergency Medical First Responder per NFPA 1670 (2004) 4.1.6 or equivalent
	6. .Per the job performance requirements as stipulated in NFPA 1006 (2003)
	7. Training in rating of Class 3, per AW Section VI Safety Code or higher whitewater
	8. Night operations
	9. Use of related tools, devices, and equipment
	10. Use of appropriate craft in aquatic environment
	11. Boat and motor support (maintenance, trailering, and repair)
	12. GPS/maps and compass
	13. Assist with operations of craft in Class 1-3, per American Whitewater Section VI Safety Code, swiftwater/flood conditions
	14. SRT/Flood Technician
	Completion of the following courses and/or curricula:
	15. ICS-100: Introduction to ICS
16. ICS-200: Basic ICS	
17. FEMA IS-700: NIMS, An Introduction	
18. FEMA IS-800: National Response Plan (NRP), An Introduction	
Physical/ Medical Fitness	Completion of the following baseline criteria:
	1. Medical requirements established by the AHJ 2. Minimum physical fitness and swimming standards, JRPAT, as required by the AHJ.
Certification	Certification by the AHJ of all training requirements listed above

SAR Job Title 19: Swiftwater/Flood Rescue Technician- Boat Bowman

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Swiftwater/Flood Rescue Boat Technician- Bowman* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	Completion of the following training courses: 1. EMT- B level or higher as defined by NIMS EMS credentialing
Training	Completion of the following courses and/or curricula: 1. ASTM F2209 or equivalent 4. Annual refresher of skills per AHJ requirements obtainable through training or incident operations.
Experience	1. Position taskbooks or equivalent documentation that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or actual incident operations. 2. Criminal Background Check
Physical/ Medical Fitness	Fulfillment of requirement(s) as stated in the following standard(s): 1. NFPA 1582, Standard on Medical Requirements for Fire Fighters ³ , or equivalent 2. When necessary additional inoculations specific to the incident environment may be required. CDC/WHO recommended inoculations as needed
Certification	1. Completion of certification as: • EMT-B level as defined by NIMS EMS Credentialing 2. Develop uniform national swiftwater boat operations certification standards

³ That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

SAR Job Title 20: Swiftwater/ Flood Rescue Technician- Boat Operator

Description: A *Swiftwater/Flood Rescue Technician- Boat Operator* is an entry-level position within a Swiftwater/ Flood boat rescue team that affects in-water and boat-based (paddle and/or powered) rescues while meeting the requirements to be a Swiftwater/ Flood Rescue Technician,. This position is considered “boat captain” as has the ultimate responsibility for boat operations.

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for a *Swiftwater/ Flood Rescue Technician- Boat Operator* to participate in the Incident Management Systems Division’s National Emergency Responder Credentialing System.

Category	Criteria
Training	<p>Fulfillment of applicable requirement(s) as stated in the following standard(s):</p> <ol style="list-style-type: none"> 1. NFPA 1006: Standard for Rescue Technician (2003), as it relates to surface water rescue, or equivalent 2. NFPA 1670 (2004), as it relates to surface water rescue, or equivalent 3. NFPA 472 HazMat Operations and/or OSHA 1910.120(Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident <p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 4. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection 5. Emergency Medical First Responder per NFPA 1670 (2004) 4.1.6 or equivalent 6. Per the job performance requirements as stipulated in NFPA 1006 (2003) 7. Operate craft in Class 1-3, per AW section VI Safety Code, swiftwater/flood conditions based on: <ul style="list-style-type: none"> • Type I, II, III qualified in Class 3 (IRB) • Type IV qualified in Class 1 (john boat, PWC, airboat) 8. Night Operations 9. Use of related tools, devices, and equipment 10. Use of power and paddle craft in aquatic environment 11. Boat support (maintenance, trailering, and repair) 12. Certification/qualification as a boat bowman when applicable. 13. GPS/Map and Compass 14. SRT/Flood Technician <p>Completion of the following courses and/or curricula:</p> <ol style="list-style-type: none"> 15. ICS-100: Introduction to ICS 16. ICS-200: Basic ICS 17. FEMA IS-700: NIMS, An Introduction 18. FEMA IS-800: National Response Plan (NRP), An Introduction
	Physical/ Medical Fitness
Certification	Certification by the AHJ of all training requirements listed above.

