CERTIFICATION CURRICULUM MANUAL

CHAPTER SIXTEEN

ROPE RESCUE AWARENESS/OPERATIONS & TECHNICIAN

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CERTIFICATION CURRICULUM MANUAL

CHAPTER SIXTEEN

ROPE RESCUE

AWARENESS LEVEL & OPERATIONS LEVEL

OVERVIEW

Rope Rescue – Awareness Level & Operations Level

Certification Levels

NFPA 1006 includes three levels for Rope Rescue: Awareness Level, Operations Level and Technician Level. However, the TCFP Rope Rescue curriculum is separated into just two levels of certification: Rope Rescue - Awareness Level & Operations Level Certification and Rope Rescue - Technician Level Certification. Each of the two curricula may be taught separately and the applicable certification exam taken. Additionally, it is possible to teach a "combined" Rope Rescue - Awareness Level & Operations Level along with Rope Rescue - Technician Level. When teaching a combined course, one combined certification exam will be taken.

Rope Rescue - Awareness Level & Operations Level Certification

Many of the rescue disciplines within NFPA 1006 require Rope Rescue - Operations Level training as a prerequisite (e.g., Animal Rescue, Confined Space Rescue, Mine & Tunnel Rescue, Swiftwater Rescue). Therefore, TCFP has included Rope Rescue - Awareness Level and Rope Rescue - Operations Level in the same curriculum and certification. Rope Rescue - Awareness Level & Operations Level certification is a prerequisite for Rope Rescue - Technician Level certification.

Rope Rescue - Technician Level Certification

The requirements for Rope Rescue - Technician Level is a significant increase in terms of knowledge, skills, abilities and equipment requirements. It may be prohibitive and/or unnecessary for some organizations to provide this additional level of training. Also, as jurisdictions across the state survey their target hazards, it is common to identify that Rope Rescue - Technician Level capabilities are not needed. For these reasons the Rope Rescue - Technician Level is a separate curriculum and certification, allowing each organization to decide what rope rescue training level is best for the needs of their jurisdiction.

The Rope Rescue - Awareness Level & Operations Level Curriculum Manual

A candidate training to the Rope Rescue - Awareness Level & Operations Level is required to meet the Job Performance Requirements (JPRs) of Chapter 5 (5.1 Rope Rescue - Awareness Level and 5.2 Rope Rescue - Operations Level of National Fire Protection Association (NFPA) 1006, Standard for Technical Rescue Personnel Professional Qualifications, 2021 edition.

The following items are included in the Rope Rescue section of Chapter 16.101 of the

curriculum manual:

- Course Instructor Information
- Reference List (textbooks and other recommended course materials)
- Course Outline (establishes the recommended hours for teaching this course)

This is a voluntary (non-mandatory) certification; therefore <u>a formal "curriculum" is not provided</u>. Please use chapter 5 of NFPA 1006 as a guide when creating your own course curriculum.

Performance skills are available in Chapter 16 of the Skills Manual.

All documents in this curriculum manual, and in the skills manual, are available free of charge to download, copy and distribute as necessary. The TCFP does not provide printed copies.

Definition of a Rope Rescuer – Awareness Level & Operations Level

An individual who has met the requirements of Chapter 5 (5.1 and 5.2) of NFPA 1006, Standard for Technical Rescue Personnel Professional Qualifications and has the knowledge, skills, and ability to perform at the Rope Rescue – Awareness & Operations Level. Rope Rescue - Awareness represents the capability of individuals to identify an incident as a rope rescue, ensure responders identify hazards and provide isolation procedures, call for appropriate resources, and assist higher trained responders with a rope rescue. Rope Rescue - Operations represents the capability of individuals to respond to technical rescue incidents and to identify hazards, use equipment, and apply limited techniques to support and participate in a technical rescue.

Definition of a Rope Rescuer - Technician Level

An individual who has met the requirements of Chapter 5.3 of NFPA 1006, Standard for Technical Rescue Personnel Professional Qualifications and has the knowledge, skills, and ability to perform at the Rope Rescue – Technician Level. Rope Rescue – Technician represents the capability of individuals to respond to rope rescue incidents and to identify hazards, use equipment, and apply advanced techniques to coordinate, perform, and supervise technical rope rescue incidents.

COURSE INSTRUCTOR INFORMATION

Instructor Qualifications

Rope Rescue courses must be taught by a person meeting the requirements described in Chapter 427§307 of the TCFP Standards Manual.

