

Personal Protective Equipment

914.1 PURPOSE AND SCOPE

The purpose of this policy is to reasonably protect Magnolia Fire Department / Montgomery County ESD No 10 members by providing and maintaining, at no cost to the member, personal protective equipment (PPE), safety devices, and safeguards for workplace activities (37 Tex. Admin. Code § 435.1).

PPE information related to patient care is found in the Communicable Diseases Policy.

PPE information related to respiratory protection is found in the Respiratory Protection Program Policy.

914.2 POLICY

It is the policy of the Magnolia Fire Department / Montgomery County ESD No 10 to provide PPE and safeguards of the proper type, design, strength, and quality needed to reasonably eliminate, preclude, or mitigate a hazard.

All PPE purchased and used by the Magnolia Fire Department / Montgomery County ESD No 10 shall meet the applicable standard of the National Fire Protection Association (NFPA) (Tex. Gov't Code §419.043; 37 Tex. Admin Code § 435.1).

The Magnolia Fire Department / Montgomery County ESD No 10 shall also establish and have available for review by the Texas Commission on Fire Protection (TCFP) a written use, care, maintenance, repair, servicing, and inspection program for protective clothing and equipment to reduce the safety and health risks associated with improper selection, poor maintenance, inadequate care, excess wear, and improper use of PPE.

The district's Quartermaster shall act as the Personal Protection Clothing Manager (PPCM).

914.3 PPE STANDARDS AND REQUIREMENTS

The District will provide approved PPE that is appropriate for the hazard to members who are located in a workplace where there is a risk of injury. Members shall wear appropriate PPE any time there is a risk of exposure to a hazard.

The District shall apply the following guidelines, requirements, and standards to all PPE (Tex. Gov't Code § 419.040; Tex. Gov't Code §419.043; 37 Tex. Admin. Code § 435.1):

- (a) The PPE provided shall meet nationally recognized standards and all state-required standards (Tex. Gov't Code § 419.040; Tex. Gov't Code §419.043; 37 Tex. Admin. Code § 435.1)
- (b) When no authoritative standard exists for PPE or a safety device, the use of such equipment shall be subject to inspection and acceptance or rejection by the Division Chief in charge of the Section where the equipment will be used.
- (c) PPE shall be distinctly marked to facilitate easy identification of the manufacturer.

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- (d) The Training Division shall ensure that the member is properly instructed and uses PPE in accordance with the manufacturer's instructions.
- (e) Members are responsible for maintaining their assigned PPE in a safe and sanitary condition.
- (f) Supervisors are responsible for ensuring that all PPE is maintained in a safe and sanitary condition.
- (g) PPE shall be of such design, fit, and durability as to provide adequate protection against the hazards for which they are designed.
- (h) PPE shall be reasonably comfortable and shall not unduly encumber member movements that are necessary to perform work.

914.3.1 HEAD PROTECTION

Members working in locations where there is a risk of head injuries from flying or falling objects and/or electric shock and burns shall wear an approved protective helmet. Each protective helmet shall bear the original marking required by the ANSI standard under which it was approved. At a minimum, the marking shall identify the manufacturer, the ANSI-designated standard number and date, and the ANSI-designated class of helmet. Where there is a risk of injury from hair entanglements in moving parts of machinery, combustibles, or toxic contaminants, members shall confine their hair to eliminate the hazard (Tex. Gov't Code § 419.040; 37 Tex. Admin. Code § 435.1).

914.3.2 FACE AND EYE PROTECTION

Members working in locations where there is a risk of eye injuries, such as punctures, abrasions, contusions, or burns from contact with flying particles, hazardous substances, projectiles, or injurious light rays that are inherent in the work or environment, shall be safeguarded by means of face or eye protection. Suitable screens or shields isolating the hazardous exposure may be considered adequate safeguarding for nearby members. The District shall provide and require that members wear approved face and eye protection suitable for the hazard (Tex. Gov't Code § 419.040; 37 Tex. Admin. Code § 435.1).