SAR Job Title 20: Swiftwater/Flood Rescue Technician- Boat Operator

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Swiftwater/ Flood Rescue Boat Technician-Boat Operator* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	Completion of the following training courses: <ol style="list-style-type: none"> 1. EMT- B level or higher as defined by NIMS EMS credentialing
Training	<ol style="list-style-type: none"> 1. ASTM F2209 or equivalent
Experience	<ol style="list-style-type: none"> 1. Annual refresher of skills per AHJ requirements obtainable through training or incident operations. 2. Position taskbooks or equivalent documentation that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or actual incident operations. 3. Criminal Background Check
Physical/ Medical Fitness	Fulfillment of requirement(s) as stated in the following standard(s): <ol style="list-style-type: none"> 1. NFPA 1582, Standard on Medical Requirements for Fire Fighters⁴, or equivalent 2. When necessary additional inoculations specific to the incident environment may be required. CDC/WHO recommended inoculations as needed
Certification	<ol style="list-style-type: none"> 1. Completion of certification as: <ul style="list-style-type: none"> • EMT-B level as defined by NIMS EMS Credentialing 2. Recertification of all training requirements listed above 3. Develop uniform national swiftwater boat operator certification standards

⁴ That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

SAR Job Title 21: Swiftwater/ Flood Rescue Technical Specialist (Advisor)

Description: A *Swiftwater/Flood Rescue Technical Specialist* is a qualified and experienced Swiftwater/Flood Rescue Technician that is used in an advisory capacity to provide knowledge and assistance in the use of swiftwater/flood rescue teams, boats and aviation assets during swiftwater/flood SAR operations.

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for a *Swiftwater/Flood Rescue Technical Specialist* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System.

Category	Criteria
Training	Fulfillment of applicable requirement(s) as stated in the following standard(s): <ol style="list-style-type: none"> 1. NFPA 1006: Standard for Rescue Technician (2003), as it relates to surface water rescue, or equivalent 2. NFPA 1670 (2004), as it relates to surface water rescue, or equivalent 3. NFPA 472 HazMat Operations and/or OSHA 1910.120(Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident
	Completion of the following baseline criteria: <ol style="list-style-type: none"> 4. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection 5. Emergency Medical First Responder per NFPA 1670 (2004) 4.1.6 or equivalent 6. Per the job performance requirements as stipulated in NFPA 1006 (2003) 7. Training in rating of Class 3, per AW Section VI Safety Code or higher whitewater 8. Night operations 9. Use of related tools, devices, and equipment 10. Advance rope skills 11. Active and passive search techniques 12. Low head dam rescue operations 13. Multiple victims 14. Managing squad-sized teams during emergency operations 15. Helicopter and Boat Rescue Operations Awareness 16. USGS/I-Flow/National Weather Service (NWS) Flood warning and notification systems 17. GPS/map and compass 18. Completion of a Swiftwater/Flood Rescue management program that includes aviation and boat asset management 19. Search management and planning course as recognized by the AHJ
	Completion of the following courses and/or curricula: <ol style="list-style-type: none"> 20. ICS-100: Introduction to ICS 21. ICS-200: Basic ICS 22. ICS-300: Intermediate ICS 23. FEMA IS-700: NIMS, An Introduction 24. FEMA IS-800: NRP, An Introduction 25. Recertification of all training requirements listed above 26. Search training per ASTM F2209 or equivalent
	Completion of the following training courses: <ol style="list-style-type: none"> 27. NIMS Planning Section Chief or equivalent 28. S 330; All-Risk Strike Team/Task Force Leader Training Course or equivalent

Category	Criteria
Physical/ Medical Fitness	Completion of the following baseline criteria: 1. Medical requirements established by the AHJ 2. Minimum physical fitness and swimming standards, JRPAT, as required by the AHJ.
Certification	Certification by the AHJ of all training requirements listed above.

