17.01 **PURPOSE**

The purpose of this Standard Operating Procedure is to provide specific information and procedures for Sonoma County Fire and Emergency Services Department (County Fire) for the issuance, inspection, maintenance and retirement of personal protective equipment (PPE). This procedure establishes a system to regularly inspect PPE and equipment assigned to its members and to set standards for the maintenance of these items.

17.02 **SCOPE**

All Sonoma County Fire paid and volunteer staff.

17.03 **POLICY**

County Fire is responsible for providing fire fighters with protective clothing and equipment to safeguard them from injury when involved in Fire Department activity. Inspection, care, and maintenance of structural fire fighting personal protective clothing is the responsibility of everyone in the chain of custody including County Fire and the end user.

17.04 **PROCEDURE**

1. **Issuance of Personal Protective Equipment**
   Each fire fighting member of County Fire will be issued a standard set of PPE including:
   
   A. Turnout jacket and turnout pants shall be coordinated, matching manufacturer and manufacturing time period.
   B. Turnout boots (NFPA approved Label)
   C. Helmet with Structure Shroud (Cal OSHA, NFPA 1971, 2007 standard approved label)
      a. Yellow – Recruit in a crescent shaped decal
      b. Yellow - Fire fighter
      c. Black - Engineer (currently optional for departments)
      d. Red – Captain
      e. White – Chief Officer
   D. Gloves (Nomex wristlet NFPA approved label)
   E. Hood (Nomex or Carbon Hood with Bib with an NFPA approved label)
   F. Goggles or face shield attached to the Helmet

2. **Use of Personal Protective Equipment**
   A. All issued PPE remains the property of County Fire.
   B. All approved structure fire PPE shall be used when fighting fire or responding to any incident requiring structure fire PPE.
C. All PPE shall be returned to County Fire within ten days of termination/separation from the Volunteer Company.
D. All staff shall be financially liable for any non-Sonoma County Fire related damage to PPE.
E. PPE is to be used only for Sonoma County Fire service related business, including organized and requested mutual aid and strike team assignments. Any other use must be approved by the County Fire training officer.
F. No alterations or customizing shall be done without prior approval of the County Fire training officer.

3. Purchase of PPE
A. If a member independently purchases any item that would be part of the standard issue, it must meet and be labeled NFPA approved standards and be approved the VFC Chief.
   a. Turnout jacket and pants shall be County Fire issued PPE.
B. If any personal item is damaged, destroyed or otherwise made unacceptable for use, County Fire will replace the item with a standard issue item, without regard to the quality, cost or brand of the original item.
C. Personally purchased items shall be retired as recommended by NFPA.

4. Records
At a minimum, County Fire will maintain the following information:
A. Person to whom PPE is issued
B. Date and condition of PPE when issued
C. Manufacturer and model name or design
D. Manufacturer’s identification number, lot number, or serial number
E. Month & year of manufacture
F. Date(s) and findings of advanced inspections
G. Date(s) and findings of advanced cleaning or decontamination
H. Reason for advanced cleaning or decontamination and who performed the cleaning or decontamination
I. Date(s) of repair(s), who performed repair(s), and brief description of repair(s)
J. Date of retirement
K. Date and method of disposal

17.05 INSPECTIONS

1. Inspection Program
Individual members shall conduct a routine inspection of their PPE after each use. The Chief or designee shall inspect PPE at least every 6 months or more frequently depending on use. In addition, any time a member is using or servicing PPE and a deficiency is discovered, immediate action to correct the deficiency is required. At a minimum, each item shall be inspected for the following (as applicable):
A. Soiling
B. Contamination
C. Physical damage (rips, tears, missing hardware, closure systems, thermal damage such as charring, burn holes, melting)
D. Loss of seam integrity or broken or missing stitches
E. Damaged or missing reflective trim
F. Loss of face opening adjustment (hood)
G. Cracks, dents, abrasions (helmet)
H. Damaged or missing components (face shield/goggles)
I. Shrinkage
J. Loss of elasticity or flexibility
K. Exposed or deformed steel toe, midsole or shank (boots)
L. Loss of water resistance (boots)
M. PPE shall be of like quality and thermal protection of the other members of the company.

► See Attachment 1 Routine Inspection Procedures

2. Standard Form for Reporting
The Routine Inspection Form (attached) shall be used to record the findings of the six-month inspection. The instructions are provided with the form. These forms shall be retained in a binder, located at the main station and made available for review.

► See Attachment 2 Routine Inspection Form

3. Advanced Inspections
At least once every 12 months or whenever an end user routine inspection or a six month inspection indicates that a problem may exist, an advanced inspection on PPE is required by a certified inspector. All County Fire Logistics staff are certified to perform advanced inspections. The findings of these inspections will be documented on an inspection form. This inspection will include, in addition to the criteria listed in 3.1, the following:

A. Material integrity
B. Reflective trim and Velcro integrity
C. Loss of water resistance
D. Moisture integrity and seam sealing integrity

Testing procedures can be found in NFPA 1971 and NFPA 1851. Advanced testing shall be performed by County Fire staff. County Fire may also send the garments out to an independent service provider.

