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Standard Guide for Training for **Level II Rope Rescue (R2) Intermediate Rope Rescuer Endorsement**¹

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1. Scope

1.1 ~~This guide is intended to be used guide,~~ in conjunction with, and as an add-on to, Guide Guides F2751 and Guide F2752 (or equivalent equivalents for other environments), to address the specific knowledge and skills environments defines the training required for a rescuer person who participates in rope rescue operations at a higher intermediate level of responsibility and complexity complexity as part of larger rescue duty.

1.1.1 Specifically, this guide is intended to define the training that would prepare an endorsed Level II Rope Rescuer (LRT-R2) or equivalent (under qualified supervision) to assist and support defines the knowledge, skills, and abilities required for a person to assist, support, and direct rope rescue operations at an intermediate level, including patient packaging, litter rigging, ascending and descending fixed ropes in a high angle environment, and constructing raising and lowering systems, and directing simple low angle rescue operations, in conjunction with other rescue duties.

1.1.2 This guide establishes the minimum training standard for an endorsed LRT-R2 Intermediate Rope Rescuer as related to general, field, and rope rescue-specific knowledge and skills.

1.1.3 An Intermediate Rope Rescuer may directly supervise low angle rope rescue operations.

1.1.4 An endorsed LRT-R2 Intermediate Rope Rescuer must work under the direct supervision of qualified rope rescue personnel personnel during high angle or complex rope rescues.

1.2 An endorsed LRT-R2 Rescuer performs rope rescues in low and high angle terrain, and may serve as a litter attendant in low (but not high) angle terrain. An endorsed LRT-R2 Rescuer is capable of safely assisting rope rescuers who have higher level endorsements. Intermediate Rope Rescuer endorsement applies only to rescues on the surface of the land; additional endorsements are required to perform this level of rope rescue in other environments. This guide alone does not define the minimum training requirements for rescuing in partially or fully collapsed structures, in or on water, in confined spaces, or underground (such as in caves, mines, and tunnels).

1.2.1 This guide alone does not provide the minimum training requirements for performing or assisting in rescues that occur in partially or fully collapsed structures, in or on water, in confined spaces, or underground (such as in caves, mines, and tunnels).

1.3 An endorsed LRT-R2 Intermediate Rope Rescuer is required to have knowledge and skill sets pertaining to the intermediate subject roped evacuation and carryout component of rope rescue. These include but are not limited to patient packaging, construction of an anchor system, construction of simple simple, compound, and compound complex rope mechanical advantage systems, and construction and use of lowering (fixed-brake) rope systems.

1.4 Type II teams, as defined in Guide An Intermediate Rope Rescuer may be a F1993, which may utilize personnel trained to this guide are Kind A (wilderness), Kind B (urban), and member of a Rope Rescue Team or Rope Rescue Task Force or Group, as defined in Guide F1993 Kind C (mountainous).

1.4.1 Further training may be required before an endorsed LRT-R2 Intermediate Rope Rescuer can may actually participate on in a particular kind of rope rescue team, depending on AHJ (authority having jurisdiction) regulations or policies the regulations or policies of the AHJ.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety safety, health, and health environmental practices and determine the applicability of regulatory limitations prior to use.*

¹ This guide is under the jurisdiction of ASTM Committee F32 on Search and Rescue and is the direct responsibility of Subcommittee F32.03 on Personnel, Training and Education.

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1.6 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:²

[F1633 Guide for Techniques in Land Search \(Withdrawn 2017\)](#)³

[F1768 Guide for Using Whistle Signals During Rope Rescue Operations](#)

[F1773 Terminology Relating to Climbing, Mountaineering, Search and Rescue Equipment and Practices](#)

[F1993 Classification System of Human Land Search and Rescue Resources](#)

[F2047 Practice for Workers' Compensation Coverage of Emergency Services Volunteers](#)

[F2209 Guide for Training of Land Search Team Member](#)

[F2751 Guide for Training of a Land Search and Rescue Team Member](#)

[F2752 Guide for Training for Basic Rope Rescuer Endorsement](#)

[F3068 Guide for Contents and Use of a Position Task Book \(PTB\)](#)

[F3222 Terminology Relating to F32 Land Search and Rescue Standards and Guides](#)

2.2 Other Documents:

["Technical Rescue Rigger's Guide, Third Edition," Rick Lipke, Conterra, Inc., 2018](#)

3. Terminology

3.1 For definitions of terms used in this guide, see [Terminology Guide F1773](#), [F1633, Guide Terminology F4633](#), [F1773, Classification F1993, Practice F2047, Terminology F3222](#), and other references within this guide.