SAR Job Title 21: Swiftwater/Flood Rescue Technical Specialist (Advisor)

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Swiftwater/Flood Rescue Technical Specialist* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	Completion of the following training courses: 1. EMT- B level or higher as defined in the NIMS EMS Credentialing
Training	Completion of the following courses and/or curricula: 1. Confined Space Operations 2. Rope Operations 3. Search operations and planning (advanced GPS and map skills) 4. Search Operations (map skills) 5. Recertification of all training requirements listed above. 6. Knowledge of federal, state, or EMAC disaster response procedures 7. NIMS Operations Section Chief
Experience	1. Three years experience in Swiftwater/Flood Rescue operations. 2. Annual refresher of skills per AHJ requirements obtainable through training or incident operations. 3. Position taskbooks or equivalent documentation that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or actual incident operations. 4. Criminal Background Check 5. Ability to work well with others and develop new working relationships
Physical/ Medical Fitness	Fulfillment of requirement(s) as stated in the following standard(s): 1. NFPA 1582, Standard on Medical Requirements for Fire Fighters ⁵ , or equivalent 2. When necessary additional inoculations specific to the incident environment may be required. CDC/WHO recommended inoculations as needed
Certification	1. Completion of certification as: • EMT-B per NFPA 1006(2003) A-3-3.5, as a minimum 2. Recertification of all training requirements listed above 3. Develop a national flood operations management course

⁵ That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

SAR Job Title 22: Swiftwater/ Flood Technician- Animal Rescue

Description: A *Swiftwater/Flood Technician- Animal Rescue* is an entry level position within a water rescue team that affects animal rescues from shore and in the water, while meeting the requirements to be a Swiftwater/Flood Rescue Technician, as consistent with NFPA 1006.

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for a *Swiftwater/Flood Technician- Animal Rescue* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System.

Category	Criteria
Training	<p>Fulfillment of applicable requirement(s) as stated in the following standard(s):</p> <ol style="list-style-type: none"> 1. NFPA 1006: Standard for Rescue Technician (2003), as it relates to surface water rescue, or equivalent 2. NFPA 1670 (2004), as it relates to surface water rescue, or equivalent 3. NFPA 472 HazMat Operations and/or OSHA 1910.120(Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident 4. Animal rescue course commensurate with deployment environment 5. Animal behavior course commensurate with deployment environment <p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 6. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection 7. Emergency Medical First Responder per NFPA 1670 (2004) 4.1.6 or equivalent 8. .Per the job performance requirements as stipulated in NFPA 1006 (2003) 9. Training in rating of Class 3, per AW Section VI Safety Code or higher whitewater 10. Night operations <p>Completion of the following courses and/or curricula:</p> <ol style="list-style-type: none"> 11. ICS-100: Introduction to ICS 12. ICS-200: Basic ICS 13. FEMA IS-700: NIMS, An Introduction 14. FEMA IS-800: National Response Plan (NRP), An Introduction
Physical/ Medical Fitness	<p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 1. Medical requirements established by the AHJ 2. Minimum physical fitness and swimming standards, JRPAT, as required by the AHJ.
Certification	<p>Certification by the AHJ of all training requirements listed above.</p>

SAR Job Title 22: Swiftwater/Flood Technician- Animal Rescue

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Swiftwater/Flood Technician- Animal Rescue* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	Completion of the following training courses: 1. EMT- B level or higher as defined in NIMS EMS Credentialing
Training	Completion of the following courses and/or curricula: 1. Recertification of all training requirements listed above 2. Search training per ASTM F2209 or equivalent
Experience	1. Annual refresher of skills per AHJ requirements obtainable through training or incident operations. 2. Position taskbooks or equivalent documentation that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or actual incident operations. 3. Criminal Background Check
Physical/ Medical Fitness	Fulfillment of requirement(s) as stated in the following standard(s): 1. NFPA 1582, Standard on Medical Requirements for Fire Fighters ⁶ , or equivalent 2. When necessary additional inoculations specific to the incident environment may be required. CDC/WHO recommended inoculations as needed
Certification	Completion of certification as: 1. EMT-B level as defined by the NIMS EMS Credentialing 2. Recertification of all training requirements listed above 3. Develop uniform national swiftwater/flood animal rescue certification standards

⁶ That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

SAR Job Title 23: Swiftwater/ Flood Rescue Strike Team/Task Force Leader

Description: A *Swiftwater/Flood Rescue Strike Team/Task Force Leader* is a qualified Swiftwater/Flood Rescue Manager responsible for direct supervision of multiple Squad Leaders or teams within an Operational Division/Group.