17.06 CLEANING, REPAIR, AND STORAGE

1. Routine Cleaning
   A. Light cleaning shall be performed by the user without taking the item out of service and should be performed after each use.

   ► See attachment 3 Routine Cleaning Procedures

2. Advanced Cleaning
   A. This cleaning should be performed at least annually, or after contamination.
   B. Advanced cleaning may only be performed by County Fire Logistics staff or other trained County Fire paid or volunteer staff. A certified and advanced cleaning independent service provider may also be used to conduct advanced cleaning and advanced inspection.

3. Drying
   A. Follow manufacturer’s instructions or air dry in an area with good ventilation.
   B. Drying shall be out of direct sunlight.
C. Machine drying is acceptable, following guidelines in NFPA 1851, Chapter 7, 7.4.

4. Repair
   A. Repairs shall be performed only by the certified manufacturer, an independent service provider or certified members of County Fire.
   B. Specific instructions for repairs can be found in NFPA 1851, Chapter 8.

5. Storage
   A. All components shall be clean and dry before being stored out of direct sunlight.
   B. When transporting components, PPE shall be placed in a bag or protective case.
   C. PPE should be kept out of very high or very low temperatures and stored away from contaminants.
   D. Where possible, pants and coats shall be stored by hanging not folding.

17.07 RETIREMENT
   A. Any item more than 10 years old and having been routinely used shall be retired. These shall not be reused.
   B. Any items that has been worn or damaged so that repairs are not cost-effective shall be retired. These shall not be reused.
   C. Any item that has been contaminated so that decontamination is not possible or cost effective shall be retired. These shall not be reused.
   D. Any item that has been contaminated by chemicals, biological agents or radiological particulates shall be retired. These shall not be reused.
   E. Any item no longer of use to the organization for emergency operations but are not contaminated, defective or damaged shall be retired. These may be use for training purposes but not live-fire training.
   F. Any item used in an event of a serious injury or death of a firefighter shall be removed from service. These items shall be handled as evidence, establishing a chain of custody and tagged and stored appropriately while awaiting examination by experts.

17.08 REFERENCES

NFPA 1851, Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2008.


Attachment 1
Routine Inspections

Each individual member must conduct a routine inspection of their PPE after each use. Routine inspection typically follows routine cleaning and the procedures include, but are not limited to, inspecting for:

All Elements
- Soiling
- Contamination
- Physical damage to all layers (rips, tears, cuts, abrasions)
- Thermal damage (charring, burns holes, melting, discoloration of any layer)
- Hook and Loop functionality
- Label integrity and legibility
- Damaged trim
- Damaged closures and hardware
- Leakage indicating potential moisture barrier damage or physical changes in any moisture barrier that might suggest same (browning, discoloration, bubbling, delamination, etc.)
- Interface with other APPE elements for effective overlap
- Proper fit of elements

Hoods
- Loss of elasticity in face opening
- Loss of material elasticity or evidence of stretching out of shape
- Broken or missing stitches
- Seam integrity

Helmets
- Shell damage (dents, abrasions, etc.)
- Damaged or missing components
- Damage to ear covers
- Damage to face protection (scratches, melting, etc.)

Gloves
- Shrinkage
- Liner inversion
- Loss of flexibility

Footwear
- Loss of resistance
- Exposed/damaged parts
- Cracks, cuts, separations

Drag Rescue Device
- Correct installation in garment
- Cuts, tears, punctures, cracking, or splitting
- Thermal damage

Interface Components
- Loss or reduction of properties that allow component to continue as effective interface, such as loss of shape or inability to remain attached to the respective elements
Routine Inspection  
- To be used for the departmental 6-month inspection and may be used for the end user inspections  
- Pass or Fail

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Attachment 3
Steps for Routine Cleaning

General
- Examination and cleaning should be evaluated on scene. Avoid bring dirt and toxins into the apparatus and station.
- Do not use bleach or chlorinated solvents
- Separate ensemble layers to prevent cross contamination
- Brush off debris.
- Rinse off debris with water. Do not use high pressure spraying or heavy scrubbing.

For Utility Sink Washing
- Use for spot cleaning only. If the full garment needs cleaning an Advanced Cleaning is necessary.
- Separate layers
- Separate helmet impact cap if the helmet is to be submersed.
- Heavily soiled areas should be pretreated.
- Do not exceed water temperatures of 105°
- Use mild detergents with a pH between 7 and 10
- Wear protective gloves and safety glasses
- Agitate gently
- Elements may be lightly scrubbed with a soft bristle brush
- Elements shall be thoroughly rinsed. Elements may need several rinses to remove cleanser residue.

General
- Elements shall be inspected after cleaning.
- Sink shall be rinsed out after cleaning.

Drying
- Air dry in an area with good ventilation BUT OUT OF DIRECT SUNLIGHT.
- Commercial or home use machines shall not be used.

Refer the PPE element to your Chief or Company Officer if any damage is noted during the routine inspection or routine cleaning.