



BEST Complex Participant Safety Manual



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Participant Safety Manual

Welcome to Beaumont Emergency Services Training (BEST) Complex. This Participant Safety manual was developed to assist our participants and guest instructors in understanding and complying with the BEST Complex safety requirements. This manual is applicable to all training conducted at BEST Complex. It is the expectation of BEST Complex that all staff, participants, and guest instructors comply with the requirements of this manual.

The Instructor In Charge (IIC) has full responsibility for the safety of his/her participants and for ensuring all training is conducted in accordance with this manual. The IIC in consultation with and the approval of BEST Complex management can deviate from the policies contained in this manual if the requested deviation enhances the safety of the participants. In no instance will the safety of participants be degraded. Requests for deviations will be handled on a case-by-case basis.

Personal Protective Equipment (PPE) Requirements

To ensure the safety of our participants and staff during training evolutions, the following PPE policy has been adopted. The policy is based upon five levels of protection, with Level 0 as the lowest level of protection. This policy is to be followed by all Participants and staff during any training activity regardless of location

Level 0

This level consists of everyday, casual clothing suitable for an office environment. Level 0 is for courses which are completely classroom based with no hands-on training activities and where participants remain in the classroom for the entire course. No PPE is required for Level 0.

Level 1

This is the lowest level of protection for training outside of the classroom. Level 1 is for courses where participants are not directly involved with hands-on training but require a slightly higher level of protection based on the environment and surroundings. Examples include conducting field inspections or observing training scenarios or hands-on demonstrations. This level is comprised of normal, everyday outdoor work attire:

- Full-length pants are required for all participants; shorts are strictly prohibited during hands-on training activities.
- Short sleeves are allowed, but sleeveless shirts are prohibited
- Closed-toed shoes must be worn

Level 2

This level of protection is the minimum requirement for any hands-on training activity and is comprised of all Level 1 requirements plus the following:

- National Fire Protection Association (NFPA) approved firefighter’s helmet or American National Standards Institute (ANSI) Z.89-approved hardhat (non-live fire training activities)
- For Level 2 eye protection, see specific requirements under “Use of Eye Protection Equipment”
- NFPA-approved steel toe firefighter’s boots or ANSI Z.41-approved steel toe safety boots(non-live fire training activities)
- NFPA-approved firefighter’s gloves or suitable work gloves for non-live fire training activities
- Loose jewelry is prohibited

Level 3

This level of protection is the minimum requirement for any exterior, live-fire training activity where smoke inhalation does not occur or is incidental to the activity and is comprised of all Level 1 requirements plus the following:

- NFPA-approved structural firefighter’s coat and pants:
 - ❖ Must meet all applicable NFPA standards
 - ❖ Must be in good condition with all NFPA approval tag in place
 - ❖ All closures are in place and in good working condition
 - ❖ No tears or holes in gear
 - ❖ Must be a complete set (coat and pants with suspenders)
 - ❖ Full-length pants are required to be worn in conjunction with bunker gear; shorts are strictly prohibited
- NFPA-approved firefighter’s helmet with ear flaps
- NFPA-approved helmet with the Original Equipment Manufacturer (OEM) faceshield, or NFPA-approved goggles, or both. Goggles are not recommended for use during exterior fire training activities.
- Sunglasses or other eyewear worn in conjunction with an NFPA helmet and faceshield must meet ANSI standard Z.87
- NFPA-approved fire fighting hood; “double hooding” is not allowed
- NFPA-approved steel toe firefighter’s boots
- NFPA-approved firefighter’s gloves

Level 4

This level of protection is the minimum requirement for any interior live-fire training activity and is comprised of all Level 3 requirements plus the use of an NFPA-approved Self-Contained Breathing Apparatus (SCBA) and Personal Alert Safety System (PASS) device. All SCBA and PASS devices used must be in compliance with NFPA 1981 for SCBA and NFPA 1982 for PASS devices.

Level 5

This level of protection defines the minimum requirements for specialized training activities.

Vehicle Extrication

Extrication clothing may be worn in lieu of bunker gear, a fire fighting hood is not required, and suitable work gloves may be worn in lieu of firefighter's gloves. All other Level 3 requirements remain in place.

Airport Rescue Fire Fighting (ARFF)

The use of NFPA-compliant proximity suits is allowable as Level 3 bunker gear (exterior evolutions) and as Level 4 bunker gear (interior/cabin evolutions).

Rescue

Participants participating in confined space, high angle, and wilderness rescue courses are required to meet the Level 2 PPE requirements.

Use of Eye Protection Equipment

Live-Fire Training Activities (Level 3 and 4)

Each individual engaged in live-fire training activities must incorporate eye protection measures. Eye protection must consist of the following:

- NFPA-approved helmet with:
 - ❖ OEM faceshield
or
 - ❖ NFPA-approved goggles
or
 - ❖ Both

Goggles are not recommended for use during exterior fire training activities. Sunglasses or other eye wear worn in conjunction with an NFPA helmet and faceshield must meet ANSI standard Z.87.