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for a *Swiftwater/Flood Rescue Strike Team/Task Force Leader* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System.

Category	Criteria
Training	<p>Fulfillment of applicable requirement(s) as stated in the following standard(s):</p> <ol style="list-style-type: none"> 1. NFPA 1006: Standard for Rescue Technician (2003), as it relates to surface water rescue, or equivalent 2. NFPA 1670 (2004), as it relates to surface water rescue, or equivalent 3. NFPA 472 HazMat Operations and/or OSHA 1910.120(Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident <p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 4. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection 5. Emergency Medical First Responder per NFPA 1670 (2004) 4.1.6 or equivalent 6. .Per the job performance requirements as stipulated in NFPA 1006 (2003) 7. Training in rating of Class 3, per AW Section VI Safety Code or higher whitewater 8. Night operations 9. Use of related tools, devices, and equipment 10. Advance rope skills 11. Search management and planning course as recognized by the AHJ 12. Low head dam rescue operations 13. Multiple victims 14. Managing squad-sized teams during emergency operations 15. GPS/map and compass 16. Completion of a Swiftwater/flood Rescue Management program that includes aviation and boat asset management <p>Completion of the following courses and/or curricula:</p> <ol style="list-style-type: none"> 17. ICS-100: Introduction to ICS 18. ICS-200: Basic ICS 19. ICS-300: Intermediate ICS 20. ICS-400: Advanced ICS 21. FEMA IS-700: NIMS, An Introduction 22. FEMA IS-800: NRP, An Introduction 23. S 330; All-Risk Strike Team/Task Force Leader Training Course or equivalent 24. Recertification of all training requirements listed above 25. Search training per ASTM F2209 or equivalent
Physical/ Medical Fitness	<p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 1. Medical requirements established by the AHJ 2. Minimum physical fitness and swimming standards, JRPAT, as required by the AHJ.
Certification	<p>Certification by the AHJ of all training requirements listed above.</p>

SAR Job Title 23: Swiftwater/ Flood Rescue Strike Team/Task Force Leader

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Swiftwater/Flood Rescue Strike Team/Task Force Leader* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	Completion of the following training courses: 1. EMT-B level or higher as defined by the NIMS EMS Credentialing
Training	1. USGS/I-Flow/National Weather Service (NWS) Flood warning and notification systems
Experience	1. Annual refresher of skills per AHJ requirements obtainable through training or incident operations. 2. Position taskbooks or equivalent documentation that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or actual incident operations 3. Criminal Background Check
Physical/ Medical Fitness	Fulfillment of requirement(s) as stated in the following standard(s): 1. NFPA 1582, Standard on Medical Requirements for Fire Fighters ⁷ , or equivalent 2. When necessary additional inoculations specific to the incident environment may be required. CDC/WHO recommended inoculations as needed
Certification	1. Completion of certification as: <ul style="list-style-type: none"> • EMT-B level or higher as defined by the NIMS EMS Credentialing 2. Recertification of all training requirements listed above 3. Develop uniform national swiftwater/flood strike team/task force leader certification standards

⁷ That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

SAR Job Title 4: Helicopter Search and/or Rescue Technician

Description: A *Helicopter Search and/or Rescue Technician* is an entry level position within a helicopter rescue unit (single resource) that performs search and/or rescue functions inside and outside the aircraft and typically may include rappelling, short haul, hoist operations, and water insertions on any of the following credential-specific disciplines (search, rescue, urban, land, alpine, disaster, stillwater, swiftwater, etc.⁸)

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for *Helicopter Search and/or Rescue Technician* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System.