3.2 Except where noted, this guide shall use terminology as found in [Guide Guides F2751](#) and [F2752](#).

3.3 Definitions of Terms Specific to This Standard:

3.3.1 Component-based, adj—a descriptor for a rope rescue system comprised of individual pieces of equipment which may have multiple uses.⁴

3.3.2 Intermediate Rope Rescuer, Level II (LRT-R2), n—a member of a rope rescue team who, at a minimum, meets the requirements of this guide. ~~These requirements define the intermediate or operations level of rope rescue knowledge, skills, and capabilities.~~

3.3.3 low angle, Purpose-built, n=adj—terrain whose average slope has an angle of 30 to 50° from horizontal; descriptor for a rope rescue system whose functionality relies on a piece of equipment designed and manufactured for a specific purpose in that system.⁴

3.3.3 high angle, n—terrain whose average slope has an angle of greater than 50° from horizontal.

4. Significance and Use

4.1 This guide establishes a minimum standard for training intermediate level rope rescuers as it relates to their general, field, and rope rescue specific knowledge and skills. A person trained to this guide is an endorsed Level II Rope Rescuer (LRT-R2 Rescuer). ~~Intermediate Rope Rescuer.~~

4.1.1 Every person who is identified as an endorsed LRT-R2 Intermediate Rope Rescuer shall have met the requirements of this guide.

4.1.2 This guide is only the second level of training for rope rescue personnel and, in conjunction with Guides [F2209](#) and [F2752](#), only establishes the minimum knowledge and skills required for a person to perform intermediate rope rescue. ~~Intermediate Rope Rescue.~~ No other advanced skills are included or implied.

4.1.3 In addition to meeting the requirements of this guide, an endorsed LRT-R2 Intermediate Rope Rescuer shall also be adequately trained to operate effectively function safely and safely effectively in the environment in which he or she is expected to work (that is, wilderness, urban, industrial, and so forth). ~~etc.).~~

4.1.4 Nothing in this guide precludes an AHJ from adding additional requirements for its own members.

4.2 Endorsement to Level II Intermediate Rope Rescue (LRT-R2 Rescuer) endorsement is not an indication that a person possesses adequate field skills or knowledge to make mission-critical decisions. ~~However, under authorized supervision, a person so endorsed~~ Under qualified supervision an Intermediate Rope Rescuer is qualified to support a rope rescue team work in an area with high fall exposure and/or falling hazard potential, including high angle environments terrain.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Lipke.

4.3 This guide *by itself* is not a complete training document. It is only an outline of the topics required for training or evaluating an ~~endorsed LRT-R2 Rescuer~~. Intermediate Rope Rescuer or by an AHJ. It may, however, be used in the development of, or as part of, a complete training document or program.

4.3.1 This guide does not stand ~~alone~~. ~~It alone and~~ must be used with the referenced documents to provide the specific information needed by an ~~endorsed LRT-R2~~Intermediate Rope Rescuer or for an AHJ to properly evaluate a training program or text by an AHJ.

4.4 Though this guide establishes only minimum standards, it does not imply that an ~~endorsed LRT-R2~~Intermediate Rope Rescuer is a “trainee,” “probationary,” or other similar term member of an organization. ~~It is the responsibility of the AHJ to determine the requirements and qualifications for member ratings.~~

4.4.1 Determining the requirements and qualifications for land rescue team members is the responsibility of the AHJ.

4.4.2 Nothing in this guide precludes an AHJ from adding additional requirements for its own members.

4.5 Because technical rope rescue is inherently dangerous, and rope rescuers are frequently required to perform rigorous activities in adverse conditions, regional and national safety standards shall be included in agency and organization policies and procedures. ~~An endorsed LRT-R2 Rescuer Personnel~~ endorsed as Intermediate Rope Rescuers shall complete all activities based on an analysis of risk versus benefit, and shall follow ~~applicable and mandated~~all applicable national, federal, state, provincial, and local safety standards.

4.6 This guide can be used to evaluate a document to determine if its content includes the topics necessary for training an ~~endorsed LRT-R2~~Intermediate Rope Rescuer. Likewise, this guide can be used to evaluate an existing training program to see if it meets the requirements of this guide.

4.7 The knowledge and skill ~~requirements~~defined in the following sections are not presented in any particular order and do not represent a training sequence.

4.8 Except where a physical skill needs to be shown, it is up to the AHJ to determine the best way to evaluate a person’s knowledge. This may be by written exam, oral exam, demonstration, or by some combination of the three.

4.8.1 An Intermediate Rope Rescuer shall document his or her training by completion of a position task book, compliant with Guide F3068, or by field demonstration under qualified supervision.

4.8.2 Unless stated otherwise, an ability or proficiency in a skill shall be demonstrated for initial qualification and then as often as required by the AHJ.

5. General Knowledge and Skills

5.1 *General Requirements:*

5.1.1 As a prerequisite, an ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall possess ~~some~~ training, certification, or endorsement in the environment in which he or she is expected to work (urban, wilderness, mountainous, ~~and so forth~~)etc.

5.1.2 For ~~Land Rescue Personnel, meeting the requirements of Guides~~land rescue personnel, endorsement in accordance with Guide F2751 and F2752 shall be considered sufficient for meeting the requirements of 5.1.1.

