

The Rescue Technician and NFPA Standards

Recently I was tasked with the challenge to review and update the technical rescue programs as the new technical rescue coordinator for the Georgia Fire Academy. My background in teaching rope rescue gave me the technical knowledge I needed, but technical knowledge was not enough to develop a plan for statewide training. Technical rescue, in general, is a high risk and low frequency occurrence in the rescue industry. Since there are never enough hours in the day to train on all the things that firefighters are expected to know, I began to look for some guidance to see what is expected of the "Technician." So of course I looked to the industry standards that coined the term to see what was expected of rescuers. After many conversations and receiving conflicting interpretations of what a "Technician" is expected to do, surrendered to the realization that I would have to read the standards myself.

Now realizing that reading the oh-so-suspenseful booklet adorned in red, could be as exciting as watching the grass grow, I decided to suck it up and dive into the material. Confused at what seemed to be more conflicting information, I immediately figured out that I couldn't jump to the end of the standard to find a fairytale ending. Instead I'd have to start at the very beginning. Once I did... things became clear. I was trying to make the wrong standard fit with our programs! Each standard is directed to a different audience. Perhaps you too have had difficulty trying to decipher what standard you should reference. If so, this overview of NFPA standards 1670, 1006, and 1983 may help save a lot of time and confusion. However, if you are looking for the cure for insomnia, by all means... dive into the original documents yourself.

NFPA Technical Rescue Standards

National Fire Protection Association (NFPA) is committed to advocating consensus codes and standards and providing research and education for fire and related safety issues. A nonprofit membership organization, NFPA has over 65,000 members and is staffed by over 5,000 volunteers. Many of these volunteers are part of technical committees. These committees work hard to develop standards which prompt a high level of safety to which all fire service personnel and organizations are held accountable. Currently there are three (3) NFPA standards which directly apply to technical rescue efforts that should be addressed as part of becoming a rescue technician. An overview of whom these standards are meant to address, and the intent of each standard, is vital in knowing which standard to reference for specific details when needed.

Each standard is dynamic, in that it evolves and changes with each revision. The information in this article is based upon the most current version of the standard. Future revisions may change, or address additional areas of interest, and it is up to each person and department to revisit standards as they evolve.

NFPA 1670

Prepared by the Technical Committee on Technical Rescue, and issued by the NFPA Standards Council, the NFPA 1670 document addresses standards on **Operations and Training for Technical Search and Rescue Incidents**. Originally, developed in 1994, the most recent version of this standard was approved and adopted in January 2004.

Each NFPA standard identifies a scope, or whom it applies to, and a purpose. The **scope** of "this standard shall identify and establish levels of functional capability for conducting operations at technical search and rescue incidents while minimizing threats to rescuers" (1.1.1). This standard goes on to state, "the requirements of this standard shall apply to organizations that provide response to technical search and rescue incidents..." (1.1.2)

That means that that if your organization, whether it is EMS, Law Enforcement, Emergency Management agencies, or any group that responds to certain technical rescue incidents, whether they respond independently or in conjunction with the Fire Department, should prepare to at least the minimum level of functional capability. The scope of NFPA 1670 is to IDENTIFY and ESTABLISH levels of functional capabilities for agencies that provide response.

The **purpose**, or the intent of NFPA 1670 is “to assist the authority having jurisdiction (AHJ) in:

- assessing a technical search and rescue hazard within the response area,
- to identify the level of operational capability, and
- to establish operational criteria.” (1.2.1)

Now some of you might be asking **WHO** is the AHJ? This terminology is found in throughout NFPA 1670 and many NFPA documents. The “AHJ” refers to the organization, committee, or person that makes the decision and enforces the rules for your team, department or agency. The AHJ is responsible for approving equipment and materials, and also in charge of implementing departmental procedures.

The purpose of NFPA 1670 is to assist the decision making personnel for an organization to assess preparation and response readiness for a technical search and rescue incident.

