

**Tempe Fire Department Policies and Procedures**  
**Selection, Care & Maintenance of**  
**Firefighting Protective Ensembles**  
**604.03**  
**Rev 6-06-06**

**POLICY**

Through adoption of NFPA 1851, Selection, Care and Maintenance (S.C.A.M.) Program for Structural Fire Fighting Protective Ensembles, it is the goal of the Tempe Fire Department to protect our members by providing a Personal Protective Ensemble (PPE) that is appropriate for the hazards they are expected to encounter.

It is the objective of the S.C.A.M. program to reduce the safety and health risks associated with improper selection, poor maintenance, inadequate care, excess wear and improper use of PPE.

The NFPA 1851 S.C.A.M. Program consists of:

- Selection
- Inspection
- Cleaning
- Repair
- Issuing and Storage
- Training
- Record Keeping
- Retirement and Disposition
- Special Incident Procedure for events involving firefighter injury or death

**PROTECTIVE ENSEMBLE**

The mission of PPE is to provide the user an envelope of protection from multiple hazards and repeated exposures. For structural firefighting, PPE is a system of Components and Elements comprised to make up an Ensemble. Present day firefighting PPE consists of a helmet, hood, jacket, trousers, gloves, wristlets, and footwear.

**SELECTION**

The PPE selection process will be conducted through a labor management committee utilizing the department Research and Development Team.

Prior to procurement, a risk assessment will be performed to include expected hazards, frequency of use, past experiences, geographic location and climatic conditions.

The selection process will evaluate comparative information on all ensemble elements to ensure they will interface and perform based on the risk assessment. The process will consider:

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

**INSPECTION**

NFPA 1851 identifies 1) Routine and 2) Advanced as the two primary types of PPE inspection.

## Routine inspection

Each member shall conduct a routine inspection of their PPE each time the element(s) is exposed, or is suspected of having been exposed to damage or contamination. The routine inspection shall include, as a minimum, the following:

### Coat and Trouser

1. Soiling
2. Contamination from hazardous materials or biological agents
3. Physical damage
  - a. Rips, tears and cuts
  - b. Damaged/missing hardware and closure systems
  - c. Thermal damage such as charring, burn holes, and melting
4. Damaged or missing reflective trim

### Hood

1. Soiling
2. Contamination from hazardous materials or biological agents
3. Physical damage
  - a. Rips, tears and cuts
  - b. Thermal damage such as charring, burn holes and melting
4. Loss of face opening elasticity

### Helmet

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 the 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 the 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

### Gloves

1. Soiling
2. Contamination from hazardous materials or biological agents
3. Physical damage
  - a. Rips, tears and cuts
  - b. Thermal damage such as charring, burn holes and melting
  - c. Inverted liner
4. Shrinkage
5. Loss of elasticity/flexibility

### Footwear

1. Soiling
2. Contamination from hazardous materials or biological agents
3. Physical damage

- a. Cuts, tears and punctures
  - b. Thermal damage such as charring, burn holes, and melting
  - c. Exposed/deformed steel toe, steel midsole and shank
4. Loss of water resistance

#### Advanced Inspection

Advanced inspections of PPE ensembles and elements shall be conducted a minimum of every 12 months, or whenever routine inspections indicate a problem may exist.

Advanced inspections shall only be conducted by trained members from Support Services or from 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, as a minimum, the inspection criteria outlined in NFPA 1851 4.3.2.1 through 4.3.2.5.

### **CLEANING & DECONTAMINATION**

Soiled or contaminated PPE elements shall not be brought into the home, washed in home laundries or washed in public laundries unless the business is dedicated to handle firefighting protective clothing.

Commercial dry cleaning shall not be used.

The department will examine the manufacturer's label and user information for specific cleaning instructions.

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

Heavy scrubbing or spraying with high velocity water jets, such as a power washer, shall not be used.

All contract cleaning or decontamination businesses shall demonstrate procedures for cleaning and decontamination that do not compromise the performance of PPE ensembles and elements.

NFPA 1851 identifies and defines 1) Routine 2) Advanced and 3) Specialized as the three primary types of PPE cleaning.

#### Routine Cleaning

After each use any elements that are soiled shall receive routine cleaning.

It is the assigned user's responsibility for the routine cleaning of their PPE ensemble or elements using the following process:

- When possible, initiate cleaning at the incident scene
- Brush off any dry debris
- Gently rinse off debris with a water hose
- If necessary, scrub gently with a soft bristle brush and rinse off again If necessary, spot clean utilizing a utility sink
- Inspect for soiling, and contamination, and repeat process if necessary
- All elements shall be air dried in an area with good ventilation. Do not dry in direct sunlight or use a machine dryer

Should routing cleaning fail to render the element(s) sufficiently clean for service, the element(s) shall receive advanced cleaning.

### Advanced Cleaning

Every six months, at a minimum, elements that have been issued, used, and are soiled, shall receive advanced cleaning.