Note: ANSI-compliant eye wear will have Z.87 stamped on either the frame or the lens.

Non-Live Fire Training Activities (Level 2)

Each individual engaged in "non-live fire" training activities (i.e., hands-on) are to incorporate eye protection measures. Eye protection must consist of one of the following:

- NFPA-approved helmet with:
 - ❖ OEM faceshield or
 - ❖ NFPA-approved goggles
- Sunglasses or other eyewear worn in conjunction with an NFPA helmet and faceshield must meet ANSI standard Z.87.

- ANSI Z.98-approved protective eye equipment

Note: ANSI-compliant eyewear will have Z.87 stamped on either the frame or the lens.

Respiratory Protection

Participants required to wear respiratory protection during training exercises should have received prior training, fit testing, and a medical survey by their employer or department prior to enrolling in a course. By enrolling in a course which requires the use of respiratory protection, the participant implies these requirements have been met by his/her employer or department. BEST Complex prefers a written statement from the employer/department training coordinator that each participant meets these requirements. The following guidelines will be followed for the use of respiratory equipment.

Self-Contained Breathing Apparatus (SCBA) Use

- All SCBA and PASS devices used must be in compliance with NFPA 1981 for SCBA and NFPA 1982 for PASS devices.
- SCBAs will be used by all participants, guest instructors, and staff (instructors) during training evolutions involving:
 - ❖ Interior fire structures
- When wearing an SCBA, there should be no facial hair in the seal area of the facepiece. The Occupational Safety and Health Administration (OSHA) and NFPA allow no more than a one-day growth of facial hair. Your instructor will approve or disapprove your use of respiratory equipment. .

Supplied Air Respirator (SAR) Use: Requirements for the use of SARs will be the same as that for SCBA.

Personal Protective Equipment (PPE) Use during Project Ignition

A BEST Complex staff member will serve as the ignition officer for all projects. To ensure the safety of the ignition officer and participants, the following guidelines will be followed:

- Be aware of wind direction and ignite the project from the upwind side.
- Use only the BEST Complex provided propane torch to ignite projects
- All propane torches are to be turned off at the completion of the training evolution(s) prior to exiting the project

Requirements for Exterior PPE Use: Once an exterior project has been ignited, anyone (staff and participants) entering the hot zone must be in full PPE as defined by Level 3. The hot zone for exterior projects is defined by crossing the berm area and/or walking onto the project pad.

Exterior Projects

- The ignition officer is to be in Level 3 PPE during project ignition.
- Verify with the fueller where the best ignition location is on the upwind side of the project.
- Charged hose lines are to be in place and manned to protect the ignition officer.
- A monitor and spotter can be used in lieu of hose lines to protect the ignition officer.
- After ignition, the propane torch is to be placed in a safe location (uphill and upwind) at the outer edge of the project pad.
- All fixed and portable master streams must be manned during tactical operations when discharging water.

Requirements for Interior PPE Use: Once an interior project has been ignited, anyone (staff and participants) entering the hot zone must be in full PPE as defined by Level 4, with the SCBA in operation.

Interior Projects

- The instructor-in-charge, in coordination with the safety officer, will direct the actions of the ignition officer.
- The ignition officer is required to be in Level 4 PPE during the ignition of the project.
- Charged hose lines are to be in place and manned to protect the ignition officer.
- Propane torches are to be removed from the project's interior after ignition and placed in a safe location at the outer perimeter of the operations area.
- Once the project is ignited, anyone crossing the red line on the project pad is required to be in Level 4 PPE with SCBA in operation.

Personal Protective Equipment (PPE) Use When Racking Fire Hose

- Fire hose will only be racked upon command of the IIC after all fire has been extinguished and project valves have been reopened. NFPA-approved helmet, gloves, and boots will be worn while racking hose.

Heat Stress

Heat stress is one of the greatest concerns for individuals involved in hands-on training activities. While heat stress is most prevalent during the warmer months of the year, participants and staff should be monitored for signs of heat stress throughout the year. To prevent heat stress, participants and staff should remove their helmet, hood, coat, and gloves during all critiques, breaks, and when moving from project to project. Increased cool down periods, shortened burn evolutions, and

regular re-hydration will also help prevent heat stress. The following hydration guidelines should be followed to reduce the risk of heat stress:

- Drink ample water throughout the day:
 - ❖ Drink a cup of water before and after each training evolution
 - ❖ Limit the electrolyte consumption (too much could cause nausea)
- Do not drink the fire water being used in training; potable water will be provided under the project shelters
- Limit alcohol consumption at night
- Do not eat a large lunch
- Notify your instructor of the first signs of heat stress
- Each shelter has a sign listing heat-related symptoms

Anyone exhibiting the signs/symptoms of heat stress should be removed immediately from the training activity and taken to a shaded location for cool down. Heat stress is a true medical emergency and can progress rapidly to heat stroke. Therefore, a qualified medic will be called to evaluate the individual's condition at the first signs of heat stress. Participants and staff should closely monitor each other for the following signs/symptoms of heat stress.

