

West Virginia Search and Rescue Council  
Wilderness Search and Rescue Standards  
Search Team Member Level II  
Approved 10-14-2010

**1. SCOPE**

- 1.1. The field training standards for Wilderness Search and Rescue are intended to define the minimum requirements for individuals to perform the following functions in the general environment of the state of West Virginia.
  - 1.1.1. Missing person search
  - 1.1.2. Ground portion of missing aircraft search
  - 1.1.3. Evacuation of individuals from wilderness environments
- 1.2. Individuals seeking Search Team Member Level II accreditation should be capable of performing these functions anytime of the year, day or night, and in all weather conditions experienced in the state of West Virginia
- 1.3. Individuals seeking Search Team Member Level II accreditation should hold active membership in a professional search and rescue group, or an established emergency services organization such as a law enforcement agency, rescue squad, or fire department.
- 1.4. A Search Team Member Level II accreditation issued by the West Virginia Search and Rescue Council does not constitute a license to practice skills, but signifies only that the individual holding the accreditation has met an established standard of knowledge and performance and should be able to function in a competent manner at the level indicated.
- 1.5. Search Team Member Level II accreditation issued by the West Virginia Search and Rescue Council shall be valid for a three year period starting on January 1<sup>st</sup> of the year following the initial credential unless issued on January 1<sup>st</sup> of the current year.
- 1.6. Search Team Member Level II accreditation may be revoked by the West Virginia Search and Rescue Council at any point in time.

**2. REFERENCED DOCUMENTS**

- 2.1. Appalachian Search and Rescue Conference
  - 2.1.1. Training Standards (v6.3)
- 2.2. ASTM Standards
  - 2.2.1. F1633 Guide for Techniques in Land Search
  - 2.2.2. F1993 Standard Classification System of Human Search and Rescue Resources
  - 2.2.3. F2685 Standard Guide for Training of a Level II Land Search Team Member
  - 2.2.4. F2751 Standard Guide for Training of Support Level Land Rescue Team Member
- 2.3. Federal Emergency Management Agency
  - 2.3.1. Emergency Support Function #9 Search and Rescue
    - 2.3.1.1. <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-09.pdf>
  - 2.3.2. Typed Resource Definitions – Search and Rescue
    - 2.3.2.1. [http://www.fema.gov/pdf/nims/508-8\\_search\\_and\\_rescue\\_resources.pdf](http://www.fema.gov/pdf/nims/508-8_search_and_rescue_resources.pdf)
- 2.4. State Search and Rescue Councils
  - 2.4.1. Pennsylvania ([www.pсарc.org](http://www.pсарc.org))
  - 2.4.2. Virginia ([www.vasarco.org](http://www.vasarco.org))
- 2.5. State Emergency Operations Plans
  - 2.5.1. Maryland Emergency Management Agency

2.5.1.1. [http://www.mema.state.md.us/MEMA/content/pdf/The\\_State\\_of\\_Maryland\\_Emergency\\_Operations\\_Plan\\_26Aug09.pdf](http://www.mema.state.md.us/MEMA/content/pdf/The_State_of_Maryland_Emergency_Operations_Plan_26Aug09.pdf)

2.5.2. Kentucky Emergency Operations Plan

2.5.2.1. <http://kyem.ky.gov/NR/rdonlyres/197CC054-C079-4877-BE2FBAA237CDB07D/0/ANNEXLALL.pdf>

2.5.3. Ohio Emergency Management Agency

2.5.3.1. [http://ema.ohio.gov/Documents/Ohio\\_EOP/esf\\_9.pdf](http://ema.ohio.gov/Documents/Ohio_EOP/esf_9.pdf)

2.5.4. Pennsylvania Emergency Management Agency

2.5.5. West Virginia Division of Homeland Security and Emergency Management

2.5.5.1. [http://www.wvdhsem.gov/wveop\\_1.htm](http://www.wvdhsem.gov/wveop_1.htm)

2.5.6. Virginia Department of Emergency Management

2.5.6.1. [http://www.vaemergency.com/library/plans/coveop/eopvol2/COVEOP\\_ESF9\\_version\\_12\\_10\\_2009.pdf](http://www.vaemergency.com/library/plans/coveop/eopvol2/COVEOP_ESF9_version_12_10_2009.pdf)