Support Services shall perform or manage all advanced cleanings utilizing a qualified contract cleaner.

Advanced cleanings will be coordinated by crew or individual. All crews will be scheduled while on four days off. Loaner PPE will be provided for any member scheduled to work overtime or time trades. It is the members responsibility to request longer PPE prior to their four days off.

***WARNING: Station laundering machines shall not be used to clean PPE elements.***

### Specialized Cleaning

PPE elements that are contaminated with hazardous materials or biological agents shall receive specialized cleaning as necessary to remove the specific contaminate(s).

PPE elements that are contaminated or suspected to be contaminated shall be isolated, tagged, bagged and removed from service until they receive specialized cleaning to remove the specific contaminate(s). All tagging shall be done by name, company and shift.

Universal precautions shall be observed when handling known or suspected contaminated PPE elements.

Support Services shall manage all specialized cleanings and will utilize a qualified contract cleaner.

The department, if possible, shall identify the suspected contaminate, and if identified, the department shall consult the contaminant's manufacturer for an appropriate decontamination agent and process.

## **REPAIR**

Support Services shall manage all PPE repairs utilizing a manufacturer recognized repair facility.

All elements shall be subjected to an advanced or specialized cleaning before any repair work is done.

Loaner PPE is available to members while repairs are being made, through Support Services.

## **ISSUING & STORAGE**

### Issuing

All PPE ensembles or elements shall be issued through Support Services. All fittings shall be conducted by Support Services and or a manufacturer representative.

Members shall only use department issued PPE.

Members shall minimize the public's exposure to soiled or contaminated PPE, and make every effort to not wear PPE to non fire related emergencies.

Member shall not wear PPE inside station living quarters or other city or fire department facilities.

### Storage

PPE ensembles or elements shall:

- Not be stored in direct sunlight or exposed to direct sunlight while not being worn.
- Be clean and dry before storage
- Be clean, dry and well ventilated.
- Not be stored in air tight containers unless new and unissued.
- Not be stored at temperatures below -40 F. or above 180 F.
- Be stored in a protective case or bag to prevent damage if stored in compartments or trunks
- Not be subjected to sharp objects, tools or other equipment that could damage the ensemble or elements.
- Not be stored inside living quarters or with personal belongings, or taken or transported within the passenger compartment of personal vehicles unless stored in a protective case or bag.
- Not be stored in contact with hydraulic fluids, solvents, hydrocarbons, hydrocarbon vapors, or other contaminants.

## **TRAINING**

Upon issue, all members shall be provided with the manufacturer written instructions on the care, use and maintenance of their PPE, including any warnings provided by the manufacturer.

New firefighters will receive training on the care, use and maintenance of their PPE before participating in live fire training or operations. Incumbent members will receive training as needed when PPE ensembles or elements are upgraded or changed.

## **RECORDS**

Support Services shall maintain and/or require contracted vendors to maintain records on all structural firefighting ensembles or elements to include the following:

1. Member to whom element issued
2. Date and condition when issued

3. Manufacturer and model name or design
4. Manufacturer's ID number, lot number or serial number
5. Month and year of manufacturer
6. Date(s) and findings of advanced inspection
7. Date(s) of advanced, specialized cleanings or decontamination, and who performed
8. Date(s) of repairs, who performed repair, and brief description of any repair
9. Date of retirement
10. Date and method of disposal

## **RETIREMENT**

All PPE ensembles and elements that are worn or damaged to the extent that Support Services deems it not possible or cost effective to repair shall be retired.

All PPE ensembles and elements that are contaminated to the extent that Support Services deems it not possible or cost effective to decontaminate shall be retired.

All PPE ensembles and elements that are no longer of use to the department for emergency operations service but are not contaminated, defective or damaged shall be retired.

All PPE ensembles and elements that were not in compliance with the edition of the NFPA standard that was current when the element(s) were manufactured shall be retired.

## **DISPOSITION OF RETIRED ELEMENTS**

Retired PPE ensembles and element(s) shall be destroyed or disposed of by Support Services in a manner assuring that they will not be used in any firefighting or emergency activities, including training.

Retired PPE can only be used for training that does not include live fire.

Any PPE determined by Support Services to be used for training shall be clearly stenciled "Training/No Fire".

## **SPECIAL INCIDENT PROCEDURE**

If any member(s) of the Tempe Fire Department suffers serious injury or death while wearing PPE:

1. The PPE will immediately be removed from service
2. Custody will be maintained by the Fire Chief or his/her designee and the PPE shall be kept in a secure location with controlled, documented access.
3. All PPE shall be nondestructively tagged and stored only in paper or cardboard containers to prevent further degradation or damage. Plastic or airtight containers shall not be used.
4. The PPE will be made available to qualified members of the department or outside experts as approved by the Fire Chief, to determine the condition thereof.
5. Retention time for the custody of the PPE shall be determined by the Fire Chief.