Category	Criteria
Training	<p>Fulfillment of requirement(s) as stated in the following standard(s):</p> <ol style="list-style-type: none"> 1. NFPA 1006 or AHJ equivalent, related to Helicopter Rescue Operations 2. NFPA 1670 or AHJ equivalent, related to Helicopter Rescue Operations 3. NFPA 472 HazMat Awareness and/or OSHA 1910.120(Q) (6) (i), HazMat Awareness Training or equivalent basic instruction on responding to and operating in a CBRNE incident. For water operations, NFPA 472 HazMat Operations and/or OSHA 1910.120(Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident 4. DOI AM S-271 or equivalent (including SAR Specific risk assessment, hazard mitigation, PPE) 5. U.S. Department of the Interior (DOI) Interagency Helicopter Operating Procedures (IHOG) external Loads curricula or equivalent <p>Fulfillment of requirement(s) as stated in the following;</p> <ol style="list-style-type: none"> 6. SAR Operational level for all other hazards and environments reasonably expected to operate in or through (such as hurricane, ocean, etc.). 7. SAR Technician level for all other hazards and environments reasonably expected to perform SAR techniques in (swift/flood water rescue technician, mountain SAR technician, etc.). <p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 8. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection 9. Use of related tools, devices, and equipment 10. Aviation (CRM/ADM Survival to include aircraft water immersion) 11. Communication for general, special use operations and emergencies 12. General Helispot or Landing Zone Management 13. Operational Training, including; <ul style="list-style-type: none"> • Ability to perform general, and internal and external load rescue rigging and operations; • Knowledge and training in preventive and Emergency Corrective Actions (ECAs) for all reasonably expected emergencies including external load rigging emergencies provided by their program (short haul, helicopter rappel, cable hoist, etc.). 14. Functional Training in all general aviation and special-use techniques to be performed in operations (human external loads such as short haul, hoist, rappel; still and moving water insertions; reconnaissance/surveillance; confined area techniques; night flight; hover ingress-egress; toe-in ingress-egress; single skid landings); 15. Environmental/Operational Training as required by the AHJ or operation (wilderness, mountain, stillwater, swiftwater, ocean, urban, disaster, altitudes of

⁸ A Technician credentialed only in the Search aspects is a Helicopter Search Technician. A Technician credentialed only in the Rescue aspects is a Helicopter Rescue Technician. A Technician credentialed in both SAR aspects is a Helicopter SAR Technician.

Category	Criteria
	<p>approximately 10,000 feet (3,000 meters) ASL and above).</p> <p>Completion of the following courses and/or curricula:</p> <ol style="list-style-type: none"> 16. ICS-100: Introduction to ICS 17. ICS-200: Basic ICS 18. FEMA IS-700: NIMS, An Introduction 19. FEMA IS-800: National Response Plan (NRP), An Introduction
Experience	<ol style="list-style-type: none"> 1.SAR Technician for each SAR discipline expected to perform (stillwater, swift/flood water, mountain, wilderness, etc.). 2.Participation in a currency program per AHJ
Physical/ Medical Fitness	<p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 1. Medical requirements established by the AHJ 2. Minimum physical fitness and swimming standards, JRPAT, as required by the AHJ.
Certification	<p>Certification by the AHJ in all training requirements listed above.</p>

SAR Job Title 4: Helicopter Search and/or Rescue Technician

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Helicopter Search and/or Rescue Technician* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training	<ol style="list-style-type: none">1. Annual refresher of skills per AHJ requirements obtainable through training or incident operations.2. Position taskbooks or equivalent documentation that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or
Physical/ Medical Fitness	<p>Fulfillment of requirement(s) as stated in the following standard(s)</p> <ol style="list-style-type: none">1. NFPA 1582, Standard on Medical Requirements for Fire Fighters⁹, or equivalent.2. When necessary additional inoculations specific to the incident environment may be required. CDC/WHO recommended inoculations as needed..

⁹ That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

SAR Job Title 11: Search and Rescue Logistics Specialist

Description: A *Search and Rescue Logistics Specialist* is responsible for supporting the logistical needs of their team in credential-specific disciplines, such as search and/or rescue, urban, alpine, disaster, collapsed structure, swiftwater/flood and/or stillwater SAR operations.

REQUISITE CRITERIA

The table below lists minimum requisite criteria, based on existing protocols and standards, for a *Search and Rescue Logistics Specialist* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System.

