Technical Rescue Awareness

Local Team Capabilities

INSTRUCTOR INTRODUCTION

OUTLINE

- Regulations that pertain to technical rescue
- Which/What standards apply to regional teams
- Rope
- Confined Space
- Trench

Outline

- Structural Collapse
- Dive
- Specialty disciplines for regional teams
- How to activate a regional team
- Incidents teams have responded to already
- Future for Technical Rescue teams
- Summary
- Questions

Outline (cont'd)

- OSHA 1926 subpart P
- OSHA 1910.146
- NFPA 1006 - Rescue Technician Professional Qualifications

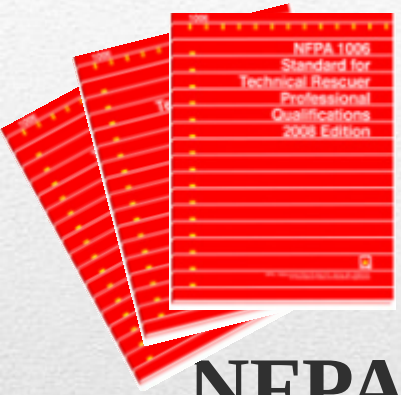
Laws and Regulations

- NFPA 1670 - Operations and Training for Technical Search and Rescue Operations
- NFPA 1951 - Protective Ensemble for USAR Operations

- NFPA 472 - Hazardous Material Standard

Laws and Regulations

NFPA 1670 (2009 ed.) - Operations and Training for Technical Search and Rescue Operations



NFPA 1006 (2013 ed.) - Rescue Technician Professional Qualifications

Standards teams follow

INDIVIDUAL **COMPETENCIES FOR A TEAM MEMBER**

- Chapter 6 Rope Rescue
- Chapter 7 Confined Space
- Chapter 8 Trench Rescue
- Chapter 9 Structural Collapse
- Chapter 10 Vehicle and Machinery Rescue
- Chapter 11 Surface Water Rescue

NFPA 1006

- Chapter 12 Swift Water Rescue
- Chapter 13 Dive Rescue
- Chapter 14 Ice Rescue
- Chapter 15 Surf Rescue
- Chapter 16 Wilderness Rescue
- Chapter 17 Mine & Tunnel Rescue
- Chapter 18 Cave Rescue

NFPA 1006

- NFPA 1006 is for an individual to get certified in his/her competencies in any or all of the 13 technical rescue disciplines if they so desire
- Each one of the regional team members have the opportunity to apply for certification. It is up to the Authority Having Jurisdiction how certification will be referenced for the individual

NFPA 1006

- *A team member can take the DFS classes for practical portion and then sit for the written test at a later time*
- *Or they can challenge the exam by taking the written and then testing for the practical portion*
- Currently certification is offered for Rope, Confined Space, and Trench with more to be offered in the future

NFPA 1006

DISCIPLINES THAT *TEAMS* NEED TO IDENTIFY THEIR COMPETENCY LEVELS

- Chapter 5 Rope Rescue
- Chapter 6 Structural Collapse
- Chapter 7 Confined Space
- Chapter 8 Vehicle Search & Rescue
- Chapter 9 Water Search & Rescue
- Chapter 10 Wilderness Search & Rescue
- Chapter 11 Trench Rescue

NFPA 1670

- Chapter 12 Machinery Search & Rescue
- Chapter 13 Cave Search & Rescue
- Chapter 14 Mine & Tunnel Search & Rescue
- Chapter 15 Helicopter Search & Rescue

NFPA 1670 cont'd

NFPA Operational Levels

(1) ***Awareness Level***

This level represents the minimum capability of organizations that provide response to technical search and rescue incidents.

This level can involve search, rescue, and recovery operations. Members of a team at this level are generally not considered rescuers.

NFPA Operational Levels
Cont'd

(2) ***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 specified in this standard to support and participate in technical search and rescue incidents.

