These procedures are written to prevent repeated exposure to firefighters through the use of contaminated personal protective equipment (PPE). Additionally, the measures contained herein will ensure protective clothing is fit for service. This will be accomplished by providing specific guidelines for the routine and advanced cleaning and inspection of firefighter PPE.

Because of the toxicity of chemicals found in soot, ash, and other products of combustion, and due to the fact soil and other contaminants may negate the fire resistive quality of protective clothing, it is important all members maintain their protective clothing in a clean and contaminant free condition. Members shall clean their protective clothing any time it has been contaminated by products of combustion, blood, and/or bodily fluids.

All Suppression members are issued two sets of turnout clothing (trousers and pants) to ensure members have clean and serviceable PPE. When PPE requires repair or becomes soiled or contaminated and requires cleaning, members shall place their reserve set into service while the primary PPE is cleaned or repaired.

All PPE shall be inspected routinely by the user after each use and shall have an advanced inspection annually or whenever routine inspections indicate that a problem exits.

GENERAL INFORMATION AND PRECAUTIONS

- Soiled PPE shall not be brought into fire station living areas.
- All members are to use caution and utilize proper procedures when handling soiled protective clothing.
- Soiled and contaminated turnouts shall not be laundered at public laundromats or at home.
- Top-load washer is utilized for washing items other than PPE, i.e., uniforms, PT gear, bedding, etc.
- Extractor washer is an industrial washer for cleaning and/or sanitizing PPE.
PPE clothing shall be protected from ultraviolet damage and never stored in direct sunlight. Exposure to ultraviolet light will cause the garment to lose all tensile strength and cause the fibers to completely disintegrate. This type of deterioration cannot be repaired.

Never use chlorine bleach.

RECORDS

The Department shall compile and maintain records on its structural and proximity firefighting protective ensembles and ensemble elements. The following records shall be kept for each ensemble or ensemble element:

1. Person to whom element is issued.
2. Date and condition when issued.
3. Manufacturer and model name or design.
4. Manufacturer’s identification number, lot number, or serial number.
5. Month and year of manufacture.
6. Date(s) and findings of advanced inspection(s).
7. Date(s) and findings of advanced cleaning or decontamination.
8. Reason for advanced cleaning or decontamination and who performed cleaning or decontamination.
9. Date(s) of repair(s), who performed repair(s), and brief repair(s).
10. Date of retirement.
11. Date and method of disposal.

PPE CLEANING PROCEDURES

Routine Cleaning

Routine cleaning shall be performed by the user as needed. Routine cleaning includes brushing off dry debris, gently rinsing off other debris, and/or use of a soft bristle brush. Cleaning of the entire garment will require advanced cleaning.
Advanced Cleaning

Advanced cleaning shall be performed annually as a minimum or as needed by trained members at the PPE cleaning stations (Stations 11, 15, 16, 17, 19, and 21). This will be accomplished through the use of extractors following the Extractor Cleaning Procedures.

Specialized Cleaning

Specialized cleaning removes hazardous materials. This level of cleaning involves specific handling procedures and specialized cleaning agents and processes. Specialized cleaning shall be performed by a contract vendor that has the equipment and ability to decontaminate PPE.*

*An exception to specialized cleaning is the cleaning of PPE that is contaminated with blood or body fluids. This will be accomplished by following the advanced cleaning instructions for PPE, which is soiled with blood or body fluids. This is the only specialized cleaning permitted in the fire stations.

ROUTINE CLEANING INSTRUCTIONS

At the Scene

1. Flush the clothing as soon as possible after an emergency. This will remove 90 percent of all contaminants before they have a chance to set in.

2. Avoid unnecessary direct skin contact with contaminated clothing.

3. Wash exposed skin areas as soon as possible to remove contaminants and to prevent the spread of contamination to other areas of the body or other members.

At the Station

1. If the garment is only in need of spot cleaning, use detergent and a bristle brush to clean soiled areas.

2. Use recommended spot cleaner if necessary.

3. Rinse garment thoroughly to remove any residual contaminants and detergent.

4. Hang dry garment out of direct sunlight.
ADVANCED CLEANING INSTRUCTIONS

PPE that has been soiled or contaminated by products of combustion or blood or body fluids beyond what can be cleaned by a routine cleaning shall be sent to stations equipped with extractors for advanced cleaning.

PPE that is contaminated with hazardous materials shall not be cleaned at any fire station. Members shall follow the direction of Hazardous Materials Response Team (HMRT) members regarding the proper decontamination or disposal of PPE that has been contaminated by hazardous materials.

Stations 11, 15, 16, 17, 19, and 21 are equipped with extractors and shall clean soiled/contaminated PPE. Members shall send their soiled PPE to stations for cleaning as indicated below:

- Station 11: Stations 5, 6, and 20
- Station 15: Stations 1, 4, 7, 8, and 10
- Station 16: Stations 12, 14, and 18
- Station 17: Stations 2 and 13
- Station 19: Stations 3 and 9
- Station 21: Stations 22 and 23

PREPARATION OF PPE FOR ROUTING TO CLEANING LOCATION

Normal Soiling, No Blood or Body Fluids

1. Rinse off loose contamination.
2. Separate liner from shell and turn liners inside out.
3. Empty all pockets and close all zippers.
4. Mark PPE with ID number (shells and liners).
5. Place in clear bag and seal shut.
6. Route to designated station with wire tag clearly marked using the following format:

    TO:                    Station ____

    FROM:                  Station ____
                        Member’s name and ID number__________

    ITEMS:                 List included items. Include item name and serial number. Example: jacket shell SN XXXXXXXX

    CONTAMINANTS:  List what contaminated the items (soil, blood, body fluids, etc.).