Category	Criteria
<p>Training</p>	<p>Fulfillment of requirement(s) as stated in all the following applicable discipline-specific standard(s):</p> <ol style="list-style-type: none"> 1. NFPA 1670 Awareness Level Training, Including; <ul style="list-style-type: none"> • General Requirements • Confined Space SAR, and/or applicable industry equivalent such as mine (MSHA) or cave (NCRC) SAR • Swiftwater/flood SAR Operations • Structural Collapse, and/or applicable industry equivalent such as mine (MSHA) or cave (NCRC) SAR • Trench and Excavation SAR and/or applicable industry equivalent such as mine (MSHA) or cave (NCRC) SAR • Rope Rescue 2. Awareness level training, including <ul style="list-style-type: none"> • Alpine SAR per MRA 105.1 • Land SAR awareness consistent with subjects in ASTM F2209 3. NFPA 472 HazMat Awareness and/or OSHA 1910.120 (Q)(6)(i), HazMat Awareness Training or equivalent basic instruction on responding to and operating in a CBRNE incident 4. SAR Logistics Training specific to the mission, environmental and equipment requirements such as swiftwater/flood, land, alpine, urban, collapsed structure, canine. <p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 5. OSHA 1910.120 and/or 1910.134(f) Respiratory Protection 6. Emergency medical care based on AHJ requirements 7. Risk assessment 8. Hazard mitigation 9. PPE 10. Use of related tools, devices, and equipment 11. Maintenance and repair of rescue tools, equipment, and devices 12. GPS map and compass <p>Completion of the following courses and/or curricula:</p> <ol style="list-style-type: none"> 12. ICS-100: Introduction to ICS 13. ICS-200: Basic ICS 14. FEMA IS-700: NIMS, An Introduction 15. Discipline specific team logistics training course
<p>Physical/ Medical Fitness</p>	<p>Completion of the following baseline criteria:</p> <ol style="list-style-type: none"> 1. Medical requirements established by the AHJ 2. Minimum physical fitness standards as required by the AHJ
<p>Certification</p>	<ol style="list-style-type: none"> 1. Certification for possession of controlled medications, if applicable

Category	Criteria
	2. Certification by the AHJ of all training requirements listed above.

SAR Job Title 11: Search and Rescue Logistics Specialist

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously-listed requisite criteria for the Incident Management Systems Division's consideration and referral to organizations, as appropriate.

The table below lists the SAR Working Group's recommended criteria for a *Search and Rescue Logistics Specialist* to participate in the Incident Management Systems Division's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training	<ol style="list-style-type: none"> 1. NFPA 472 HazMat Operations and/or OSHA 1910.120 (Q)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident 2. DHS/FEMA Logistics Specialist Course or equivalent. 3. NFPA 472 HazMat Operations and/or OSHA 1910.120 (G)(6)(ii), HazMat Operations Training or equivalent basic instruction on responding to and operating in a CBRNE incident 4. FEMA IS-800: NRP, An Introduction
Experience	<ol style="list-style-type: none"> 1. Position taskbooks that validate and verify (by AHJ) demonstrated ability to perform required skills in exercises and/or actual incidents every 5 years or as dictated by need. 2. Fingerprint Background Check 3. Recommend minimum experience requirements
Physical/ Medical Fitness	Fulfillment of requirement(s) as stated in the following standard(s): <ol style="list-style-type: none"> 1. NFPA 1582, Standard on Medical Requirements for Fire Fighters¹⁰ 2. EMT-B per NFPA 1006(2003) A-3-3.5
Certification	Development of a uniform national logistics specialist training course.

¹⁰ That NFPA 1582, Standard on Medical Requirements for Fire Fighters, as recommended by NFPA 1006, be adopted. Where necessary, additional inoculations specific to the incident environment may be required.

This equipment list should be considered as the minimum required equipment for swiftwater/flood search and rescue teams that are requested under the auspices of the National Incident Management System (NIMS) for deployments to major water related events. The equipment should allow the teams to be self sufficient for 72 hours excluding vehicle fuel.