NFPA 1670 goes on to state, “the AHJ shall establish levels of operational capability needed to conduct operations at a technical search and rescue incidents safely and effectively, based on:

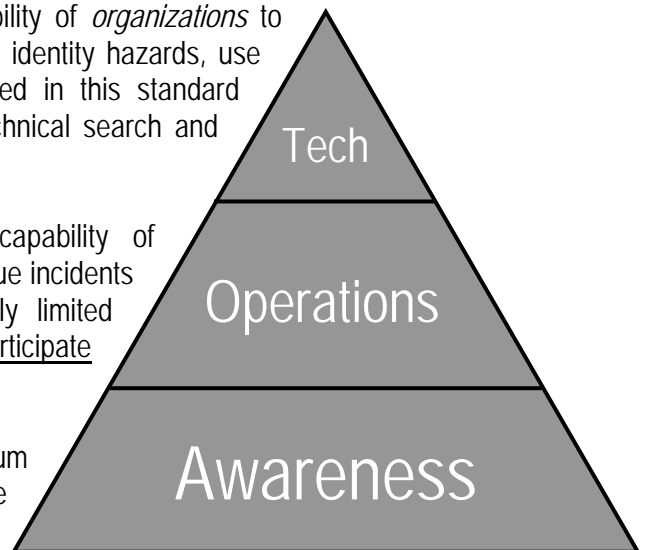
- hazard identification
- risk management
- training level of personnel, and
- availability of internal and external resources” (4.1.1)

By assessing these criteria, the AHJ can decide at which level it wants to be able to perform operations at a scene, and “shall establish written standard operating procedures” consistent with the chosen level. (4.1.2) There are three (3) identified levels of operational capabilities for a technical search and rescue incident.

Technician Level- “This level represents the capability of *organizations* to respond to technical search and rescue incidents, to identify hazards, use equipment, and apply advanced techniques specified in this standard necessary to coordinate, perform, and supervise technical search and rescue incidents” (4.1.2-3)

Operations Level- “This level represents the capability of *organizations* to respond to technical search and rescue incidents and to identify hazards, use equipment and apply limited techniques specific in this standard to support and participate in technical search and rescue incidents” (4.1.2-2)

Awareness Level- “This level represents the minimum capabilities of *organizations* that provide response technical search and rescue incidents” (4.1.2-1)



“The minimum training for an organization shall be at the awareness level” (4.1.7.1.1)

NFPA 1670 identifies the need for a certain level of training, proper documentation, SOP's, hazard identification, risk assessment, incident response planning, equipment, safety, fitness, etc. The various levels of preparedness within each of these areas, is what should be assessed for each organization. Based on a needs assessment, the AHJ shall provide the proper support to function to the planned level of operation.

NFPA 1670 is a guideline for *organizations* to train and operate at the identified desired level of response capability for technical search and rescue incidents.

Since the specialized needs to operate at the highest level of operational capabilities are difficult to maintain, the AHJ can choose to operate at a particular level for discipline X, and then a DIFFERENT level of operations for discipline Y. So what are the different disciplines identified by NFPA 1670?

Currently NFPA 1670 addresses 7 different rescue disciplines. They are as follows:

- 1) Structural Collapse
- 2) Rope Rescue
- 3) Confined Space Search and Rescue
- 4) Vehicle and Machinery Search and Rescue
- 5) Water Search and Rescue
- 6) Wilderness Search and Rescue
- 7) Trench Evacuation Search and Rescue

Most of these disciplines identify a working environment and so the standard correlates specific concerns that are found in those environments. Rope Rescue, is a little different since it is not an environment specifically. That section deals with techniques that can be applied to a variety of environments. Because of that, Rope Rescue becomes a discipline that should be covered prior to exploring specific environments.

NFPA 1670 incorporates an entire matrix of requirements and compliances before moving on the next level due to the close association of readiness. For example, in order for a team to be able to function at an OPERATIONS LEVEL CONFINED SPACE INCIDENT, they must also be fully capable of responding to an Operations Level Rope, Awareness Level Confined Space Incident, Awareness Level Trench Excavation, trained in Hazardous Materials, a first responder, etc. It becomes increasing more complex as you move up to the peak of the pyramid, each level and discipline building on the prior.