914.3.3 BODY PROTECTION

Body protection may be required for members whose work exposes parts of their bodies that are not otherwise protected from hazardous or flying substances or objects. Clothing appropriate for the work being done shall be worn. Loose sleeves, tails, ties, lapels, cuffs, or other loose clothing that can be entangled in moving machinery shall not be worn. Clothing saturated with flammable liquids, corrosive substances, irritants, or oxidizing agents shall either be destroyed or removed and not worn until properly cleaned (37 Tex. Admin. Code § 435.1).

914.3.4 HAND PROTECTION

Hand protection shall be required for members whose work involves unusual and excessive exposure of hands to cuts, burns, harmful physical or chemical agents, or radioactive materials that are encountered and capable of causing injury or impairment.

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Hand protection (e.g., gloves) shall not be worn where there is a danger of the hand protection becoming entangled in moving machinery or materials. Use of hand protection around smooth-surfaced rotating equipment does not constitute an entanglement hazard if it is unlikely that the hand protection will be drawn into the danger zone.

Wristwatches, rings, and other jewelry should not be worn while working with or around machinery with moving parts in which such objects may be caught or around electrical equipment (37 Tex. Admin. Code § 435.1).

914.3.5 FOOT PROTECTION

Appropriate foot protection shall be required for members who are exposed to foot injuries from electrical hazards; hot, corrosive, or poisonous substances; falling objects; or crushing or penetrating actions, or who are required to work in abnormally wet locations. Footwear that is defective or inappropriate to the extent that its ordinary use creates the possibility of foot injuries shall not be worn. Footwear shall be appropriate for the hazard and shall comply with NFPA standards (Tex. Gov't Code § 419.040; 37 Tex. Admin. Code § 435.1).

914.3.6 PERSONAL FALL PROTECTION SYSTEMS

Members working in assignments where there is a risk of fall (e.g., climbing to, operating at, or rappelling from unsafe heights) shall use appropriate fall protection equipment such as ropes, harnesses, or other devices.

914.4 SELECTION, CARE, AND MAINTENANCE OF PPE

PPE exists to provide the member with an envelope of protection from multiple hazards and repeated exposures. For structural firefighting, PPE is a system of components designed to work as an ensemble. Typical firefighting PPE consists of a hood, helmet, jacket, trousers, gloves, wristlets, and footwear (Tex. Gov't Code § 419.021; 37 Tex. Admin. Code § 435.1). A program for selection, care, and maintenance of PPE consists of the following.

914.4.1 SELECTION

The PPE selection process should be conducted consistent with the protocols developed by the Health and Safety Officer (see the Health and Safety Officer (HSO) Policy).

The PPE selection process should include (37 Tex. Admin. Code § 435.1):

- (a) A risk assessment in accordance with NFPA 1850 at least every two years to include expected hazards, frequency of use, past experiences, geographic location, and climatic conditions.
 - 1. The assessment should include a review of the current risk assessment and necessary changes to ensure that PPE continues to be suitable for assigned tasks.
- (b) The evaluation of comparative information on all ensemble elements to ensure they will interface and perform based on the risk assessment.
- (c) Considerations should include the following:

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1. PPE performance expectations, including thermal and physiological effects
2. Style and design for user comfort and wear performance
3. Construction for quality, durability, and garment life
4. Manufacturer ability to meet performance demand requirements, technical information, service, warranty, and customer support needs
5. Any necessary changes in operating procedures.
6. Specialty equipment being used with PPE shall not interfere with the intended function and interface of the PPE.
7. Specific physical area of operation where the PPE will be used
8. Likelihood of or response to a chemical, biological, or radiological particulate hazard terrorism incident
9. The need for two sets of PPE for personnel or the number of spare PPE components to support district needs

PPE selected shall be in compliance with NFPA 1971 (Tex. Gov't Code § 419.040; 37 Tex. Admin. Code § 435.1).

914.4.2 INSPECTION

There are two primary types of PPE inspection:

Routine inspection - Firefighters shall conduct a routine inspection of their issued PPE when it is initially issued, at the beginning of each shift, after each use, and anytime the PPE has been exposed or is suspected of having been exposed to damage or contamination.