This level can involve search, rescue, and recovery operations, but usually operations are carried out under the supervision of technician-level personnel.

NFPA Operational Levels
Cont'd

(3) ***Technician Level***

This level represents the capability of organizations to respond to technical search and rescue incidents and to identify hazards, use equipment, and apply advanced techniques specified in this standard necessary to coordinate, perform, and supervise technical search and rescue incidents.

A technician is a person who knows the subject matter thoroughly and can problem solve. Achieved through experience, and/or through extensive, repetitive training.

NFPA 1670

- Training levels /competencies for teams to identify
- Discipline priorities can be established from geographical needs

NFPA 1006

- For individual competencies

Standards that pertain to local teams

Rope Rescue

Confined Space

Disciplines that pertain to local teams

Trench Rescue

Structural Collapse

Disciplines that pertain to local teams

Teams are trained to technician level and are competent in:

- Slope evacuations
- Rappelling
  - ✓ Quick access to victims for assessment/medical treatment
- Lowering
  - ✓ Rescuer is lowered from above with more control & better handling of victim

ROPE RESCUE

- Pick offs
  - ✓ Victims sitting
  - ✓ Hanging from fall protection
- Basket work
  - ✓ Getting injured off roofs
  - ✓ Getting victims safely off cliffs-buildings at height
- Patient Packaging

The newest techniques to ensure a safe and efficient rescue

ROPE RESCUE

Trench Rescue

Teams are trained to technician level and are competent in:

- Trench safety
  - ✓ Different types of trenches & their complexities
  - ✓ How to approach a collapsed trench safely
  - ✓ Identifying number and location of victims
- Straight trenches
  - ✓ Soil Classification
  - ✓ Wood struts

- Intersecting trenches
  - ✓ Pneumatic struts
  - ✓ Lifting heavy objects/ Machinery

- Intersecting trenches
  - ✓ Low Pressure air bags
  - ✓ High pressure air bags

- Patient packaging & Removal unique to trenches

Trench

Teams are trained to technician level and are competent in:

- Identifying confined spaces
  - ✓ Understanding the permit process
  - ✓ Types and structures that are confined spaces
  - ✓ Safety and hidden dangers that are common
- How to perform a vertical rescue
  - ✓ Atmospheric monitoring
  - ✓ Using tripods, and other objects for lowering
  - ✓ Practice for the unknown including rescuer emergencies

Confined Space

- How to perform a horizontal rescue
  - ✓ Atmospheric monitoring
  - ✓ Using tag lines, communication systems, and SAR
  - ✓ Practicing for the complexities of extricating victims from a horizontal space
- Patient packaging & Removal unique to confined spaces
  - ✓ Proficient in several different extrication devices commonly used in patient extrication that are unique to each situation

Confined Space

Teams are trained to technician level and are competent in:

- Sizing up structural collapses to determine greatest needs at the incident
  - ✓ Proficient in all stages of collapse
  - ✓ Proficient in building, victim, and search markings
  - ✓ Have been trained to the FEMA curriculum of an 80hr class
  - ✓ Many teams have training beyond that point

Structural Collapse

Structural Collapse

- Shoring
  - ✓ Ability to shore up vertical walls
  - ✓ Ability to shore up horizontal floors and void spaces
  - ✓ Able to shore up floors on an angle

- Lifting and Moving of heavy objects
  - ✓ Moving heavy objects off voids or victims with hand tools
  - ✓ Competent in Rigging and working with heavy equipment

- Breaching and Breaking of concrete
  - ✓ Able to breach to reach victims afar
  - ✓ Able to do a “clean breach” of a victim that is directly under the concrete
- Ability to use search cameras and acoustical listening devices
  - ✓ Can use cameras to search/communicate with victims
  - ✓ Use acoustical devices to pin point victim locations
  - ✓ Teams have search dogs as part of their team(s)

Structural Collapse

Teams are trained to technician level and are competent in:

- Underwater search for victims
  - ✓ Search in fresh or salt water
  - ✓ Competent in setting up search grids
  - ✓ Can use sonar to assist in search of victims
  - ✓ Divers are fully encapsulated
  - ✓ Newest Integrated communication systems
- Trained in witness interview
- Have underwater cutting and extrication ability

Dive

- Competent in boat operations
  - ✓ Using a boat for a dive platform
  - ✓ Using a boat for a search operation
  - ✓ Tow bar operations
  - ✓ Dive in moving water
- Train on a regular basis
- Have working relationship with
  - ✓ Mass. State Police
  - ✓ Local harbormasters
  - ✓ Local police dive teams

Dive

Local Teams ***May*** Train To Disciplines Needed In Their Geographical Area

- ✓Swift Water Rescue
- ✓Surf Rescue
- ✓Tunnel Rescue
- ✓Wilderness Search & Rescue
- ✓Vehicle & Machinery Rescue
- ✓Others identified……

Specialty Disciplines

- Why do you need to call a team?
  - ✓ When you think the techniques for a safe rescue or equipment needs are beyond the local, on-scene resources
- When do you call a team?
  - ✓ As soon as you think you need them. You can always return the resources

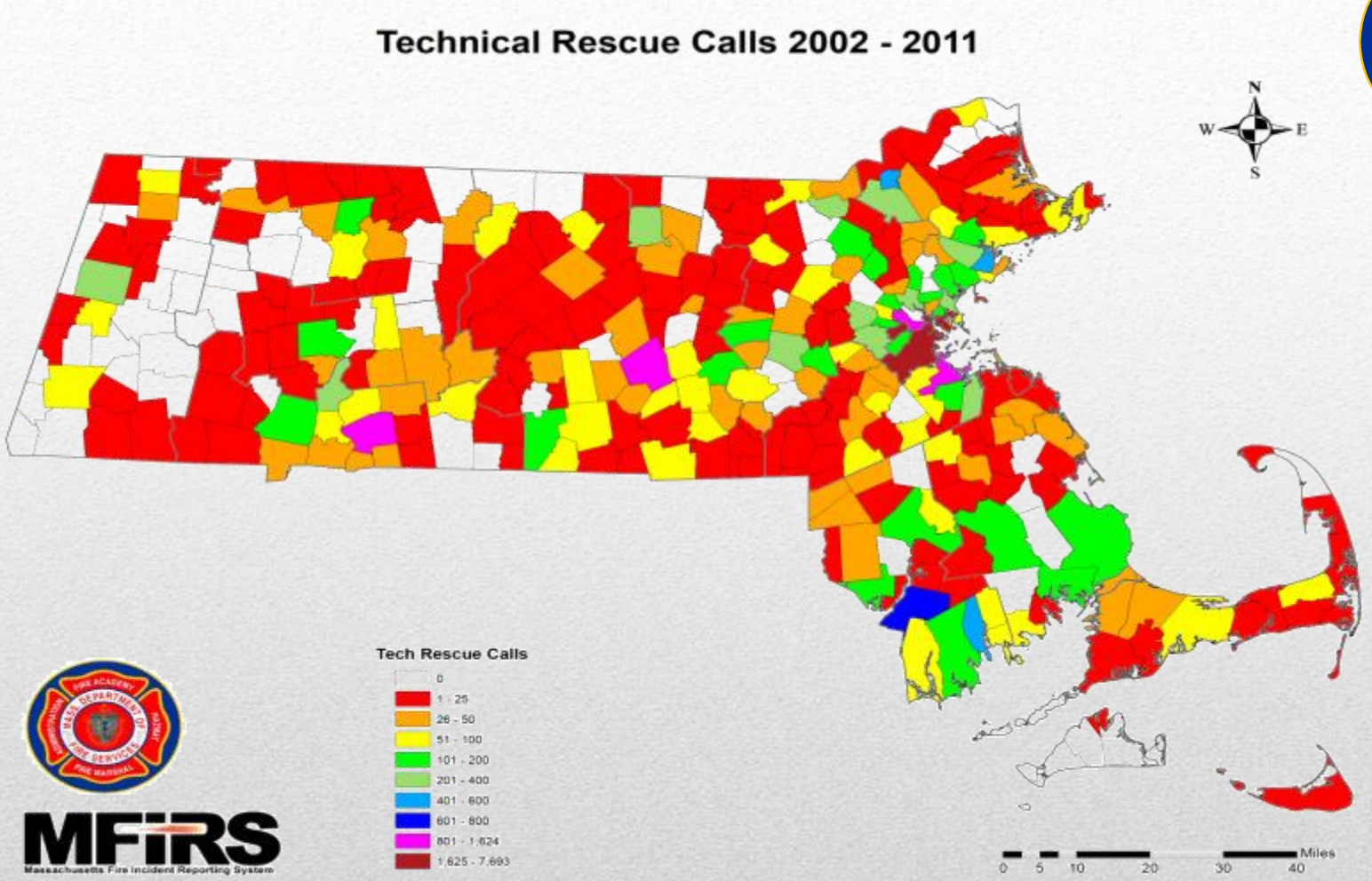
When & Why to call a team

- Most Fire Departments can contact their regional dispatch center
  - ✓ County dispatch i.e. Plymouth County Control, District 15 (Essex County)
  - ✓ Other prescribed ways