Supplemental Information

Instructors are expected to provide supplemental information if the main reference text does not cover all the knowledge requirements set forth in the NFPA standard.

Certification Testing

Testing for certification in the state of Texas will be based on the knowledge and skills requirements of National Fire Protection Association (NFPA) 1006, *Standard for Technical Rescue Personnel Professional Qualifications*, 2021 edition, Chapter 5.1 and 5.2. All training programs must strictly adhere to the NFPA standard.

All test questions and performance skills evaluations will be based on the NFPA Job Performance Requirements (JPRs), requisite knowledge objectives, and requisite skills objectives found in the NFPA standard. Additionally, questions and performance skill evaluations may include information found in, or derived from, the NFPA standard annex, particularly Annex A, which includes explanatory material that may further clarify JPRs. The following is an example from NFPA 1006, section 5.2.2:

NFPA	Standard/Curriculum	Explanation
5.2.2	Maintain hazard-specific PPE, given clothing or equipment for the protection of the rescuers, inspection procedures, cleaning and sanitation supplies, maintenance logs or records, and such tools and resources as are indicated by the manufacturer's guidelines for assembly or disassembly of components during repair or maintenance, so that damage, defects, and wear are identified and reported or repaired, equipment functions as designed, and preventive maintenance has been performed and documented consistent with the manufacturer's recommendations.	NFPA JPR number 5.2.2

(A) Requisite Knowledge: Functions, construction, and operation of PPE; use of record-keeping systems of the AHJ; requirements and procedures for cleaning, sanitizing, and infectious disease control; use of provided assembly and disassembly tools; manufacturer and department recommendations; preuse inspection procedures; and ways to determine operational readiness.	Requisite knowledge objectives for 5.2.2 Written test questions and/or performance skills will be used to test these knowledge components on the state certification exam.
(B) Requisite Skills: The ability to identify wear and damage indicators for PPE; evaluate operational readiness of PPE; complete logs and records; use cleaning equipment, supplies, and reference materials; and select and use tools specific to the task.	Requisite skills objectives for 5.2.2 Only performance skills will be used to test these objectives on the state certification exam.
A.5.2.2 Technical rescuers should limit their activities in this section to field-level maintenance only. Field-level maintenance generally describes those procedures performed on a given piece of equipment that does not require disassembly, repair, or component replacement except where provided for in manufacturers user instructions. Where it is recognized that many agencies perform their own maintenance and repair of equipment based on manufacturers' technical training, this capability is beyond that of the technical rescuer and not addressed within the scope of dais standard.	Annex A: Explanatory Material for JPR 5.2.2

TCFP Standards Manual

It is critical that the Course Instructor review the chapters in the TCFP Standards Manual that apply to this curriculum. Of primary importance are the following chapters:

Chapter 421, Standards for Certification Chapter 427, Training Facility Certification

Chapter 435, Fire Fighter Safety

Chapter 437, Fees

Chapter 469, Technical Rescue

These chapters do not address every issue that could impact this curriculum; therefore, the Course Instructor is encouraged to become familiar with the TCFP Standards

Manual.

Descriptions of Certification Levels

For additional information, see Chapter 469 of the Texas Commission on Fire Protection Standards Manual for Fire Protection Personnel.

CHAPTER SIXTEEN

ROPE RESCUE - AWARENESS LEVEL & OPERATIONS LEVEL

CURRICULUM OUTLINE

SECTION	SUBJECT – Awareness Level		
16.101-5.1	Awareness Level		
16.101-5.1.1	Assist a team in operation of the haul line		
16.101-5.1.2	Size up a rope rescue incident		
16.101-5.1.3	-5.1.3 Recognize incident hazards and initiate isolation procedures		
16.101-5.1.4	Recognize the need for technical rescue resources at an operations- or technician-level incident		
16.101-5.1.5	Support an operations- or technician- level incident		
AWARENESS - T	OTAL RECOMMENDED HOURS*	8	
SECTION	SUBJECT – Operations Level		
16.101-5.2	Operations Level		
16.101-5.2.1	Perform size up of a rescue incident		
16.101-5.2.2	Maintain hazard-specific PPE		
16.101-5.2.3	Maintain rescue equipment		
16.101-5.2.4			
16.101-5.2.5	Construct a single-point anchor system		
16.101-5.2.6	Construct a multiple-point anchor system		
16.101-5.2.7	Conduct a system safety check		
16.101-5.2.8	Place edge protection		
16.101-5.2.9	Construct a system intended to provide belay within a single- or two-tensioned rope system		
16.101-5.2.10	Operate a system intended to provide belay within a		
16.101-5.2.11	Belay a falling load in a high-angle environment		
16.101-5.2.12	Construct a fixed rope system		
16.101-5.2.13	Construct a lowering system		
16.101-5.2.14	Direct a lowering operation in a high-angle environment		
16.101-5.2.15	Construct a simple rope mechanical system		
Direct a team in the operation of a simple rope 16.101-5.2.16 mechanical advantage system in a high-angle rising operation			