2.6. Mountain Rescue Association

2.6.1. Member Policies 6-24-2007

**3. TERMINOLOGY**

- 3.1. The definitions listed here are for the purpose of these standards only. They may or may not reflect the definitions used by other individuals, groups, or agencies.
  - 3.1.1. AHJ – Agency Having Jurisdiction
  - 3.1.2. DHS – Department of Homeland Security
  - 3.1.3. FEMA- Federal Emergency Management Agency
  - 3.1.4. NASAR – National Association for Search and Rescue
  - 3.1.5. NIMS – National Incident Management Systems
  - 3.1.6. PSARC – Pennsylvania Search and Rescue Council
  - 3.1.7. State SAR Coordinator – The person designated by the Coordinator of Emergency Management to coordinate the Search and Rescue program of the West Virginia Division of Homeland Security and Emergency Management and to coordinate overall state SAR operations.
  - 3.1.8. SAR Mission Coordinator (SMC) – The person designated by the Legal Responsible Agent to coordinate and manage on-scene operations during a specific SAR incident. Depending upon the management system used and the organizations involved, this person may be called the Mission Coordinator (MC), On-Scene Commander (OSC), or Incident Commander (IC).
  - 3.1.9. Type I Incident – Largest most complex search incident. Multiple regional, state, local and SAR agencies involved. Could require the use of two or more divisions/branches for one shift or more. Significant external influences present.
  - 3.1.10. Type II Incident – Multiple SAR resource types required from throughout the state.
  - 3.1.11. Type III Incident – County level SAR event involving numerous county level agencies.
  - 3.1.12. Type IV Incident – Local area Single SAR agency/resource type involvement. Very limited

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number of resources. Often initial stage of a search incident. Can be a stabilized search.

- 3.1.13. SM – Search Manager
- 3.1.14. STM – Search Team Member
- 3.1.15. STM-CQ – Search Team Member Callout Qualified
- 3.1.16. STL – Search Team Leader
- 3.1.17. STS – Search Team Support
- 3.1.18. VASARCO – Virginia Search and Rescue Council
- 3.1.19. VDEM – Virginia Department of Emergency Management
- 3.1.20. WSAR – Wilderness Search and Rescue
- 3.1.21. WVDHSEM – West Virginia Division of Homeland Security and Emergency Management
- 3.1.22. WVSARCO – West Virginia Search and Rescue Council

**4. REQUIREMENTS**

- 4.1. Minimum age for Search Team Member Level II is sixteen (With written parental consent).
- 4.2. Meet all current requirements of WVSARCO Search Team Support
- 4.3. Successful completion of the following Emergency Management Institute – FEMA Independent Study Program courses
  - 4.3.1. IS-200 – ICS for Single Resources and Initial Action Incidents.
- 4.4. Shall be currently credentialed in basic first aid or higher.
- 4.5. Shall be currently credentialed in First Responder CPR.
- 4.6. In addition to the minimum personal equipment requirements as set forth in the WVSARCO Search Team Support level individuals seeking Search Team Member Level II Accreditation shall respond to incidents with the following additional personal equipment items.
  - 4.6.1. One – 30’ piece of 1” tubular webbing
  - 4.6.2. Two – Locking carabiners (UIAA or NFPA rated for personal use or equivalent.)
  - 4.6.3. One – pair gloves suitable for rope work.
  - 4.6.4. Eye protection
  - 4.6.5. Ear protection (for use in aircraft operations)
  - 4.6.6. Climbing helmet with UIAA or equivalent certification.

**5. KNOWLEDGE AND PERFORMANCE EXPECTATIONS**

- 5.1. The STM-II shall have an understanding of the items listed under each subject. Some items may require the performance of manual skills.
- 5.2. Search Operations
  - 5.2.1. Describe how search operations are originated
  - 5.2.2. List several factors that may result in a person or aircraft being listed as missing.
  - 5.2.3. List several resources that might be utilized during a SAR event.
  - 5.2.4. Describe the basic principles of the Incident Command System and define the major staff functions.
  - 5.2.5. Describe proper search conduct as it relates to law enforcement, family of the missing subject(s), and the media.
  - 5.2.6. Describe the general safety considerations in SAR operations, including dealing with critical stress.

5.2.7. Be familiar with and describe the NIMS management system.

**5.3. Legal Aspects of Search and Rescue**

- 5.3.1. Describe responsibilities for search and rescue as defined by the National SAR Plan.
- 5.3.2. Describe responsibilities at a state level.
- 5.3.3. Demonstrate an understanding of the basic provisions of the “Good Samaritan” law
- 5.3.4. Define the terms “implied consent”, “expressed consent”, “informed consent”, and “abandonment”.
- 5.3.5. Define several factors necessary to prove negligence.
- 5.3.6. Describe several methods of reducing liability exposure.
- 5.3.7. Describe the circumstances when entry upon private property may be justified, define the problems involved with action and possible solutions.
- 5.3.8. Briefly explain how the following legal concepts apply to search and rescue operations:
  - 5.3.8.1. Civil suits and criminal actions.
  - 5.3.8.2. Standards of care
  - 5.3.8.3. The right to emergency assistance and duties to provide emergency assistance.
  - 5.3.8.4. Crime scene protection
  - 5.3.8.5. Declaration of death and confirmation of death
  - 5.3.8.6. Confidentiality.