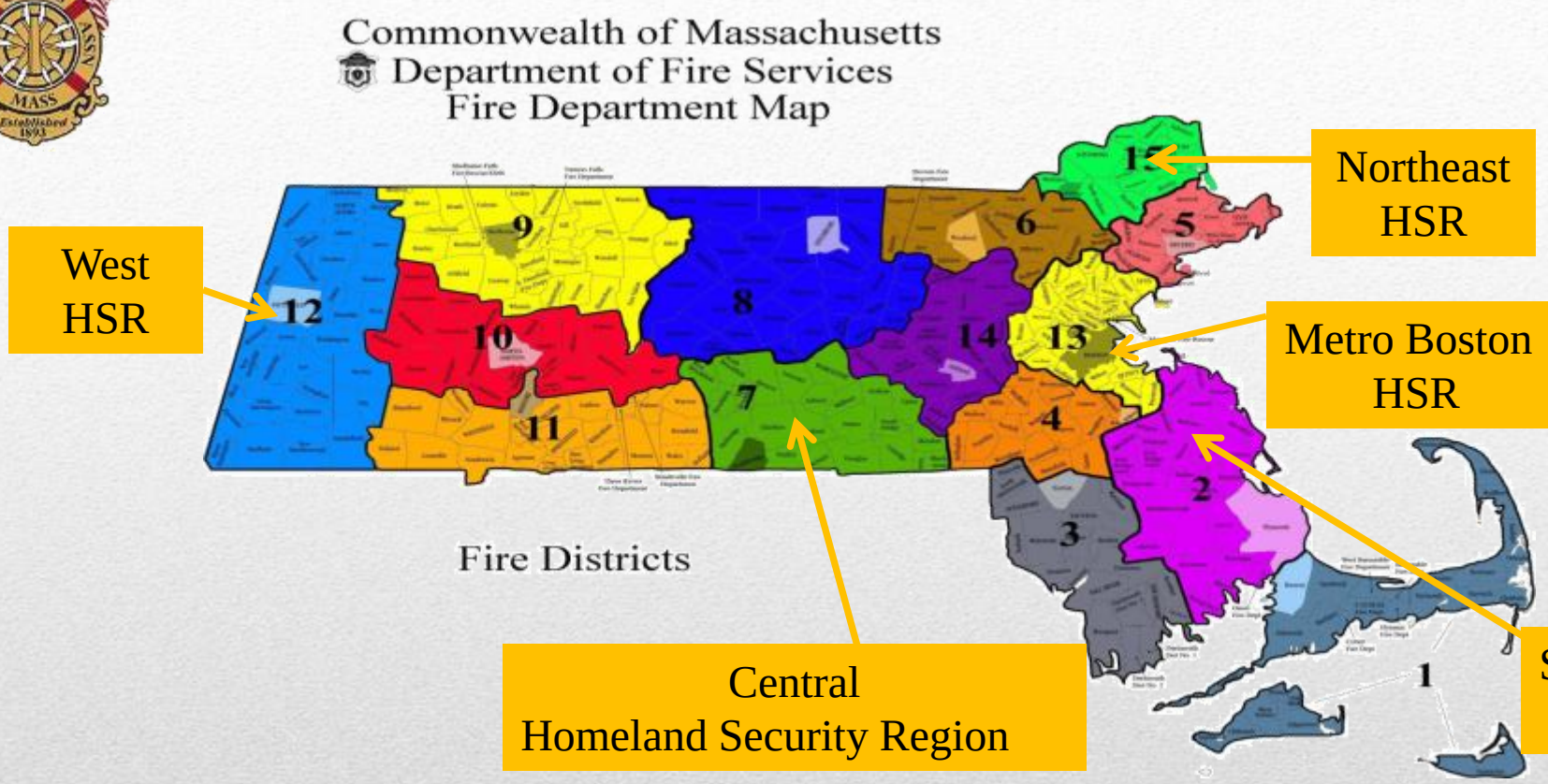
How To Activate A Team

- Similar to Hazmat
- Responders will respond to the scene
- Trailer(s) will be transported to the scene
- Will always work under the local incident commander according to NIMS

The Response



10 Yrs Data shows a need



Teams based by Fire Districts, grouped into DHS Regions

Team Capabilities

- **Essex County**
  - ✓ Rope/Trench/ Confined Space/Structural collapse
  - ✓ 3 districts within Essex County
- **Norfolk**
  - ✓ Rope/Trench/ Confined Space
- **Plymouth**
  - ✓ Rope/Trench/ Confined Space/Structural collapse/Large Animal/ Dive/Swift water (fall 2013)
- **Bristol**
  - ✓ Rope/Trench/ Confined Space

- **Barnstable**
  - ✓ Rope/Trench/ Confined Space/Dive
- **Dukes**
  - ✓ Rope/Trench/ Confined Space
- **Western Mass (Franklin, Hampshire, Hampden, & Berkshire Counties)**
  - ✓ Rope/Trench/ Confined Space (spring 2014)
  - ✓ Four counties together with 4 directors
- **UASI – Metro Boston**
  - ✓ Rope/Confined Space/Trench/Structural Collapse (Status?)

Team Capabilities

TEAM RESPONSES

Since being trained and going "on line"

- Dunstable Hang glider Rescue

  Oct 11, 2010

- Lawrence Bridge Rescue

  June 10, 2012

Team Responses - Essex

- A parachutist was seen to be in trouble when he was observed racing to the ground with both chutes deployed
- Local FD could not reach the victim with portable ladders
- Essex County Technical Rescue was called in to assist

Team Responses - Essex

Team Responses - Essex

THE END RESULT….

- After hanging for 3 hours the man is safe on the ground 1 hour after the tech team got there
- The team works under the IC just like the hazmat team
- In a coordinated effort the man is rescued and transported to hospital

- Man in Lawrence goes under a railroad bridge and cannot get back out
- “Would be rescuer” attempts to help
- Essex County Technical Rescue team is called in assist in retrieving 2nd victim
- Victim was mentally impaired and refuses to assist
- Long duration event…

Team Responses - Essex

Team Responses - Essex

- Fore River Bridge jumper
  August 11, 2012
- Wrentham rope rescue
  January 2, 2013