16.101-5.2.17 Construct a compound rope mechanical advantage system		
16.101-5.2.18	Direct the operation of a compound rone mechanical	
16.101-5.2.19	Negotiate an edge while attached to a rope rescue system during a high-angle lowering and raising operation	
16.101-5.2.20	Prepare for transfer of victims	
16.101-5.2.21	Direct a litter-lowering and litter-rising operation	
16.101-5.2.22 Operate as a litter tender in a low-angle lowering or raising operation		
16.101-5.2.23 Direct a litter-lowering or litter raising operation in a high-angle environment		
16.101-5.2.24 Terminate a technical rescue operation		
OPERATIONS - TOTAL RECOMMENDED HOURS*		

^{*}Actual hours required will depend on the number of students, the number of examiners, availability of equipment, and the student skill level.

ROPE RESCUE AWARENESS LEVEL AND OPERATIONS LEVEL EQUIPMENT LIST

Personal Protective Equipment

- Boots rope rescue
- Gloves rope rescue
- Helmets rope rescue

Communication Equipment

- Communication devices
- Community resource lists

Training Devices/Props/Simulators

- Carabiners, locking
- Descent control/ascending devices
- Fall protection/restraint equipment
- Flexible and rigid litter devices
- Harness, rescue
- Harness, victim
- Knot tying rope, cordage, and webbing
- Lanyards, climbing/fall arrest (100% tie off)
- Lanyards, work positioning
- Patient packaging materials
- Personnel accountability system
- Portable anchor device
- Pulleys (single and double)
- Raising/lowering/belay devices
- Rope life safety
- Rope grab devices
- Spinal immobilization devices, short and long

TCFP- Recommended Additional Items

- Eye protection
- Edge protection
- Equipment bag / container

ROPE RESCUE AWARENESS LEVEL AND OPERATIONS LEVEL SKILLS LIST

DISCIPLINE	OBJECTIVE	Skill#	SKILL NAME	NFPA 1006#
Rope Rescue Awareness & Operations	Individual	1	Individual PPE Inspection and Knots	5.2.2, 5.2.3, 5.2.4
Rope Rescue Awareness & Operations	Individual	2	Individual High Angle Rope System	5.2.5, 5.2.7, 5.2.9, 5.2.10, 5.2.11, 5.2.13, 5.2.14, 5.2.15, 5.2.16, 5.2.17, 5.2.18
Rope Rescue Awareness & Operations	Individual	3	Individual Low Angle Rope System	5.2.6, 5.2.7, 5.2.21, 5.2.22
Rope Rescue Awareness & Operations	Team	4	Team High Angle System	5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 5.2.1, 5.2.4, 5.2.5, 5.2.7, 5.2.8, 5.2.9, 5.2.10, 5.2.12, 5.2.13, 5.2.14, 5.2.15, 5.2.16, 5.2.19, 5.2.23, 5.2.24
Rope Rescue Awareness & Operations	Team	5	Team Patient Packaging	5.1.5, 5.2.20

There are five total skills that may be drawn for skills testing. Skill numbers four and five are "Team Skills." Skill numbers one, two, and three are "Individual Skills." When drawing skills for TCFP designated skills testing, one of the two Team Skills will be randomly selected, and one of the three Individual Skills will be selected. This will ensure that a candidate will be evaluated in both the Awareness level and Operations level Job Performance Requirements (JPRs). Additionally, this will ensure that each candidate demonstrates competence as part of a team as well as demonstrating competence individually.

