

SOG-200-013 Personal Protective Clothing



HANOVER PARK FIRE DEPARTMENT STANDARD OPERATING GUIDELINES

TITLE: Personal Protective Clothing

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FIRE CHIEF CRAIG A. HAIGH APPROVAL:

These SOGs are based on FEMA guidelines FA-197

1.0 POLICY REFERENCE

NFPA	<ul style="list-style-type: none">• NFPA 1851- Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting.
NIMS	

2.0 PURPOSE

For the physical safety of department personnel, members are provided with personal protective equipment. This policy addresses at a minimum the selection, care, maintenance, inspection, cleaning, storage, and record keeping along with generalized usage policies designed to provide protection to operating members. Members/users of Personal Protective Equipment (PPE) need to be cognizant that all PPE has limitations and will not protect members from all incidents of injury or health concerns.

This standard operating guideline addresses personal protective equipment. The primary objective is to reduce the safety and health risks associated with improper selection, poor maintenance, inadequate care, excess wear and improper use of PPE consistent with NFPA 1851.

3.0 SCOPE

This guideline shall apply to all activities of the Hanover Park Fire Department, including, but not limited to, fire ground operations, EMS operations, training exercises and drills.

4.0 DEFINITIONS

Advanced Cleaning: The thorough cleaning of ensembles or elements by washing with cleaning agents.

Drag Rescue Device (DRD): A component integrated within the protective coat element to aid in the rescue of an incapacitated fire fighter.

Ensemble Elements: The compliant products that provide protection to the upper and lower torso, arms, legs, head, hands and feet.

Hazardous Materials (HazMat): Substances that when released are capable of creating harm to people, the environment, and property.

Independent Service Provider: A service provider verified by a third-party certification organization to conduct any one or a combination of advanced inspection, advanced cleaning, basic repair, or advanced repair service.

Routine Cleaning: The light cleaning of ensembles or ensemble elements performed by the end user without taking the elements out of service.

Service Life: The period for which compliant product can be useful before retirement.

Structural Fire Fighting: The activities of rescue, fire suppression, and property conservation in buildings, enclosed structures, vehicles, marine vessels, or like properties that are involved in a fire or emergency.

Structural Fire Fighting Protective Ensemble: Multiple elements of compliant protective clothing and equipment that when worn together provide protection from some risks, but not all risks, of emergency incident operations.

Shall: Indicates a mandatory requirement.

Should: Indicates a recommendation or that which is advised but not required.

5.0 GUIDELINES & INFORMATION

Responsibilities

Supervisors shall be responsible for training the members of their crew(s) in the care, use, inspection, maintenance, and limitations of assigned personal protective equipment (PPE). Company Officers and Incident Commanders shall be responsible for ensuring that all personnel under their command adhere to these policies.

Selection of Department PPE

Prior to procurement, a risk assessment shall be performed, and consideration given to the following:

- PPE performance expectations to include thermal and physiological effects.
- Style and design for user comfort and wear performance.
- Construction for quality, durability and garment service life.
- Manufacturer capabilities to meet department performance demands, technical information, service, warranty and customer support.

Training

New fire fighters will receive training on the care, use and maintenance of their assigned PPE before being allowed to participate in training or operations including live fire training.

Whenever ensembles or ensemble components are replaced, changed or improved all department members shall receive additional training in the care, use and maintenance of their assigned PPE.

Protective Ensemble

The mission of PPE is to provide the user an envelope of protection from multiple hazards and repeated exposures. A protective ensemble is clothing and equipment that when worn together provide protection from some risks, but not all risks, of emergency incident operations. A present-day protective ensemble consists of a helmet, hood, jacket, trousers, gloves, eye protection, and footwear.

Types and definitions of approved Department Protective Ensembles:

- **Full Turnout Gear:** Helmet, hood, fire coat, gloves, fire pants with boots and self-contained breathing apparatus (SCBA).
- **Hybrid Turnout Gear:** Helmet, hood, technical rescue coat, extrication gloves, technical rescue pants with boots.
- **Work Uniform / Station Wear:** As specified by Incident Command when limited to no risk exists.
- **Hazardous Materials (HazMat) Gear:** Appropriate level of protection will be determined by the HazMat Safety Officer and/or the Incident Commander.