	Type I	Type II	Type III	Type IV
Communications	Qty	Qty	Qty	Qty
Airband portable radio	6	4	1	1
Bags, Waterproof, radio	14	14	5	5
Phone, Cell	4	4	2	2
Portable programmable radio	14	14	5	5
Personal Equipment				
Aerial Flares	14	14	5	5
Air crew survival vest with flotation	4	0	0	0
ALS Medical Kit	2	1	0	0
BLS Medical Kit	0	0	1	0
Dye Markers	14	14	5	5
Dry gear bags	14	14	5	5
Dry Suit with liner	14	14	5	5
Fins, pair	14	14	5	0
First Aid Kit	0	0	0	1
Flashlight	14	14	5	5
Flight gloves (Nomex)	4	0	0	0
Flight helmet with com	4	0	0	0
Flight suit (Nomex)	4	0	0	0
Gloves- water	14	14	5	5
Gloves- leather	14	14	5	5
Handheld flares	14	14	5	5
Handheld survival strobe light	14	14	5	5
Headlamps, waterproof	14	14	5	5
HEEDS/HABD	4	0	0	0
Helicopter rescuer harness (such as LSC Tri-SAR)	4	0	0	0
Helmet, water rescue	14	14	5	5
Helo Flotation Vest (USCG approved)	4	0	0	0
PFD, Type V, Tethered	14	14	5	5
Rescue Knives	14	14	5	5
Smoke Marking Device	14	14	5	5
Stokes type litter (or equivalent capability)	2	2	1	1
Stokes type litter float kit (or equivalent capability)	2	2	1	1
Spine Board, Floating (or equivalent capability)	2	2	1	0
Water Rescue Boots	14	14	5	5

Whistles	14	14	5	5
Wader/Hip Boots	14	14	5	5
Team Equipment				
Admin Kit/ICS-Agency Forms	1	1	1	1
Air Monitors	2	2	1	1
Axe, Pick head or Flat Head	4	4	2	2
Body Bag	4	4	2	2
Brake bar rack	4	4	2	2
Carabiner, locking "D", Steel	40	40	20	20
Carabiner, locking "D", Aluminum	20	20	10	0
Chain Saw with Kit (Minimum 14 inch bar)	4	4	1	1
Collection ring, rope rescue	4	4	2	0
Compressed Air Cylinder and Hose as required for IRB Inflation	2	2	1	1
Dust Mask, N95, disposable	2 Boxes	2 Boxes	1 Box	1 Box
Edge Protection	2	2	2	0
Figure Eight Plate	4	4	2	2
Forcible Entry Tool, Haligan	4	4	2	2
5 gallon Fuel Cans, Air Transportable	8	8	4	4
GPS, hand held	4	4	2	2
Harness, Full Body	14	14	2	2
Hand Held Spot Light	4	4	2	2
Hammer, Sledge	4	4	2	2
Helmet, Victim	4	4	2	2
Helo Lifting Device, victim (such as STROP or cinch collar)	2	0	0	0
Inflatable Hose kit with Hose	2	2	1	0
Knot Passing Pulley	2	2	2	0
Line Thrower	2	2	1	0
Mask, Dive, Snorkel	4	4	2	0
Night Vision (Non-Aviation Acceptable)	2	2	2	0
PFD, Victim, Type III, various	4	4	4	4
Picket	12	12	6	6
Pole, reaching (i.e., Pike)	2	2	2	2
Prusiks, tandem	12	12	12	12
Pulley	12	12	12	6
Repair Kit, IRB	2	2	2	2
Rope, 200' with bag	4	4	2	0
Rope, 300' with bag	3	3	1	1
Rope, 600' with bag	1	1	1	0
Shovel, hand	2	2	2	2
Swimmer Rescue Board	4	4	2	0

Throw Bags	14	14	5	5
Throwable Flotation Device	2	2	2	2
Victim Harness	2	2	2	2
Water Sample Kit	2	2	2	2
Webbing 1" x 5' Nylon Tubular	20	20	10	5
Webbing 1" x 12' Nylon Tubular	20	20	10	5
Webbing 1" x 15' Nylon Tubular	20	20	10	5
Webbing 1" x 20' Nylon Tubular	20	20	10	5
Decontamination Equipment				
Decontamination Equip. Kit	2	2	1	1
2.5 gallon pressure sprayer				
5 gallon bucket				
40 gallon plastic work box				
110 volt submersible pump				
(2) 25' garden hose				
Garden hose wye				
110 volt power washer				
Soap and Bleach Solution				
				Support equipment specific to vessel used
Motorized Inflatable Rescue Boat (IRB)				
Air, manual inflation pump	2	2	1	0
Air, 12 volt pump	2	2	1	0
Fuel, bladder, air transportable	4	4	2	2
IRB, 12' minimum	2	2	1	0
IRB or Vessel Support Kit	2	2	1	1
Lanyard, wrist, kill switch	14	14	5	As Required
Motor, 30 HP (Minimum)	4	4	2	0
Motor, Appropriate for Boat Size	0	0	0	1
Motor Flush Kit	2	2	1	1
Paddles	16	16	10	As Required
Prop, spare	8	8	4	As Required
Logistical Support				
Adapter Twistlock, Cord	4	4	4	4
Air Horn	4	4	2	2
Attic Ladder, 10'	1	1	1	1
Bar Oil, 2 gal	2	2	1	1
Battery Charger	2	2	2	2
Battery, 9v	12	12	6	6

