

# SCOTTS VALLEY FIRE PROTECTION DISTRICT



<b>STANDARD OPERATING PROCEDURES</b>	<b>ARTICLE: II</b>	<b>SOP: 2124</b>
	<b>SECTION: Safety</b>	
	<b>SUBJECT: Personal Protective Equipment Inspection and Cleaning Program</b>	
<b>DATE APPROVED:</b>	03/03/2010	
<b>APPROVED:</b>	<i>Murphy P. Murray</i>	

**Purpose:** The purpose of this program is to provide employees the best possible protection for emergency and non-emergency activities. NFPA 1851 requires that personal protective equipment (PPE) inspection and cleaning be conducted by members on a frequent basis to assure the equipment's continued suitability for use. This program allows for inspection and cleaning at the station level, as well as by an outside contractor.

**Scope:** The following applies to all Scotts Valley Fire Protection District personnel engaged in emergency operations.

**Procedure:**

- A. Although this program is designed to provide inspections and cleaning on a regular schedule, PPE shall be inspected by the Company Officer/Battalion Chief immediately upon exposure to heat, hazardous materials and/or blood or bodily fluids. Aside from this stipulation, PPE shall be inspected annually by an outside contractor and monthly as directed elsewhere in this SOP.
- B. A Monthly Personal Protective Equipment Inspection Form shall be kept on file in the department's training/safety filing cabinet in the administration office for each individual. It is very important to ensure that name and sizes are recorded on the form, as professional cleaning will remove post-production markings. It is important for the inspector to understand, generally and specifically, what is required of a test to check for proper fit, excessive wear, repair or replacement.
- C. When a turnout coat and/or pants are replaced, a new Personal Protective Equipment Inspection Form shall be issued. All information from the monthly inspections shall be transferred to the new form. Replacement of the other PPE shall not require the issuance of a new form, however, the replacement may be noted in the comments section. The respective Company Officer shall be notified to initial the form indicating that replacement was accomplished.
- D. The cleaning and maintenance contractor with an outside vendor shall complete an annual inspection form. That form will be kept on file with the district and vendor.

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E. The establishment of a cleaning/inspection contract through an outside vendor does not negate the individual responsibility for cleaning PPE as necessary. In fact, the introduction of health hazards from blood or other body fluids, and the by-products of combustion is a real possibility that should be monitored each shift. Contamination should be promptly and properly addressed through cleaning according to the manufacturer's and departments recommendations.

F. Questions regarding this matter should be directed to the PPE program Manager.

1. Annual Inspection

Annually during the month of February, the PPE of all career personnel shall be inspected and cleaned by an outside contractor. Paid Call personnel shall have their PPE inspected and cleaned no later than March 15<sup>th</sup>. The PPE program Manager will be responsible for scheduling with the outside contractor.

2. Monthly Inspection

a. Company officers shall inspect their personnel's PPE monthly. All Paid Call personnel shall have their PPE inspected by the District PCF program manager. Monthly inspections shall encompass a thorough inspection of all items of PPE according to the PPE Inspection Form.

3. Inspection Procedures & Guidelines

The annual and monthly inspection processes are identical, however, it is important that inspectors understand, generally and specifically, what is required of a test to check for proper fit, excessive wear, repair or replacement.

General guidelines- Inspectors should observe 7 basic areas:

1. All materials shall be free from tears, embrittlement and fraying.
2. Seams should be intact and show no signs of excessive wear.
3. Reflective trim should show no signs of abrasions or loss of reflectivity due to heat exposure.
4. All pockets, knee pads and other accessory items should be firmly attached to the garment and show no signs of excessive wear.
5. Sleeve and pants cuffs should show no signs of fraying.
6. The entire garment should be free from excessive dirt and stains. Remember, bleach or cleaners containing bleach will damage the garment. Also, exposure to

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sunlight will severely damage the outer shell of the turnout coat and pants. PPE should be cleaned and dried according to the manufacturer's recommendations, usually found on a tag sewn inside the garment.