**5.4. Personal Equipment associated with:**

- 5.4.1. Choice of clothing material as it relates to the body’s needs and environmental conditions.
- 5.4.2. Waterproof / windproof
- 5.4.3. Layering
- 5.4.4. Loft
- 5.4.5. Boots
- 5.4.6. Backpack / daypack
- 5.4.7. Personal safety items
- 5.4.8. Fire starting aids
- 5.4.9. Items for signaling and navigation
- 5.4.10. Light sources and batteries
- 5.4.11. Food and water

**5.5. Wilderness Survival**

- 5.5.1. Define short-term vs. long-term wilderness survival.
- 5.5.2. Describe several problems commonly encountered on SAR missions that may lead to a survival situation.
- 5.5.3. Describe the psychological factors that may affect survival ability.
- 5.5.4. Explain the “energy reserve” concept
- 5.5.5. Define average daily food and water requirements.
- 5.5.6. Describe the body’s physiologic response to cold and heat stress.
- 5.5.7. Define the following environmentally-related problems and their recognition, treatment, and prevention.
  - 5.5.7.1. Hypothermia
  - 5.5.7.2. Hyperthermia
  - 5.5.7.3. Frostbite
  - 5.5.7.4. Dehydration
  - 5.5.7.5. Insect borne diseases
- 5.5.8. Describe several ways to help prevent environmental emergencies.