Team Responses - Norfolk

- 23 year old male climbed to the top of bridge to take pictures of sunset @ 1am
- Bridge attendant called 911 unsure of motive
- Male climbed down as technical rescue team was attempting rescue

Team Responses - Norfolk

Team Responses - Norfolk

- Boys climbed “Joe’s Rock” and got stuck with falling temperatures
- They were out of reach of FD’s tallest portable ladders
- Each boy was secured and lowered down

- Victims were safely rescued
- Transported to the hospital for hypothermia and released

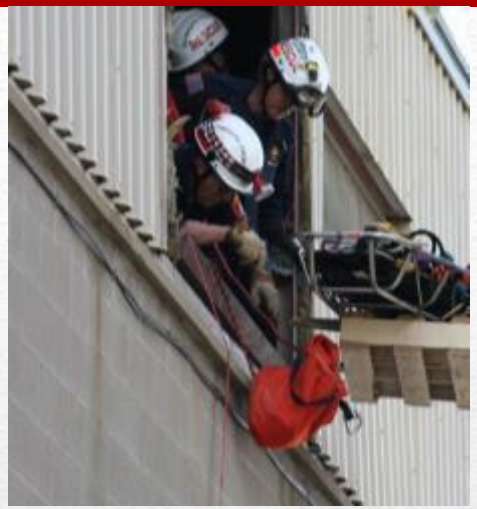
Team Responses - Norfolk

- Abington plant rescue
  April 21, 2008
- Wind turbine rescue
  December 14, 2012
- Dive rescue
  July 16, 2011
- Large animal rescue
  August 25, 2013

Team Responses - Plymouth

Team Responses - Plymouth

- 29 male fell & got his ankle caught in pneumatic clam shell being installed in pre-cast plant
- Difficult access and a confined space made the rescue difficult



- Approximately 30 min. after the team arrived the man was removed from the structure

Team Responses - Plymouth

- A 53yo male construction worker fell 24’ in a wind turbine
- Hanover FD called County team right away and treated medical needs of the victim

Team Responses - Plymouth

- "It was a very cramped, confined area" per Chief Blanchard
- Victim was placed in stokes basket and lowered via ropes to waiting ambulance

Team Responses - Plymouth

Team Responses - Plymouth

- A 23yo male fell overboard in Marshfield prompting a dive response
- Plymouth County Dive team along with Marshfield Fire responded

Team Responses - Plymouth

- Plymouth County Dive team conducts training on a regular basis

Team Responses - Plymouth

- August 25, 2013 Plymouth County Technical Rescue team responds for a deer stuck in mud

- They have also rescued several horses

- Team responds to confined space fire & entry

  September 1, 2013

Team Responses - Plymouth

Team Responses - Plymouth

- A below ground fire at septic pumping facility near Galleria Mall
- Team air monitored after fire suppression and lowered rescue tech along with engineer to confirm fire was out

- Structural Collapse training for teams not designated as such
- Swift/Flood water rescue
- Discipline specific training for certain geographical areas
  - ✓ (I.e. wilderness, swift water)
  - ✓ **Sustainment training**

Future for Tech Rescue teams

- Interagency training/scenarios
  - ✓ With other technical rescue teams
  - ✓ With outside agencies such as sheriffs, state & other entities

Future for Tech Rescue teams

- Technical rescue is a low frequency/high risk event that requires specific and constant training


Rescued from Wrentham rock

- Technical rescue seems to be in the news more frequently as people are taking more risks recreationally and fire departments know what constitutes a technical rescue

Summary


Fire breaks out at North Attleboro pumping station

- There are several teams trained and equipped for technical rescue throughout the state

- Know how to notify your regional technical rescue team for a response ahead of time similar to the hazardous material teams

Summary

Any……

Questions

Norfolk

Essex

Thank you very much!

Plymouth

Dukes

Thank you very much!

Thank you very much!

Thank you very much!