PPE should be inspected to determine the level of cleaning necessary. The inspections should include the following, as applicable:

- (a) Coat, trousers, gloves, and hood should be checked for the following:
 1. Soiling
 2. Contamination from hazardous materials or biological agents
 3. Physical damage, such as:
 - (a) Rips, tears, and cuts
 - (b) Damaged/missing hardware and closure systems
 - (c) Thermal damage, such as charring, burn holes, and melting
 - (d) Damaged or missing reflective trim
 - (e) Shrinkage
 - (f) Loss of elasticity or flexibility at openings
 - (g) Excessive wear to the liners
- (b) Helmets should be checked for the following:

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1. Soiling
 2. Contamination from hazardous materials or biological agents
 3. Physical damage to the shell, such as:
 - (a) Cracks, crazing (small cracks), dents, and abrasions
 - (b) Thermal damage to the shell, such as bubbling, soft spots, warping, or discoloration
 4. Physical damage to ear flaps, such as:
 - (a) Rips, tears, and cuts
 - (b) Thermal damage, such as charring, burn holes, and melting
 5. Damaged or missing components of suspension and retention systems
 6. Damaged or missing components of the goggle system including:
 - (a) Discoloration
 - (b) Crazing (small cracks)
 - (c) Scratches to goggle lens, limiting visibility
 7. Damaged or missing reflective trim
- (c) Footwear should be checked for the following:
1. Soiling
 2. Contamination from hazardous materials or biological agents
 3. Physical damage, such as:
 - (a) Cuts, tears, and punctures
 - (b) Thermal damage, such as charring, burn holes, and melting
 - (c) Exposed or deformed steel toe, steel midsole, and shank
 - (d) Loss of water resistance
- (d) Fall protection should be checked for the following:
1. Soiling
 2. Contamination from hazardous materials or biological agents
 3. Physical damage, such as:
 - (a) Cuts, tears, and punctures
 - (b) Thermal damage such as charring, burn holes, and melting
 - (c) Excessive stretching
 - (d) Distorted or damaged hardware

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Advanced inspection - Advanced inspection of PPE ensembles and elements shall be conducted by a verified Independent Service Provider (ISP) a minimum of every 12 months or whenever routine inspections indicate a problem may exist.

Advanced inspections shall only be conducted by trained and certified members or a manufacturer-approved vendor certified to conduct advanced inspections. All findings from advanced inspections shall be documented on an inspection form. Universal precautions shall be observed, as appropriate, when handling elements. Advanced inspections shall include, at a minimum, the inspection criteria outlined in NFPA 1850 (37 Tex. Admin. Code § 435.1).

914.4.3 ADDITIONAL INSPECTION REQUIREMENTS

Universal precautions shall be observed, as appropriate, when handling elements during any inspection. All soiled or contaminated PPE should be cleaned in accordance with this policy prior to inspection.

Complete liner inspections in accordance with NFPA 1850 shall be conducted annually and whenever a routine inspection determines potential damage.

District members completing advanced inspections must be certified by a certification organization accredited for PPE in accordance with NFPA 1850.

914.4.4 CLEANING AND DECONTAMINATION

The following rules and restrictions shall apply to the cleaning and decontamination of PPE:

- (a) Soiled and contaminated PPE elements shall undergo either a routine/Preliminary Exposure Reduction (PER), an advanced cleaning, or a specialized cleaning.
- (b) Soiled and contaminated PPE shall not be taken home, washed in the home, or washed in public laundries unless the business is dedicated to handling firefighting protective clothing.
- (c) Commercial dry cleaning shall not be used.
- (d) The District will examine the manufacturer's label and user information for specific cleaning instructions.
- (e) Chlorine bleach or chlorinated solvents shall not be used to clean or decontaminate PPE elements.
- (f) Scrubbing or spraying with high-velocity water jets, such as a power washer, shall not be used.
- (g) All contract cleaning or decontamination businesses shall demonstrate procedures for cleaning and decontamination that do not compromise the performance of PPE ensembles and elements.
- (h) District standards identify and define three primary types of cleaning: routine/PER, advanced, and specialized.
 - 1. **Routine cleaning/Preliminary Exposure Reduction (PER)** - After each use, any elements that are soiled shall receive routine cleaning. It is the firefighter's

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responsibility to routinely clean their PPE ensemble or elements using the following process:

- (a) Initiate cleaning at the incident scene.
 - (b) Brush off any dry debris.
 - (c) Gently rinse off debris with a water hose.
 - (d) If necessary, scrub gently with a soft bristle brush and rinse off again. Spot clean utilizing a utility sink.
 - (e) Inspect for soiling and contamination and repeat the process if necessary.
 - (f) All elements shall be air-dried in an area with good ventilation or utilize drying cabinets. Do not dry in direct sunlight..
 - (g) PPE used at a HAZMAT incident shall be assessed by a qualified member or expert after following PER to determine if cleaning the PPE is possible. If the member or expert determines cleaning is not possible, the contaminated PPE shall be retired.
2. **Advanced cleaning** - Should routine cleaning fail to render the elements clean enough to be returned to service, advanced cleaning is required. In addition, elements that have been issued, used, and soiled shall undergo advanced cleaning every six months, at a minimum.
- (a) The district's Personal Protection Clothing Manager shall manage all advanced cleaning.
 - (b) Advanced cleaning will be coordinated with the Personal Protection Clothing Manager by either the crew or by the individual. Spare or loaner PPE will be provided for any member scheduled to work.
 - (c) Station laundering machines designed for cleaning station uniforms and other standard items shall not be used to clean PPE elements.
3. **Specialized cleaning** - PPE elements that are contaminated with asbestos, opioid drugs, bedbugs, hazardous materials, or biological agents shall undergo specialized cleaning as necessary to remove the specific contaminants.
- (a) The PPE elements that are contaminated or suspected to be contaminated shall be isolated, tagged, bagged, and removed from service until they undergo specialized cleaning to remove the specific contaminant. All bagged PPE shall include the member's name, company, and shift. Universal precautions shall be observed when handling known or suspected contaminated PPE elements. For more information on decontamination of PPE after exposure, refer to the Communicable Diseases Policy.
 - (b) The district's Personal Protection Clothing Manager shall manage all specialized cleaning and will utilize a verified Independent Service Provider (ISP). The District, if possible, shall identify the suspected contaminant and consult the manufacturer for an appropriate decontamination agent and process.

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- (c) PPE components contaminated with blood, body fluids, or other biological contaminants should be sanitized (e.g., clothing, fabrics) or disinfected (e.g., helmet shells, other hard surfaces).

914.4.5 CBRNE-CONTAMINATED PPE

All PPE elements that have been contaminated by chemical, biological, radiological, nuclear, or explosive (CBRNE) agents shall be removed as soon as possible, bagged, and permanently removed from service. Such PPE elements shall be disposed of pursuant to district procedures.

914.4.6 REPAIR OF DAMAGED PPE

Damaged PPE shall not be used. The district's Personal Protection Clothing Manager shall manage all PPE repairs utilizing a manufacturer-recognized repair facility. All elements shall be subject to an advanced or specialized cleaning before any repair work is done. Spare or loaner PPE shall be available to members while repairs are being made.

914.4.7 STORAGE OF PPE

The parameters for the storage of all PPE ensembles or elements include the following:

- (a) PPE shall not be stored in direct or indirect sunlight or exposed to ultraviolet radiation or fluorescent lighting when it is not being worn.
- (b) PPE shall be clean, dry, and well-ventilated before storage.
- (c) PPE shall not be stored in airtight containers unless new and unused.
- (d) PPE shall not be stored at temperatures below 40 degrees F or above 180 degrees F.
- (e) PPE shall be stored in a protective case or bag to prevent damage if stored in compartments or trunks.
- (f) PPE shall not be subjected to sharp objects, tools, or other equipment that could damage the ensemble or elements.
- (g) PPE shall not be stored inside living quarters or with personal belongings, or taken or transported within the passenger compartment of personal vehicles unless it is stored in a protective case or bag.
- (h) PPE shall not be stored in contact with hydraulic fluids, solvents, hydrocarbons, hydrocarbon vapors, or other contaminants.

914.5 ISSUING PPE

All PPE ensembles or elements shall be issued through the district's Personal Protection Clothing Manager. All fittings shall be completed by the Personal Protection Clothing Manager and/or by a manufacturer's representative.

- Members shall only use district-issued or approved PPE, including accessories.
- Members shall minimize the public's exposure to soiled or contaminated PPE and avoid wearing PPE to non-fire-related emergencies.
- Members shall not wear PPE inside station living quarters or other district facilities.