Usage

All personnel, except Chief Officers, shall don the required PPE for the emergency prior to boarding the apparatus. Chief Officers shall don the required and situational PPE prior to reporting to the Incident Command Post.

All personnel who are directly engaged in emergency operations or can reasonably anticipate that they may become involved on short notice, shall be attired in a PPE ensemble specific to the incident type detailed in the PPE Chart of Required Personal Protective Equipment.

If a response is dispatched while the apparatus is in motion, the engineer, when safe to do so, shall pull to a safe location and allow personnel to don their PPE. At no time shall personnel remove seatbelts to don PPE or wear structural firefighting helmets while the apparatus is in motion.

Any Department personnel performing testing or training shall wear a level of PPE that is appropriate for the testing or training scenario.

All fire apparatus engineers, when out of the driver's seat and working on or around the apparatus at an emergency incident, shall be attired in the level of PPE required of other firefighters for the incident type. A SCBA does not have to be worn but must be immediately available for use if required. A combination of structural and hybrid gear can be worn by engineers operating apparatus at the discretion of the company officer.

Personnel who are directly involved in providing patient care shall don the required PPE prior to contacting the patient.

If Hybrid Turnout Gear is the required PPE for an incident response, full turnout gear shall accompany personnel.

Hybrid turnout gear may be left at the station should the incident require only full turnout gear i.e. structural fires. Upon return to the fire station hybrid gear shall be returned to a ready state.

Minimum PPE requirements for different incident types can be found as an attachment to this document.

Routine Inspections

Individual members shall conduct a routine inspection of their protective ensembles and individual ensemble elements after each use for the following:

- Soiling
- Contamination
- Physical damage such as rips, tears, and cuts
- Damaged or missing hardware and components
- Thermal damage such as charring, burn holes, melting, discoloration
- Damaged or missing reflective trim
- Loss of seam integrity and broken or missing stitches
- Correct assembly of the shell, liner and DRD device
- Loss of face opening adjustment on fire hoods
- Shrinkage, loss of flexibility, and inverted liners for gloves
- Exposed protective toe, mid-sole or shank for boots
- Loss of water resistance for boots

DRD components shall be inspected for the following:

- Correct installation in the garment.
- Soiling
- Contamination
- Physical damage such as cuts, tears, punctures, cracking or splitting
- Thermal damage such as charring, burn holes, melting, discoloration
- Loss of seam integrity and broken or missing stitches

Advanced Inspections

Advanced inspections shall be conducted when routine inspections indicate that a problem could exist and shall be performed by the equipment manufacturer or a verified independent service provider.

Advanced inspections shall be documented electronically in FIREHOUSE Software® and records kept for the service life of the protective ensemble.

Monthly Inspections

Company Officers shall conduct a routine inspection of their subordinates' protective ensembles and individual ensemble elements the first Sunday of each month.

Monthly Inspections shall be documented electronically in FIREHOUSE Software®.

Gross Decontamination

Gross decontamination shall take place when turnout gear becomes contaminated or soiled after usage and should take place before members enter their vehicle to return to quarters to minimize contamination of the interior cab area.

Fire fighters are encouraged to always bring their duty shoes/boots along with them to the incident for purposes of wearing back to the station after they remove their gear.

Procedure for on-scene gross decontamination:

- Crew assembles in an area free of traffic or other hazards.
- The crew shall remain in their PPE, including SCBA and go through a very simple decontamination using a stiff bristled brush and a fresh water rinse. Heavy scrubbing or spraying with high velocity water jets, such as a power washer or pressurized hose line, shall not be used.
- After the member has been washed and rinsed from head to toe, the member should doff the PPE.
- Heavily soiled or contaminated gear shall be removed after gross contamination, placed into a clear plastic bag, and transported using a utility vehicle or placed in an outside apparatus compartment.
- Decontamination wipes shall then be used to clean the face, head and neck area as well as the hands.

Members should shower and don clean uniforms/clothes as soon as possible upon return to quarters.