If your agency's desired level of functionality is at the Technician Level Response for a Trench Incident, then the agency should have written plans and procedures for identifications of hazards, formulating a plan, implementing a plan, obtaining resources, training personnel, and testing and re-evaluations. Training is only once aspect that should be considered when choosing a level of operational capability.

Training is only one part of Team Response Readiness and Functional Capabilities according to NFPA 1670.

A team may have the BEST structural engineers from Cal-Tech, but if that team doesn't have the equipment to shore up a building collapse, then they can't operate at the scene at a technician level response team. Inversely... if a team has preplans in place, the needed equipment and manpower- but doesn't have the training, then they can't operate at as a technician level response team either. In order to function at an incident... it takes a team that is prepared, in more areas than just equipment or people, to function and operate together.

The criteria "TRAINING of PERSONNEL" is one area that the Georgia Fire Academy (GFA) can provide. But the GFA can NOT say that by training YOU, as an individual, to a certain level... it makes your TEAM ready to respond.

NFPA 1670 focuses on organizations working to achieve a particular level of competency to operate at several different technical disciplines. It is not meant to address individual rescuer skills or qualifications.

NFPA 1006

Prepared by the Technical Committee on Rescue Technician Professional Qualifications, released by the Technical Correlating Committee on Professional Qualifications, and issued by the NFPA Standards Council, NFPA 1006 addresses standards for **Rescue Technician Professional Qualifications**. Originally, developed in 1994, the most recent version of this standard was approved and adopted in January 2003.

The **scope** of NFPA 1006 "establishes the minimum job performance requirements necessary for fire service and other emergency response personnel who perform technical rescue operations" (1.1).

NFPA 1006 identifies the requirements that YOU as a rescuer should know.

**Not the team... but the personal skills YOU, as a rescuer,
should be able to demonstrate.**

The **purpose** of NFPA 1006 "is to specify the minimum job performance requirements for service as a rescuer in an emergency response organization. It is not the intent of this standard to restrict any jurisdiction from exceeding these minimum requirements (1.2). Each of the listed "performance objectives, shall be **performed** safely, completely and in its entirety" (1.3.1).

This standard is aimed to the rescuer to assure skill proficiency. There are many actions involved by each participant to **PERFORM** certain requirements and to **DEMONSTRATE** specific skills and objectives. You as a rescuer, have minimum requirements that need to be met for certifications. The person trained to a level to meet minimum job performance requirements and has the ability to perform objectives safely, completely and in its entirety is referred to as a **Rescue Technician**. There are no intermediary levels identified for individual that meet some of the requirements. An individual can NOT be certified to Rope Rescue Operations according to NFPA 1006. The term "operations" and "awareness" refers to an organizational capability according to NFPA 1670 and is also reference in NFPA 472 Hazardous Materials, but these intermediary levels of performance are not identified by NFPA 1006. Only the Rescue Technician is defined by this standard.

NFPA 1006 **defines** a minimum requirement “for certification. The rescue technician shall perform all of the job performance requirements in Chapter 5 and all job performances listed in at least one of the specialty areas” covered in Chapters 6 through 14 (4.3). Chapter 5 refers to general job performance requirements and can be considered CORE skills. Chapters 6-14 refer to discipline specific job performance requirements. This philosophy is referenced as a “core plus one” approach to become compliant to the standard.

Core + 1 = Rescue Technician

Since the only level of professional qualification identified by NFPA 1006 is that of a technician, many reference a specific discipline when clarifying personal skills; i.e. Rope Rescue Technician or Trench Rescue Technician. There are no prerequisites that state an individual must become a technician of one particular discipline before becoming a technician of a different discipline. Only that a core set of skills must be performed plus the discipline specific skills.

Currently, NFPA 1006 addresses nine (9) different disciplines. They are:

- 1) Rope Rescue
- 2) Surface Water Rescue
- 3) Vehicle and Machinery Rescue
- 4) Confined Space Rescue
- 5) Structural Collapse Rescue
- 6) Trench Rescue
- 7) Subterranean Rescue
- 8) Dive Rescue
- 9) Wilderness Rescue

These nine (9) areas follow similar environments included in NFPA 1670 with a few additional areas. Each one of the disciplines is covered in their own Chapters and each identifies several performance objectives that cover general requirements, requisite knowledge, and requisite skills. There is a core amount of information needed by all the disciplines, and then the specific area a specialization.