REFERENCE LIST ROPE RESCUE AWARENESS & OPERATIONS LEVEL CURRICULUM

- McCurley, L., & Vines, T. (2023). *Rope Rescue Principles and Practice* (5th ed.). Jones & Bartlett Learning.
- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications, (2021 ed.). Quincy, MA: National Fire Protection Association. NFPA Publications.
- Standards Manual for Fire Protection Personnel. Austin, TX: Texas Commission on Fire Protection.

CERTIFICATION CURRICULUM MANUAL

CHAPTER SIXTEEN

ROPE RESCUE TECHNICIAN LEVEL

OVERVIEW Rope Rescue – Technician Level

Certification Levels

NFPA 1006 includes three levels for Rope Rescue; Awareness Level, Operations Level and Technician Level. However, the TCFP Rope Rescue curriculum is separated into just two levels of certification: Rope Rescue - Awareness Level & Operations Level Certification and Rope Rescue - Technician Level Certification. Each of the two curricula may be taught separately and the applicable certification exam taken. Additionally, it is possible to teach a "combined" Rope Rescue - Awareness Level & Operations Level along with Rope Rescue - Technician Level. When teaching a combined course, one combined certification exam will be taken.

Rope Rescue - Awareness Level & Operations Level Certification

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Rope Rescue - Technician Level Certification

The requirements for Rope Rescue - Technician Level is a significant increase in terms of knowledge, skills, abilities and equipment requirements. It may be prohibitive and/or unnecessary for some organizations to provide this additional level of training. Also, as jurisdictions across the state survey their target hazards, it is common to identify that Rope Rescue - Technician Level capabilities are not needed. For these reasons the Rope Rescue - Technician Level is a separate curriculum and certification, allowing each organization to decide what rope rescue training level is best for the needs of their jurisdiction.

The Rope Rescue - Technician Level Curriculum Manual

A candidate training to the Rope Rescue - Technician Level is required to meet the Job Performance Requirements (JPRs) of Chapter 5 (5.1, 5.2, and 5.3) Rope Rescue - Technician Level of National Fire Protection Association (NFPA) 1006, Standard for Technical Rescue Personnel Professional Qualifications, 2021 edition.

The following items are included in the Rope Rescue section of Chapter 16.102 of the curriculum manual:

- Course Instructor Information
- Reference List (textbooks and other recommended course materials)
- Course Outline (establishes the recommended hours for teaching this course)

This is a voluntary (non-mandatory) certification; therefore <u>a formal "curriculum" is not provided</u>. Please use chapters 5 of NFPA 1006 as a guide when creating your own course curriculum

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Definition of a Rope Rescuer - Technician Level

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COURSE INSTRUCTOR INFORMATION

Instructor Qualifications

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NFPA	Standard/Curriculum	Explanation
5.2.2	Maintain hazard-specific PPE, given clothing or equipment for the protection of the rescuers, inspection procedures, cleaning and sanitation	NFPA JPR number 5.2.2
	supplies, maintenance logs or records, and such tools and resources as are indicated by the manufacturer's guidelines for assembly or disassembly of components during repair or maintenance, so that damage, defects, and wear are identified and reported or repaired, equipment functions as designed, and preventive maintenance has been performed and documented consistent with the manufacturer's recommendations.	
	(A) Requisite Knowledge: Functions, construction, and operation of PPE; use of record-keeping systems of the AHJ; requirements and procedures for cleaning, sanitizing, and infectious disease control; use of provided assembly and disassembly tools; manufacturer and department recommendations; preuse inspection procedures; and ways to determine operational readiness.	Requisite knowledge objectives for 5.2.2 Written test questions and/or performance skills will be used to test these knowledge components on the state certification

	exam.
(B) Requisite Skills: The ability to identify wear and damage indicators for PPE; evaluate operational readiness of PPE; complete logs and records; use	Requisite skills objectives for 5.2.2
cleaning equipment, supplies, and reference materials; and select and use tools specific to the task.	Only performance skills will be used to test these objectives on the state certification exam.
A.5.2.2 Technical rescuers should limit their activities in this section to field-level maintenance only. Field-level maintenance generally describes those procedures performed on a given piece of equipment that does not require disassembly, repair, or component replacement except where provided for in manufacturers user instructions. Where it is recognized that many agencies perform their own maintenance and repair of equipment based on manufacturers' technical training, this capability is beyond that of the technical rescuer and not addressed within the scope of this standard.	Annex A: Explanatory Material for JPR 5.2.2

TCFP Standards Manual

It is critical that the Course Instructor review the chapters in the TCFP Standards Manual that apply to this curriculum. Of primary importance are the following chapters:

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Chapter 435, Fire Fighter Safety

Chapter 437, Fees

Chapter 469, Technical Rescue

These chapters do not address every issue that could impact this curriculum; therefore, the Course Instructor is encouraged to become familiar with the TCFP Standards Manual.