7. Fabric color change could be caused by exposure to high heat or ultraviolet rays. When so noted, the entire garment should be checked for loss of tear strength.

In addition to the 7 areas listed above, inspectors should be aware that a minimum of a 2" overlap between the coat and pants must be maintained while the wearer is performing routine tasks. This standard is measured by:

1. Standing, hands together, reaching overhead as far as possible.
2. Standing, hands together, reaching overhead and bending the body forward, to side and backward as far as possible.

Specific guidelines- Inspectors should pay closer attention to the following areas:

1. Check turnout coats and pants for:
  - A. Holes and/or wear of the collar.
  - B. Intact throat tab stitching and velcro.
  - C. Broken or loose stitches/threads at all double seams including pockets.
  - D. Holes and/or damage Scotchlite on both sleeves.
  - E. Holes and/or leather shrinkage on suede leather shoulders, elbows and cuffs.
  - F. Burn holes/rips on PBI/Nomex surfaces.
  - G. Wear and/or holes in pockets, inside & out.
  - H. Strength of Velcro fasteners. Recommend that it be compared against the sound and strength of newer pieces.
  - I. Tears, burns, looseness and reflectivity of all Scotchlite. Use a flashlight or compare to a new piece of Scotchlite.
  - J. Proper operation of all hooks and "D" closures. All hooks and closures should be properly secured, and the process reversed. Properly operated hooks and closures should not allow any uniform to show.
  - K. Excessive grime and soot. This may be an indication of improper personal maintenance, and may require appropriate action.
  - L. Missing suspender buttons and holes where buttons were previously.
  - M. Missing snaps on pants pockets.
  - N. Holes in pants pockets.
  - O. Take-up straps on waist of pants.
2. Check inner liner of pants & coats for:

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- A. Velcro to outer shell to insure connection to the outer shell.
  - B. All snaps attaching to the outer shell.
  - C. Wear and/or holes in hand/wrist guards.
  - D. Holes and/or delamination of moisture barrier.
  - E. Holes, wear and/or delamination of quilted thermal liner.
  - F. Heavy soot, tar, paint, or melted vinyl on liner.
  - G. Small holes/tears in the outer liner.
  - H. Delamination of seam seals and seam integrity.
3. Check rubber or leather boots for:
- A. Cleanliness and reflectivity of trim.
  - B. Char or heat damage.
  - C. Discoloration (noted by material degradation)
  - D. Fabric/material damage (blunt damage).
  - E. Delamination of seals.
  - F. Steel toe or shank damage (check placement and form).
  - G. Waterproof.
  - H. Hole tread wear.
  - I. Rips, tears and/or holes.
4. Check gloves for:
- A. Cleanliness.
  - B. Char or heat damage (discoloration). Check for strength.
  - C. Fabric/material damage.
  - D. Shrinkage.
  - E. Loss of elasticity.
  - F. Seam integrity or liner pullout.
  - G. Proper fit.
5. Check Nomex hood for:
- A. Cleanliness.
  - B. Char or heat damage (discoloration). Check for strength.
  - C. Fabric/material damage.
  - D. Shrinkage.
  - E. Loss of elasticity.
  - F. Seam integrity or liner pullout.
  - G. Proper fit.
6. Check helmet and face shield for:

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- A. Cleanliness.
- B. Char or heat damage (discoloration). Check for strength.
- C. Fabric/material damage.
- D. Reflective trim.
- E. Bubbling, soft spots, dents, cracks, gouges or flaking of the outer shell. If found, remove liner and check the shell from the inside. If damaged area is not soft or didn't transfer through, it is to be considered superficial.
- F. Cracked or missing suspension, frays, cuts or signs of wear.
- G. Proper fit.
- H. Torn interior fabric.
- I. Discoloration, burns or heat damage to ear flaps.
- J. Exposure of foam through inner liner shell.
- K. Stripped adjustable ratchet or sizing adjustment slots.
- L. Clarity, scratches and cracks (face shield).
- M. Breakaway tabs that hold's helmet to liner.