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914.6 MEMBER-PROVIDED PPE

Members who desire to use personally owned PPE are required to have the PPE approved and inspected by the Personal Protection Clothing Manager prior to use. All personally owned PPE is subject to the requirements of this policy.

914.7 PPE ACCESSORIES

No accessories may be added to PPE unless the Personal Protection Clothing Manager first obtains written approval from the manufacturer. If the Personal Protection Clothing Manager is unable to make contact with the manufacturer, accessories may be approved after compliance with evaluation and testing as provided in NFPA 1850 (37 Tex. Admin. Code § 435.1).

No member shall permit the addition or attachment of accessories to any PPE unless and until the requirements of NFPA 1850 have been satisfied.

No member shall make any modifications to structural personal protection ensemble elements without prior authorization.

914.8 PPE TRAINING

The Training Division should verify that members receive and demonstrate an understanding of PPE training consistent with their duties before performing work requiring the use of the PPE. This should include:

- (a) Determining when PPE is necessary and what kind should be used.
- (b) How to properly wear, adjust, and remove PPE.
- (c) The limitations of the PPE.
- (d) Upon issue, all members shall be provided training on this policy along with the manufacturer's written instructions on the care, use, and maintenance of their PPE, including any warnings issued by the manufacturer.
- (e) New firefighters shall receive training in the care, use, and maintenance of their PPE before participating in any hands-on training or operations. All other firefighters shall receive training as needed when PPE ensembles or elements are upgraded or changed.
- (f) The useful life and disposal of PPE.

Supervisors who believe a member does not have the understanding and skill required for PPE use, whether or not the member has received training on the PPE, should take appropriate steps to have the member retrained.

914.9 PPE RECORD-KEEPING

The District shall maintain or require contracted vendors to maintain records on all structural firefighting ensembles or elements to include:

- (a) The name of the member to whom the element is issued.
- (b) The date and condition of the element when issued.

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- (c) The manufacturer, model name, or design.
- (d) The manufacturer's identification number, lot number, or serial number.
- (e) The month and year of manufacture.
- (f) The dates and findings of all advanced inspections.
- (g) The dates and findings of complete liner inspections.
- (h) The dates of advanced cleaning, specialized cleaning, decontamination, or sanitation, and by whom it was performed.
 - 1. This should include an explanation of the reason for, and findings from, the cleaning or decontamination.
- (i) The date of any repairs, the person who repaired the PPE, and a brief description of the repair.
- (j) The date the element was removed from service (retirement).
- (k) The date and method used to dispose of the element.

914.10 PPE RETIREMENT

PPE ensembles and elements should be retired as follows:

- (a) When worn or damaged to the extent that the District deems that it is not possible or cost-effective to repair.
- (b) When no longer useful for emergency operations.
- (c) If more than 10 years old.
- (d) If manufacturer's label is not readable and repairable.

Retired PPE ensembles and elements shall be destroyed or disposed of by the District in a manner ensuring that they will not be used in any firefighting or emergency activities, including training. Retired PPE may only be used for training when that training does not include live fire. Any PPE used for training shall be clearly marked: "Training only. No live fire."

914.11 SPECIAL INCIDENT PROCEDURE

If any member of the Magnolia Fire Department / Montgomery County ESD No 10 suffers a serious injury or death while wearing PPE, the following procedure should be followed:

- (a) The PPE will immediately be removed from service.
- (b) Custody of the PPE will be maintained by the Fire Chief or the authorized designee, and the PPE shall be kept in a secure location with controlled, documented access.
- (c) All PPE shall be non-destructively tagged and stored only in paper or cardboard containers to prevent further degradation or damage. Plastic airtight containers shall not be used.

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- (d) The PPE shall be made available to the district's investigation team (see the Line-of-Duty Death and Serious Injury Investigations Policy) or outside experts as approved by the Fire Chief or the authorized designee, to determine the condition of the PPE.
- (e) The Fire Chief or the authorized designee shall determine the retention period for the storage of PPE.

914.12 REPORTING

The Personal Protection Clothing Manager should report all PPE health and safety concerns caused by, or suspected to have been caused by, element failure to the PPE element manufacturer and certifying organization.