Descriptions of Certification Levels

For additional information, see Chapter 469 of the Texas Commission on Fire Protection Standards Manual for Fire Protection Personnel.

ROPE RESCUE TECHNICIAN LEVEL CURRICULUM OUTLINE

SECTION	SUBJECT – TECHNICIAN LEVEL	RECOMMENDED HOURS		
16.102-5.3	Technician Level			
16.102-5.3.1	Direct a team in the operation of a rope rescue system to remove a victim stranded on or clinging to a natural or manmade feature in a high-angle environment	4		
16.102-5.3.2	Direct a team in the operation of a rope rescue system to remove a victim suspended from rope or webbing in a high-angle environment			
16.102-5.3.3	While suspended from a rope rescue system	3		
16.102-5.3.4	Perform the activities of a litter tender in a high- angle lowering or raising operation	6		
16.102-5.3.5	8			
16.102-5.3.6	Direct a team in the operation of a rope system to move a suspended rescue load along a horizontal path			
16.102-5.3.7	Climb and traverse natural features or man-made structures that require the use of climbing aids	2		
16.102-5.3.8	Interact with a person at height who is in an			
16.102-5.3.9	Ascend a fixed rope in a high- angle environment	3		
16.102-5.3.10	Descend a fixed rope in a high- angle environment	3		
16.102-5.3.11	Demonstrate the ability to escape from a jammed or malfunctioning device during a fixed-rope descent in a high angle environment	3		
	TOTAL RECOMMENDED HOURS*	40		

^{*}Actual hours required will depend on the number of students, the number of examiners, availability of equipment, and the student skill level.

ROPE RESCUE TECHNICIAN LEVEL EQUIPMENT LIST

Personal Protective Equipment

- Boots rope rescue
- Gloves rope rescue
- Helmets rope rescue

Communication Equipment

- Communication devices
- Community resource lists

Training Devices/Props/Simulators

- Carabiners, locking
- Descent control/ascending devices
- Fall protection/restraint equipment
- Flexible and rigid litter devices
- Harness, rescue
- Harness, victim
- Knot tying rope, cordage, and webbing
- Lanyards, climbing/fall arrest (100% tie off)
- Lanyards, work positioning
- Patient packaging materials
- Personnel accountability system
- Portable anchor device
- Pulleys (single and double)
- Raising/lowering/belay devices
- Rope life safety
- Rope grab devices
- Spinal immobilization devices, short and long

TCFP- Recommended Additional Items

- Eye protection
- Edge protection
- Equipment bag / container

ROPE RESCUE TECHNICIAN LEVEL SKILLS LIST

DISCIPLINE	OBJECTIVE	Skill #	SKILL NAME	NFPA 1006#
Rope Rescue Technician Level	Individual	1	Fixed Rope Descent/Ascent	5.3.9, 5.3.10, 5.3.11
Rope Rescue Technician Level	Individual	2	Climbing Aids	5.3.7
Rope Rescue Technician Level	Team	3	Team Based Pick-off	5.3.1, 5.3.2, 5.3.3, 5.3.8
Rope Rescue Technician Level	Team	4	Horizontal Rope System	5.3.4, 5.3.5, 5.3.6

There are four total skills that may be drawn for skills testing. Skill numbers three and four are "Team Skills". Skill numbers one, and two are "Individual Skills". When drawing skills for testing, one of the two Team Skills will be randomly selected, and one of the two Individual Skills will be selected. This will ensure that a candidate will be evaluated in multiple Technician Level Job Performance Requirements (JPRs). Additionally, this will ensure that each candidate demonstrates competence as part of a team as well as demonstrating competence individually.

REFERENCE LIST ROPE RESCUE TECHNICIAN LEVEL CURRICULUM

- McCurley, L., & Vines, T. (2023). *Rope Rescue Principles and Practice* (5th ed.). Jones & Bartlett Learning.
- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications, (2021 ed.). Quincy, MA: National Fire Protection Association. NFPA Publications.
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