Heat Cramps

- Muscle cramps in the extremities and abdomen
- Respiration rate increase
- Pale and moist skin
- Normal body temperature
- General weakness

Heat Exhaustion

- Heavy/Profuse sweating
- Rapid and weak pulse rate
- Rapid and shallow respiratory rate
- Pale and clammy skin
- Normal or decreased body temperature
- Irritability and restlessness

Heat Stroke

- Hot, dry, flushed skin
- Strong and pounding pulse
- Headache, dizziness, and dry mouth
- Seizure and coma
- Loss of consciousness and airway problems can occur

Facilities

Injuries

It is our goal that all participants have an enjoyable, informative, and injury-free training experience. Should a participant receive an injury of any type, the instructor or technician working with the class is to be notified immediately. All injuries will be evaluated by a field medic. The attending medic will advise the instructor if the injuries warrant the participant being removed from the hands-on training evolutions.

Inclement Weather Procedures

The radio system is used to alert participants and staff of the potential for lightning strikes and inclement weather. The field will remain closed until the threat of severe weather has passed and the All Clear is sounded via the radio system. The following procedure will be used when there is a threat of severe weather:

- Upon notification, all participants, instructors, and staff are to seek shelter immediately at the nearest safe haven (shelter, classroom, or building or area designated by the instructor in charge).
- *All Clear*- The field will remain closed until the All Clear is sounded by radio.
- If radar indicates the storm is moving away from the field so that no threat remains to participants/staff, a member of the office can make the determination to re-open the field.
- If radar indicates a storm system is approaching and /or visual lightning is observed in close proximity to the field, any staff member can make the determination to close the field.

Smoking Policy

Smoking is not allowed (1) inside any buildings at any time; (2) under project shelters during lectures/presentations; (3) any location where classes/lectures are being conducted; or (4) inside vehicles. Smoking will be permitted only in BEST Complex authorized areas during authorized class breaks. All cigarette butts are to be extinguished and properly disposed of in the receptacles provided.

Pedestrian Safety

Due to the large volume of automobile and heavy equipment traffic on the field, all pedestrians are to comply with the following guidelines:

- On roadways:
 - ❖ Watch for vehicular traffic
 - ❖ Watch for uneven surfaces
 - ❖ Walk along the side of roadways so as not to impede vehicular traffic

- On projects:
 - ❖ Watch for uneven surfaces (rock, curbs, piping, etc.)
 - ❖ Be aware of fire hose layout
 - ❖ Watch for slippery areas
 - ❖ Never walk across a project pad while moving to the next project unless instructed to do so by your instructor.

Vehicle Safety

Due to the large volume of automobiles, pedestrians, and heavy equipment traffic, anyone operating a vehicle on the field will comply with the following guidelines:

- The field speed limit is 10 m.p.h. for all vehicular and equipment traffic.
- Drivers and passengers will use seatbelts at all times when riding in vehicles or equipment.
- Passengers are not allowed to ride in the bed of utility vehicles.
- Utility vehicles will only be operated by BEST Complex personnel.
- When riding in truck beds, passengers are to sit on the bed floor, completely inside the bed area with the tailgate closed.
- Passengers are not allowed to ride on truck bed rails, tool boxes, tailgates, or bumpers.
- Passengers are only allowed to ride in the passenger compartment or automobiles, vans, and sport utility vehicles.

Project-Specific Safety Items

Prior to conducting hands-on training, the instructor or his/her designee shall review the most recent Project Safety Analysis (PSA) to ensure any unsafe conditions have been addressed prior to the start of training. Additionally, the instructor or his/her designees shall inspect the shelter, project, fueling station, and hose racks for any type of environmental hazards such as:

- Wasps, hornets, yellow jackets, etc. (wasp spray available through the staff)
- Spiders
- Snakes
- Algae build up on walking surfaces (slip hazard)

Classroom Safety

While the majority of this manual has focused on conducting safe hands-on training, the importance of safety in the classroom cannot be overlooked. Prior to the start of any class, the instructor shall review the most recent PSA for the classroom to ensure any unsafe conditions have been addressed prior to the start of training. For training conducted at locations away from the field, the instructor will conduct a safety inspection of the classroom prior to the start of training. In addition, the following safety items are to be reviewed with the Participants prior to the start of any classroom session at all training events:

- Review lightning procedure
- Location of emergency exits

- Classroom and/or building evacuation plan
- Rally points in the event of an evacuation
- Procedures for activating alarm and/or evacuation plan as applicable
- Location of fire extinguishers
- Identity of any potential slip/trip hazards and how hazard has been mitigated
- Identity of any overhead hazards (low ceiling, low entranceway, etc.)
- Housekeeping:
 - ❖ How spills are to be reported to prevent slip hazards
 - ❖ Proper disposal of trash
 - ❖ Extinguishment and disposal of cigarette butts in receptacles provided in outdoor smoking areas
- Ensure coffee pot and other electrical appliances are turned off at the end of the day