From this, GFA and GFA instructors can train individual skills, evaluate individual performance and test personal understanding, even though the activity may take several people to perform. For this reason, GFA has chosen NFPA 1006 as the standard to train to for all open enrollment courses. An individual can be evaluated by measurable criteria and certified once he/she performs all the needed skills.

Reminder: NFPA 1006 established minimum job performance requirements. This does not mean that once certified to a technician level, the rescuer is always able to perform to a needed level of competency. It does not mean that once you achieve technician that the learning process is over. The skills and knowledge involved in the above listed disciplines are usually high technicality in comparison the low frequency of use. Retention of knowledge and regression of abilities are viable concerns for individual qualifications. For that reason it is strongly encouraged to regularly do self assessments of skills and knowledge. Where do you rank on the continuum of knowledge? Where you rank and the end of a course and where you rank a year later will be different as your skills will diminish.

Where is your skill level?



When assessing your personal skills, you should ask yourself if you want to “just get by” or if you want to know your skills and know them well. How well do you want to be able to perform on the scene... how well do you want to help your team perform? How well do you want to know this stuff? Well enough to be able to DO it?? Or just enough to get a piece of paper that says you can do it??

The term TECHNICIAN is used both to describe an individual's performance and a team capability in two separate standards... but that does not mean a team standard and an individual standard are synonymous with each other. This may explain why these two standards have been misinterpreted or misrepresented in the past. It is often confusing when reading the standards to fight through some complicated language and an awkward layout. It is understandable that a misinterpretation may have lead to the misnomer that these standards could be meshed or lumped together as one and called “the rescue standard.” A better understanding of the overall intent of the standard aids the organization and individual to know where to reference information when specific questions arise.

NFPA 1983

NFPA 1983 is the standard on **Life Safety Rope and Equipment for Emergency Services**. It was prepared by the Technical Committee on Special Operations Protective Clothing and Equipment, released by the Technical Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment, and acted on by the National Fire Protection Association. The most recent edition was approved in 2006.

The NFPA 1983 standard is primarily utilized by manufacturers for minimum design performance, testing and certification requirements. This standard is not a “use” standard, but instead is good reference to use for understanding the equipment used in the industry. NFPA 1983 identifies labeling, design and construction requirements, performance and testing requirements for system components.

This standard does not identify system safety factors or how to use equipment and gear. If you are interested in knowing the minimum breaking strength of a particular diameter of rope, then refer to NFPA 1983. If you want to know testing procedures for a class III harness, then NFPA 1983 is your bedtime reading material.

Summary

Each NFPA standards establishes a scope and purpose for who the standard affects and the intent of the standard. Each person involved with technical rescue should be able to identify the critical points of NFPA standards 1670, 1006, and 1983 and how each standard pertains to a technical rescue team versus the individual rescuer.

- NFPA 1670 addresses standards on Operations and Training for Technical Search and Rescue Incidents.
- NFPA 1006 addresses standards for Rescue Technician Professional Qualifications.
- NFPA 1983 is the standard on Life Safety Rope and Equipment for Emergency Services.

If we look to NFPA standards for guidance, than realize each standard is a different map for a different area in the fire service. We choose the destination, and the standard provides a general path and direction. There are many ways to interpret the map, but if we are unable to look closely at the details, we can get lost. If we just grab any map available, without knowing which map to reference... then we will stay lost even with our best efforts to orient ourselves.

Similarly with standards, you need to familiarize yourself, and your department, well enough to know which standard to reference for direction. Does your map need to guide your team? Does your map need to tell you what you are personally responsible for knowing? Do you need a map that gives you the answers about gear? By taking a closer look at each of these standards, NFPA 1670, 1006 and 1983, we have a better idea of how to get to our destination and how to do the best possible job.

Original document written by Melody Eady. A version of the above work is published in PennWell's Fire Engineering (Sept 2006) and adaptations are included in select technical rescue curricula offered by the Georgia Fire Academy.