Fire fighters shall switch to their second set of structural turnout gear, including second protective hood and gloves, or advise their company officer to arrange for a spare set to be used from the quartermaster cache.

Gross decontaminated gear shall be removed from the plastic bags and timely laundering completed.

Routine Cleaning and Laundering

Each fire fighter shall be responsible for the routine laundering of their issued PPE using department provided specialized equipment used to wash and decontaminate turnout gear according to manufacturer's recommendations.

Attachment 1

Chlorine bleach or chlorinated solvents shall not be used to clean or decontaminate PPE ensembles.

Soiled or contaminated PPE ensembles shall not be brought home, washed in home laundries or washed in public laundries unless specified to handle firefighting protective clothing. Commercial dry cleaners shall not be used.

All PPE Ensembles shall be cleaned and decontaminated at a minimum bi-annually. Ensembles shall be washed when soiled with by-products of combustion, human bodily fluids or hazardous material exposure.

Protective hood and gloves shall not be worn without first being laundered.

Shells and liners shall be separated, and machine washed with similar layers to avoid cross contamination.

The DRD shall be removed prior to coat cleaning and inspected. If the DRD requires cleaning it shall be placed in a separate mesh bag for washing.

Turnout gear shall not be dried using tumbling or agitation. All closures shall be fastened prior to placing gear in dryer.

Documentation of turnout gear laundering shall be documented using FIREHOUSE Software®.

Live Fire Training Cleaning Procedures

Following bi-annual live fire training, personnel shall be responsible for laundering the turnout gear of the shift that precedes them. Part-time fire fighters shall make their turnouts available for cleaning during this period.

Personnel shall empty pockets of personal items and leave them in their assigned gear storage locker.

Bailout components and rope shall be laid out for natural drying if wet.

Cleaning shall be performed as outlined in the above section titled Routine Cleaning and Laundering.

Each fire fighter shall be responsible for re-assembling and inspecting their PPE for use after cleaning.

Repair of PPE Ensembles

Full Turnout Gear that is found to be damaged or deficient following use or during normal inspection schedules shall be taken out of service and non-destructively tagged with where the problem is located. The effected fire fighter shall move into their second set of Full Turnout Gear. If the fire fighter does not have a second set of Full Turnout Gear, they will be given a temporary replacement from the quartermaster cache.

Attachment 1

Hybrid Turnout Gear that is found to be damaged or deficient following use or during normal inspection schedules shall be taken out of service and non-destructively tagged with where the problem is located. The fire fighter will be given a temporary Hybrid Turnout Gear replacement from the quartermaster cache. If no replacement Hybrid Turnout Gear is available, the fire fighter will wear Full Turnout Gear for all responses that Hybrid Turnout Gear would be the required PPE until his/her set of Hybrid Turnout Gear is repaired and placed back into service.

Any time a PPE Ensemble is removed from service the Department Quartermaster shall be notified so they can inspect the gear and take the appropriate action to schedule repair. Documentation shall also be made in FIREHOUSE Software®.

Storage of PPE Ensembles

Full and Hybrid Turnout Gear shall not be stored in direct sunlight or exposed to direct sunlight when not being worn. When placing gear ensembles in storage areas they shall be clean and dry before storage.

Full and Hybrid Turnout gear shall not be stored in living areas or in contact with hydraulic fluids, solvents, hydrocarbons, vapors, or other contaminants.

Retirement of PPE

The Department shall retire PPE ensembles and elements that are worn, damaged or contaminated to the extent the Department deems it not possible or cost effective to repair. Ensembles and elements that are no longer serviceable to the Department for emergency operations and any ensembles and elements that are not in compliance with the NFPA standard at the date of their manufacture shall be retired.

Turnout gear shall be removed from service ten (10) years after the date of manufacture and either destroyed or disposed of to prevent any potential use for firefighting or emergency activities, including live fire training.

Severe Injury and Fatality Procedures

Following a severe injury or fatality to a firefighter, company officers shall immediately remove the PPE from service and preserve all components of the turnout gear ensemble including SCBA used by the injured or deceased fire fighter.