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- 5.5.9. Demonstrate the ability to bivouac in any type weather conditions, without significantly affecting functional ability.
- 5.5.10. Define average daily food and water requirements.
- 5.6. Land Navigation
  - 5.6.1. Define the following terms or concepts
    - 5.6.1.1. Latitude and Longitude
    - 5.6.1.2. Degrees, minutes, and seconds
    - 5.6.1.3. True north and magnetic north
    - 5.6.1.4. Declination
    - 5.6.1.5. Datum
    - 5.6.1.6. USNG
    - 5.6.1.7. UTM
  - 5.6.2. Demonstrate the ability to read and interpret topographic map border information, colors, and symbols.
  - 5.6.3. Demonstrate the ability to read a 7.5 minute topographic map, including the following information:
    - 5.6.3.1. Grades of highways, roads, trails, and bridges
    - 5.6.3.2. Power lines and other landmark lines
    - 5.6.3.3. Buildings, schools, churches, and cemeteries
    - 5.6.3.4. Storage tanks, wells, mines, caves, picnic areas, and campsites
    - 5.6.3.5. Benchmarks (control stations) and spot elevations
    - 5.6.3.6. Boundaries and fence lines
    - 5.6.3.7. Contour lines, depressions, cuts, and fills
    - 5.6.3.8. Perennial and intermittent streams, springs, falls, and marshes
    - 5.6.3.9. Valleys, ridges, peaks, and sags (saddles, cols)
    - 5.6.3.10. Elevations and general land contours
  - 5.6.4. Describe the various parts of the compass and demonstrate the ability to use it to plot a course on a map, including northing and declination corrections.
  - 5.6.5. Demonstrate the ability to read a 7.5 minute topographic map, including the following information:
    - 5.6.5.1. Grades of highways, roads, trails, and bridges
    - 5.6.5.2. Power lines and other landmark lines
    - 5.6.5.3. Buildings, schools, churches, and cemeteries
    - 5.6.5.4. Storage tanks, wells, mines, caves, picnic areas, and campsites
    - 5.6.5.5. Benchmarks (control stations) and spot elevations
    - 5.6.5.6. Boundaries and fence lines
    - 5.6.5.7. Contour lines, depressions, cuts, and fills
    - 5.6.5.8. Perennial and intermittent streams, springs, falls, and marshes
    - 5.6.5.9. Valleys, ridges, peaks, and sags (saddles, cols)
    - 5.6.5.10. Elevations and general land contours
  - 5.6.6. Describe the various parts of the compass and demonstrate the ability to use it to plot a course on a map, including northing and declination corrections.
  - 5.6.7. Define the following plotting methods or grid systems and demonstrate the ability to use them to determine the coordinates for a given point.
    - 5.6.7.1. UTM / USNG
    - 5.6.7.2. Latitude and Longitude
    - 5.6.7.3. Random Grid (i.e. ASRC)
    - 5.6.7.4. Using a ruler and a topographic map
- 5.6.8. Demonstrate the ability to perform the following navigational functions.
  - 5.6.8.1. Obtain and follow a simple compass bearing.
  - 5.6.8.2. Determine a reciprocal.
  - 5.6.8.3. Move around obstacles.
  - 5.6.8.4. Measure distance by pacing.
  - 5.6.8.5. Determine position by terrain feature identification.
  - 5.6.8.6. Intersection and resection.
- 5.6.9. Describe how to use the orienteering concepts
  - 5.6.9.1. Catching features
  - 5.6.9.2. Collecting features
  - 5.6.9.3. Attack points
  - 5.6.9.4. Aiming off
  - 5.6.9.5. Demonstrate the ability to navigate at night
- 5.6.10. Demonstrate basic knowledge and use of GPS such as:
  - 5.6.10.1. Setting for the correct DATUM
  - 5.6.10.2. Marking a way point
- 5.7. Search Skills
  - 5.7.1. Identify the most basic tenet of search and rescue, the one that should govern all SAR activity
  - 5.7.2. Identify the primary goal of all SAR activity
  - 5.7.3. Identify and define four key points of search theory
  - 5.7.4. Demonstrate an understanding of these search tactics
    - 5.7.4.1. Attraction
    - 5.7.4.2. Containment
    - 5.7.4.3. Survey Search
    - 5.7.4.4. Hasty Search
    - 5.7.4.5. Sweep Search (Open Grid Search)
    - 5.7.4.6. Line Search (Closed Grid Search)
    - 5.7.4.7. Sign Cutting
    - 5.7.4.8. Interviewing
  - 5.7.5. Describe the techniques for increasing clue awareness
  - 5.7.6. Describe the procedures for working with specialty teams such as:
    - 5.7.6.1. Airscent dogs
    - 5.7.6.2. Tracking/Trailing Dogs
    - 5.7.6.3. Field Team Sign Cutters
    - 5.7.6.4. Mantrackers
  - 5.7.7. Describe the proper use of basic Wilderness Search and Rescue Forms
  - 5.7.8. Describe the functions of the following Field Team positions:
    - 5.7.8.1. Search Team Member
    - 5.7.8.2. Search Team Leader
    - 5.7.8.3. Medical Officer
    - 5.7.8.4. Wilderness Rescue Technician
    - 5.7.8.5. Radio Operator
  - 5.7.9. Describe the process of briefing and debriefing
  - 5.7.10. Describe the basic leadership principles (including but not limited to responsibility, delegation, and safety).
  - 5.7.11. Demonstrate the following abilities in the field
    - 5.7.11.1. Demonstrate clue consciousness