Battery, AA	510	510	250	250
Battery, C	200	200	100	100
Battery, D	200	200	100	100
Boat Motor Fuel (in gallons)	80	80	40	20
Boat Lifting Harness	2	2	1	0
Bolt Cutter, 24"	2	2	1	1
Broom	2	2	1	1
Chain Saw Fuel (in gallons)	5	5	5	5
Chain Saw Chain, Spare	4	4	2	1
Chain Saw Bar, Spare	2	2	1	1
Center Punch	14	14	5	5
Cots	14	14	5	5
Coupling Double Female, 1.5"	1	1	1	1
Cups, 8 oz	200	200	100	100
Cyalume Stick, 12 hr, Green	200	200	100	100
Cyalume Stick, 12 hr, Red	200	200	100	100
Cyalume Stick, 12 hr, Yellow	200	200	100	100
Cyalume Stick, 12 hr, White	200	200	100	100
Drysuit Repair Kit	14	14	5	5
Eating Utensils packet	100	100	50	50
Electrical Connection assortment	1	1	1	1
Emergency Blanket	30	30	10	10
Extension Cord, 12/3, 100'	2	2	2	2
Extension Cord, 12/3, 50'	2	2	2	2
Fans, 18"	For Shelter	For Shelter	For Shelter	For Shelter
Funnel kit, various sizes	2	2	2	2
Road flares, 30 minute minimum	36	36	10	10
Generator 3K with lights (2 must be portable)	4	4	2	2
Generator Fuel (in gallons)	20	20	20	20
Hand Disinfectant Bottles (Minimum 2 oz)	30	30	15	15
Hearing Protection, case	2	2	1	1
Hot Knife	1	1	1	1
Hose End Cap, 2. 5"	1	1	1	1
Ice Chest, 120 qt	4	4	2	2
Katadyn Pump Kit, Water filtration	1	1	1	1
Lineman Pliers	4	4	4	4
Meals Ready to Eat	240	240	80	80
MRE Heaters	240	240	80	80
Pads, Sleeping	14	14	5	5
Porta Toilet	2	2	1	1
Rain Gear	14	14	5	5
Reducer, 2.5" x 1.5"	1	1	1	1
Regulator, air	1	1	1	1

Roll of Paper Towels	30	30	10	10
Roll of Toilet Paper	30	30	10	10
Rope Marker	10	10	5	5
Shovel, Spade	4	4	2	2
Sleeping Bags	14	14	5	5
Solar Shower	14	14	5	5
Stakes, For Tent	As Required	As Required	As Required	As Required
Tents/Shelter (appropriate for weather conditions)	To accommodate 14 person team	To accommodate 14 person team	To accommodate 5 person team	To accommodate 5 person team
Tent, Privacy for Restroom	2	2	1	1
Tool Box	2	2	1	1
Tree Pruner	2	2	1	1
Water Bladder, 500 gallon	1	1	1	1
Water Cooler, 5 gallon	4	4	1	1
Water, Bottle, 12 oz/24/cs	42	42	15	15
Wire Cutter, 8"	4	4	2	2
Zip Tie/Wire Tie (minimum 6")	200	200	100	100
Vehicle/Transportation				
Vehicle(s) capable of transporting team members and equipment in the field environment in the area of operations	As Required	As Required	As Required	As Required
Vehicle(s) must adequately support three day operations such as fuel, tires, and maintenance requirements	As Required	As Required	As Required	As Required