The turnout gear ensemble, including SCBA, shall not be laundered. All PPE is to be kept in the exact condition in which it is confiscated.

Turnout gear and SCBA shall be non-destructively tagged and secured at a location with controlled, documented access where proper chain of custody will be maintained by the Fire Chief or his/her designee. In the case of a fatality this may include utilization of Hanover Park Police Department Evidence Technicians as stated in the Line-of-Duty Death or Serious Injury Procedure, SOG-200-061.

The affected turnout gear and SCBA shall be stored in a paper or cardboard container to prevent further damage. Plastic containers shall not be used.

Attachment 1

The affected PPE and SCBA shall be made available to qualified members of the Department or outside experts as approved by the Fire Chief, to determine the condition thereof.

Retention time for the custody of the PPE shall be determined by the Fire Chief.

Recordkeeping

The department shall maintain records on all PPE ensembles and elements. Electronic documentation in FIREHOUSE Software® shall include the following:

- Whom equipment was issued to including date and condition.
- Manufacturer's model name, design, identification number, lot number, and serial number, year and month of manufacture.
- All dates of cleaning and monthly PPE inspections.
- All dates of advanced, specialized cleaning or decontamination, including who performed them.
- All date(s) of repairs, including who performed repair, and brief description of the repair performed.
- Date of retirement and method(s) of disposal.

6.0 ATTACHMENTS

1. Chart of Required Personal Protective Equipment

**Hanover Park Fire Department
Chart of Required Personal Protective Equipment**

These PPE requirements are for initial response and operations. Company Officers and/or the Incident Commander may add or reduce PPE based on current or expected scene conditions.

<i>Response Type</i>	<i>Minimum Required PPE</i>	<i>Situational PPE</i>
<ul style="list-style-type: none"> • Structure Fire • Vehicle Fire • Rubbish/dumpster fire • Outside fire w/exposure • Vehicle accident w/fire • Inside smoke investigation • Activated fire alarm • Alarm investigations • Inside odor investigation • Inside gas leak • Live fire training 	<ul style="list-style-type: none"> • Full Turnout Gear including SCBA 	<ul style="list-style-type: none"> • Hearing Protection • Eye Protection • High Visibility Safety Vest
<ul style="list-style-type: none"> • Vehicle accident-no fire • Vehicle accident w/ extrication • Outside fire no exposure • Grass/brush fire • Outside smoke investigation • Outside odor investigation • Carbon monoxide alarm • Generalized investigations • Fuel spills • Flooding • Wire down or arcing 	<ul style="list-style-type: none"> • Hybrid Turnout Gear 	<ul style="list-style-type: none"> • SCBA • Full Turnout Gear • Hearing protection • Eye protection • High visibility safety vest • Work uniform/Station wear • Gloves
<ul style="list-style-type: none"> • Medical emergencies 	<ul style="list-style-type: none"> • Work Uniform / Station Wear • Medical Gloves • Safety Glasses 	<ul style="list-style-type: none"> • Hybrid Turnout Gear • Face Shield • HEPA Mask • Disposable Gown • Hearing Protection
<ul style="list-style-type: none"> • Water rescue (shore operations) 	<ul style="list-style-type: none"> • Work Uniform/Station Wear • Personal Flotation Device (PFD) 	<ul style="list-style-type: none"> • Hybrid Turnout Gear • Determined by Dive Safety Officer and/or Incident Commander
<ul style="list-style-type: none"> • Stuck elevator • Lock out to building 	<ul style="list-style-type: none"> • Work Uniform/Station Wear • Helmet • Gloves 	<ul style="list-style-type: none"> • Hybrid Turnout Gear
<ul style="list-style-type: none"> • Specialty incidents (dive, water, swift water, trench, vertical, hazardous materials) 	<ul style="list-style-type: none"> • Determined by specialty team Safety Officer and/or Incident Commander 	<ul style="list-style-type: none"> • Determined by specialty team Safety Officer and/or Incident Commander

SCBAs are required to be worn and in use anytime you enter a potential IDLH atmosphere and will continue to be worn until the Company Officer or Incident Commander determines that they are no longer required.