5.1.3 The AHJ shall verify that the endorsee possesses both attitude and aptitude for working at height, ~~for example, he or she must be comfortable~~ such as comfort with exposure and must have the ability to move safely and effectively in the working environment over the surface of terrain common to the normal area of operations.

5.2 *Personal Equipment:*

5.2.1 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall ~~possess~~carry and carry, appropriately use, at a minimum, sufficient Personal Protective Equipment (PPE) and rope rescue equipment to maintain personal safety while ~~working on or around a rope rescue~~. Suitability of participating in a rope rescue operation. The suitability of the equipment shall be verified by the AHJ to include, but not be limited to, the following:

5.2.1.1 Head protection (helmet).

5.2.1.2 Hand protection (gloves).

5.2.1.3 Eye protection (glasses/goggles/shield).

5.2.1.4 Adequate clothing.

5.2.1.5 Harness.

5.2.1.6 Connectors (carabiners).

5.2.1.7 Slings/lanyards (for personal use).

5.2.1.8 Ascending equipment.

5.2.1.6 Eye protection (glasses/goggles/shield):

5.2.1.7 Adequate clothing:

5.2.1.8 Connectors (carabiners):

5.2.1.9 Descending equipment.

5.2.2 Additional rope rescue equipment necessary for an ~~endorsed LRT-R2~~Intermediate Rope Rescuer to safely participate ~~on~~in a rope-rescue operation varies by type of rope rescue, team assignment, season, environment, and terrain.

5.2.3 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall explain the reasons to carry, and explain or demonstrate the use of, all personal rope rescue equipment required by the AHJ.

5.2.4 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall be able to inspect PPE and personal rope rescue equipment for the purpose of identifying wear, damage, and operational readiness.

5.2.5 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall demonstrate the ability to perform appropriate rope rescue equipment maintenance procedures, including cleaning, as well as maintenance of equipment logs and records.

5.3 Team Equipment:

5.3.1 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall be familiar with team rope rescue equipment identified, and commonly used, by the AHJ. Such equipment may include, but is not limited to, the following:

5.3.1.1 Medical equipment.

5.3.1.2 Patient packaging equipment.

5.3.1.3 Ropes.

5.3.1.4 Slings.

5.3.1.5 Rope grab devices.

5.3.1.6 Litters.

5.3.1.7 Communications equipment.

5.3.1.8 Lowering devices.

5.3.1.9 Hauling or raising devices.

5.3.1.10 Connectors and other hardware.

5.3.2 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall explain the reasons to carry, and explain or demonstrate the use of, all team rope rescue equipment required by the AHJ including, at a minimum, those items listed in ~~5.2.1~~5.2.1 and 5.3.1 and ~~5.3.1~~.

5.3.3 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall be able to inspect team rope rescue equipment used by the AHJ to identify for the purpose of identifying wear, damage, and operational readiness for, at a minimum, those items listed in ~~5.2.1~~5.2.1 and 5.3.1 and ~~5.3.1~~.

5.3.4 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall demonstrate the ability to perform appropriate maintenance procedures on rope rescue equipment used by the AHJ. These shall include cleaning and packing, as well as maintenance of applicable logs and records for, at a minimum, those items listed in ~~5.2.1~~5.2.1 and 5.3.1 and ~~5.3.1~~.

5.4 Communications:

5.4.1 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall be familiar with, and conversant in, the use of whistle signals as found in Guide **F1768**, or as required by the AHJ.

5.4.2 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall be familiar with, and conversant in, the use of hand signals as required by the AHJ.

6. Rope Rescue Concepts and Capabilities

6.1 Rope Rescue Concepts:

6.1.1 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall demonstrate an understanding of how the following basic concepts affect rope rescue:

6.1.1.1 Angles.

6.1.1.2 Load transfer.

6.1.1.3 Passing knots.

6.1.1.4 Mechanical advantage.

6.1.1.5 Placing edge protection.

6.1.2 An Intermediate Rope Rescuer shall be able to cite the risks and benefits of a two rope system.

6.1.3 An Intermediate Rope Rescuer shall be able to cite the risks and benefits of a single rope rescue system.

6.1.4 An Intermediate Rope Rescuer shall be able to explain the risks and benefits of sharing the load as equally as possible between both ropes in a two rope system.

6.1.5 An Intermediate Rope Rescuer shall be able to list the risks and benefits of controlling the load with one rope and having the remaining rope as a hand-tight backup in a two rope system.

6.1.6 An Intermediate Rope Rescuer shall be able to explain the risks and benefits of attaching a litter to a rescue rope system with a single attachment point.

6.1.7 An Intermediate Rope Rescuer shall be able to explain the risks and benefits of attaching a litter to a rescue rope system with two attachment points.

6.1.8 An Intermediate Rope Rescuer shall be able to explain the risks and benefits of employing and utilizing purpose-built vs. component-based equipment in a rope rescue system.

6.2 Rope Rescue Capabilities:

6.2.1 An ~~endorsed LRT-R2~~Intermediate Rope Rescuer shall demonstrate the ability to manage resource needs.