Soiled with Blood or Fluids

1. Rinse off loose contamination.

2. Separate liner from shell if contamination is not heavy and soaked through to liner. If heavy contamination has soaked through to liner leave together.

3. Empty all pockets.

4. PPE mark with ID number.

5. Place in red biohazard bag and seal shut.

6. Route to designated station with wire tag clearly marked using the format for normal soiling.

Receipt at Cleaning Station

1. Receive in designated area only utilizing gloves and eye protection.

2. Open bag and remove contents.

3. Place laundry tags on shells, liners, gloves, hoods, etc.

4. Log entry of all PPE items, including Name, ID number, serial number of all PPE, and laundry tag number.
EXTRACTOR CLEANING PROCEDURES

Normal Soiling

1. Separate shells from liners and turn liners inside out.
2. Ensure pockets are empty.
3. Close all zippers and secure all Velcro flaps.
4. Place in extractor. Wash liners and shells separately; wash liners inside out.
5. Select appropriate wash program and start.
6. Remove and hang for drying when cycle is completed.

Blood or Body Fluids

1. Leave shell and liner together if gross contamination with blood or body fluid.
2. Ensure pockets are empty.
3. Close all zippers and secure all Velcro.
4. Wash in Biohazard setting.
5. After Biohazard wash is complete, remove from washer and separate shells from liners.
6. Wash again separately as normal soiling.

PPE Contaminated with Hydrocarbons

1. Presoak in PPE presoak tub with solution of one ounce Citro-Squeeze to one gallon of water per instructions.
2. Wash separately in extractor as normal soiling after presoaking.

Hazardous Materials Contamination

Members shall follow the instructions of HazMat members in regards to hazardous materials contamination of protective clothing. In no instance shall clothing contaminated by a known or unknown hazardous material be returned to use prior to being thoroughly decontaminated.
As necessary, protective clothing replacements shall be provided prior to returning to service. Do not send contaminated items to Supply.

**Note:** *Never use chlorine bleach.*

**INSPECTION INSTRUCTIONS**

**Routine Inspection**

PPE routine inspections shall be completed weekly during emergency equipment check and documented on the FD-011. Routine inspections shall also be accomplished after each use and before it is placed back into service following any application where the clothing could have been subject to damage.

Coat and trouser garments shall be inspected for:

1. Soil and shall be cleaned before continuing inspection.

2. Contamination and shall be decontaminated prior to continuing inspection.

3. Physical damage such as the following:
   a. Rips, tears, and cuts.
   b. Damaged or missing hardware and closure systems.
   c. Thermal damage (charring, burn holes, melting, discoloration of any layer).

4. Damaged or missing reflective trim.

5. Loss of seam integrity and broken or missing stitches.

6. Correct assembly and size compatibility of shell, liner, and drag rescue device (DRD).

If defects are found, the garment shall be cleaned first, and then routed through channels for repairs. Repairs shall be done in such a manner and with materials, which will not reduce the fire resistive or protective quality of the garment.

**Do not send soiled or contaminated items to Supply.**
Advanced Inspection

Advanced inspection shall be performed during the month of January (minimum of every 12 months) or whenever routine inspections indicate a problem could exist. This inspection shall be performed only by trained members and shall be documented on the PPE Inspection Form.

Coat and Trouser Garments Shall Be Inspected for the Following

All separate layers of the garment elements shall be individually inspected.

1. If garment is soiled, clean before continuing inspection.

2. If contamination is present decontaminate prior to continuing inspection.

3. Physical damage to all layers, such as the following:
   a. Rips, tears, cuts, and abrasions.
   b. Damaged or missing hardware.
   c. Thermal damage (charring, burn holes, melting, discoloration of any layer).

4. Loss of moisture barrier integrity as indicated by any of the following:
   a. Rips, tears, cuts, or abrasions.
   b. Discoloration.
   c. Thermal damage.

5. Evaluation of system fit and coat/trouser overlap.

6. Loss of seam integrity and broken or missing stitches.

7. Loss of material physical integrity (e.g., ultraviolet [UV] or chemical degradation) as evidenced by discoloration, significant changes in material texture, loss of material strength, loss of liner material, and shifting of liner material.

8. Loss of wristlet elasticity, runs, cuts, or burn holes.

9. Reflective trim integrity, attachment to garment, reflectivity, or damage.
10. Label integrity and legibility.

11. Hook and loop functionality.

12. Liner attachment systems.

13. Closure system functionality.

14. Accessories for compliance with NFPA 1851 4.2.3.

15. Correct assembly and size compatibility of shell, liner, and DRD.

Any defects shall be documented and garment shall be routed to supply for repair.

CLEANSERS

**Citro-Squeeze**

Citro-Squeeze approved detergent for use in extractors for cleaning of PPE. (Citro-Squeeze is also used to presoak items contaminated with hydrocarbons.)

**Citro-D/Solution-D**

Citro-D/Solution-D is an approved disinfectant for use in extractors for cleaning PPE. (Citro-D/Solution-D can also be used to presoak items heavily contaminated with blood or body fluids.)

**Other Detergents, Non-Chlorine Bleaches, and Spot Cleaners (Not for Use in Extractors)**

Listed below are examples of cleaning agents from proposed NFPA 1971, *Standard on Protective Clothing for Structural Fire Fighting*, 1991 edition include. (These cleansers can be used for routine and spot cleaning in the station.)

**Detergents**

- Liquid Wisk
- Liquid Tide
- Liquid Cheer
- Liquid Fab

**Oxygenated Bleaches**

- Liquid Chlorox 2
- Liquid Vivid
Spot Cleaning and Pre-Testing

Liquid Spray and Wash
Liquid Shout
Liquid Tide

Note: Never use chlorine bleach.