Where significant change to the PPE is noted, the respective Battalion Chief shall be contacted for final disposition. Upon direction from the Battalion Chief, the employee shall return the defective PPE to the PPE Program Manager for repair/replacement as soon as practical. **All PPE shall be replaced after 10 years from the manufactured date.**

#### 4. Storage

*Due to the possibility of potentially contaminated PPE, at no time shall they be worn or stored in any living area of the fire station or administration offices. All gear shall be stored outside these areas and removed prior to entering. The Glenwood Fire Stations turnout storage room door shall remain closed at all times and the negative pressure fan shall remain on at all times.*

#### 5. PPE Cleaning Program

The following guidelines are to be followed to allow for the most effective and efficient way to clean contaminated and potentially contaminated PPE to promote a healthy environment. All PPE shall only be washed in an NFPA approved washing extractor.

##### 1. Guidelines for cleaning of Structural PPE.

- A. Wash shells and liners separately.
- B. Wash no more than two sets of gear (liners separately) per load.
- C. Use warm water not to exceed 105 degrees Fahrenheit.
- D. Use department approved detergent only.
- E. If turnouts are heavily soiled you may need to brush or hose off excess soil.

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- F. Use department approved spot remover as necessary.
- G. If PPE is suspected of bio-contamination use .5%-1% Lysol solution or 3%-6% concentration of stabilized Hydrogen Peroxide.
- H. Hang PPE to dry. **Do not dry turnouts in dryer.**
- I. All PPE shall be washed after every fire or hazardous environment when deemed necessary by the Company Officer.
- J. All PPE shall be washed every six months as a minimum.

2. Guidelines for cleaning of wildland PPE.

- A. Use warm water not to exceed 105 degrees Fahrenheit.
- B. Use department approved detergent only.
- C. Wildland PPE shall be dried per manufacturer's recommendation.
- D. All PPE shall be cleaned after every fire or hazardous environment as deemed necessary by the Company Officer.
- E. All wildland PPE shall be cleaned every six months as a minimum.

3. Guidelines for cleaning helmets.

- A. Helmets shall be cleaned after every fire or hazardous environment.
- B. Use mild soap and water to clean shell or other approved cleaner provided by the department.
- C. Nomex shroud can be removed and washed as per the wildland cleaning guidelines.
- D. Clean goggles with Windex or warm soapy water

4. Guidelines for cleaning gloves, hoods, hot shields, web gear and structure/wildland/station boots.

- A. Wash gloves, hoods and hot shields separately in cold water using department approved detergent.
- B. Use mild soap and warm water with cloth or brush to clean web gear and boots. If suspected of bio-contamination use .5%-1% Lysol solution or 3%-6% concentration of stabilized Hydrogen Peroxide.

Monthly PPE Inspection Form

Year \_\_\_\_\_

STRUCTURE GEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Pants 1st Set - Serial #												
Manufacture Date												
Size												
Pants 2nd Set - Serial #												
Manufacture Date												
Size												
Coat 1st Set - Serial #												
Manufacture Date												
Size												
Coat 2nd Set - Serial #												
Manufacture Date												
Size												
Helmet all Components												
Boots/Size												
Gloves												
Hood												
Company Officer Initials												
BRUSH GEAR												
Pants 1st Set/Size												
Manufacture Date												
Pants 2nd Set/Size												
Manufacture Date												
Coat 1st set												
Manufacture Date												
Coat 2nd set												
Manufacture Date												
Helmet all Components												
Boots/Size												
Gloves												
Web Gear												
Shelter												
Manufacture Date												
Company Officer Initials												

Employee Name: \_\_\_\_\_

Mark each month using code below

G: Good - C: Cleaning needed - RP: Replace Item - R: Repairs needed

Comments:

Refer to SOP 2124 for inspection and cleaning process