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- 5.7.11.2. Function as a member of a grid team, sweep team, and hasty team, and understand his/her role and duties in each type of search pattern
- 5.7.11.3. Accompany a dog handler on a simple search task
- 5.7.11.4. Demonstrate the knowledge required to responsibly and effectively handle the media in the capacity of a Search Team Member
- 5.7.11.5. Work well with people
- 5.7.12. Explain the use and operation of direction-finding instruments for locating downed aircraft.
- 5.8. Incident Site Procedures
  - 5.8.1. Define the proper approach to an incident site.
  - 5.8.2. Describe the proper method used to secure an incident site.
  - 5.8.3. Explain the importance of clue preservation at both an aircraft crash site and a possible crime scene.
  - 5.8.4. Describe the proper methods to use to secure a site adequately.
  - 5.8.5. Explain the importance of accurate documentation of events at an incident site.
  - 5.8.6. Describe the several hazards commonly associated with an aircraft crash site.
- 5.9. Basic Rescue Operations
  - 5.9.1. Describe the types of rope and technical hardware commonly used in wilderness rescue work, their construction, use, and care.
  - 5.9.2. Describe the use and care of the carabiner, the Figure '8' descender and the brake-bar rack descender.
  - 5.9.3. Demonstrate the ability to correctly tie these knots:
    - 5.9.3.1. Simple overhand
    - 5.9.3.2. Overhand bend (water knot, ring bend)
    - 5.9.3.3. Simple Figure 8
    - 5.9.3.4. Figure 8 loop
    - 5.9.3.5. Figure 8 bend (follow through)
    - 5.9.3.6. Square knot
    - 5.9.3.7. Prussik Loop
    - 5.9.3.8. Double fisherman or barrel knot
    - 5.9.3.9. Redundant seat harness
  - 5.9.4. Demonstrate these rope handling techniques:
    - 5.9.4.1. Uncoiling and stacking a rope
    - 5.9.4.2. Inspection of ropes
  - 5.9.5. Litter Handling Techniques
    - 5.9.5.1. Demonstrate these litter techniques with appropriate calls.
      - 5.9.5.1.1. Patient loading
      - 5.9.5.1.2. Lift, lower, and carry
      - 5.9.5.1.3. Rotation
      - 5.9.5.1.4. Laddering, including toe nailing
      - 5.9.5.1.5. Turtling
      - 5.9.5.1.6. Lap Pass
      - 5.9.5.1.7. Simple rope belay
    - 5.9.5.2. Be able to act as a litter captain in a non-technical evacuation, including the proper use of toenailing, laddering, and rotation of litter bearers.
    - 5.9.5.3. Be able to be a litter team member on a semi-technical evacuation and describe the personal equipment required for the rescuer's safety.
- 5.10. Helicopter and Aircraft Operations
  - 5.10.1. Describe the hazards to ground personnel working around helicopter or other aircraft
  - 5.10.2. Describe the considerations for selecting and preparing a helicopter LZ.
  - 5.10.3. Describe the proper format for relaying location information to aircraft.
  - 5.10.4. Explain the importance of the accurate documentation of events an incident site.
  - 5.10.5. Define the proper approach to an aircraft crash site.
- 5.11. Field Communications
  - 5.11.1. Describe the use and dangers of these signaling devices
    - 5.11.1.1. Aerial flares
    - 5.11.1.2. Smoke
    - 5.11.1.3. Signal mirrors
    - 5.11.1.4. Fires
    - 5.11.1.5. Panels and paulins
    - 5.11.1.6. Hand and body signals
  - 5.11.2. Define the special problems associated with the field use of portable radios and list some possible solutions.
  - 5.11.3. Describe basic radio procedures including courtesy, security, brevity, use of the phonetic alphabet and problems with 10 codes.
  - 5.11.4. Be able to reliably operate commonly encountered hand-held radios, including being able to:
    - 5.11.4.1. Adjustment of channel, volume, squelch and PL controls
    - 5.11.4.2. Describe and observe FCC regulations
    - 5.11.4.3. Describe indications of low battery and the technique for changing radio batteries
    - 5.11.4.4. Describe various techniques for improving marginal communications encountered using VHF-FM hand-held radios.
- 6. TEST METHODS
  - 6.1. Written Test
    - 6.1.1. The test consists of at least 100 questions representative of the material presented in the WVSARCO Search Team Member Level II Standard.
    - 6.1.2. Passing score is 80 percent.
  - 6.2. Practical Test
    - 6.2.1. The practical test consists of several stations that test certain skills presented in the standard. Students are requested to perform these skills in the presence of an examiner.
    - 6.2.2. A student who fails a practical station(s) may repeat that station(s) once on the same day. Failure of a second attempt constitutes failure of the course.
  - 6.3. Retesting
    - 6.3.1. Students who complete the required training, but fail either the written or practical test, are eligible for retesting.
    - 6.3.2. Each student is responsible for making arrangements for retesting with an examiner on an individual basis.

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6.3.3. If a student fails any portion of a retest, the record reverts to inactive and the course must be repeated or challenged.

6.4. Equivalent Training and/or Experience

6.4.1. Those individuals who, by virtue of past training and experience, possess the necessary knowledge and skills may petition for an exemption for the written and practical skill tests for the initial credential of Search Team Member.

6.5. Recertification Procedures

6.5.1. Individuals applying for recertification must meet or exceed the following continuing education credits (CEUs). CEUs will be a combination of training, missions and demonstration of practical skills to recertify.

6.5.1.1. Presentation of a copy of his/her log book documenting the following continuing education credits (one hour per credit) documenting a minimum of 24 hours of training over a three year period, signed off by an organization's training officer.

6.5.1.2. Demonstration of participation in a minimum of nine (9) real or simulated missions) over the three year period. Mission records should be signed off by Mission Operations or Training Officer; the mission sign in sheets will also be recognized.

6.5.2. Procedure

6.5.2.1. The Search Team Member Level II credential may be renewed by successfully completing the written and practical tests, and meeting any other requirements for certification for Field Team Member that exist at the time of recertification.

6.5.2.2. Each person is responsible for making individual arrangements for recertification testing with WV SARCO

**7. EXEMPTIONS**

7.1. Due to the field response requirements for Search Team Member Level II there are no exemptions allowed to the standard.