

Subject:	PERSONAL PROTECTIVE CLOTHING
Section:	PPG# 4200.11
Chapter:	Operations
Effective Date:	7/1/98

1.0 POLICY

- 1.1** Thurston County Fire District No.5 & 9 shall provide and maintain at no cost to the employee, the appropriate protective ensemble / protective clothing (PPE) to protect from the hazards to which the member is or is likely to be exposed. Thurston County Fire District No.5 & 9 shall ensure the use of all protective clothing required by WAC 296-30502001. A full PPE ensemble designed and designated for the task shall be donned and worn.
- 1.2** Members shall be trained in donning, doffing, care, use, inspection, maintenance and limitations of the protective garments assigned to them or available for their use.
- 1.3** Protective clothing shall be used and maintained in accordance with the manufacturer's instructions. This requirement applies to members personally owned protective garments authorized for use.
- 1.4** Thurston County Fire District No.5 & 9 shall provide for the cleaning of soiled or contaminated protective clothing at no cost to the employee. Such cleaning shall be performed by either a cleaning service or at Station 91, which is equipped to handle contaminated clothing.
- 1.4.1** Contaminated PPE shall be isolated and the contaminants identified if possible.
- 1.4.2** Decontamination shall be performed by a qualified person following established procedures that follows State requirements.
- 1.5** Personal protective clothing shall be of a type specified by NIOSH, MSHA, NFPA, ANSI or as specifically referenced in WAC 296-305.
- 1.6** Members shall not wear any clothing that is determined to be unsafe due to poor thermal stability or poor flame resistance when engaged in or exposed to the hazards of structural fire fighting.
- 1.7** Because it is impossible to ensure that every member will respond to an incident in a station/work uniform or will change out of fabrics that have poor thermal stability or ignite easily, before donning protective garments, Thurston County Fire District No.5 & 9 will inform members of the hazards of fabrics that melt, drip, burn, stick to the skin and

cause burns to the wearer due to poor thermal stability or poor flame resistance.

- 1.8** Repairs to turnout clothing shall be done to the manufacturer's specification by qualified individuals approved by the manufacturer.

1.8.1 Repairs must be made using materials and methods in accordance with the applicable standards under which the article was produced.

1.8.2 Repairs include any and all alterations, modifications, additions, deletions or any other changes made to the manufacturers.

2.0 RESPONSIBILITIES

- 2.1** The Safety Officer shall ensure compliance with this procedural guideline.
- 2.2** Members shall be responsible for reporting to the Assistant Chief of Operations or designee within 24 hours, any protective clothing that is damaged or needs repair.
- 2.3** All turnout clothing shall be inspected semi-annually by an individual qualified and designated by Thurston County Fire District No.5 & 9.

3.0 GUIDELINES

- 3.1** The specific manufacturer recommendations should be referenced for donning, doffing, care, use, inspection, maintenance, limitations and retirement of protective clothing garments.
- 3.2** Protective coats and pants must not be kept in direct contact with flame or molten metal. These protective coats and pants are not designed to provide protection for proximity or fire entry applications nor from radiological, biological, or chemical hazards.
- 3.3** Soiled PPE should be cleaned before inspection to ensure proper detection of damage such as discoloration and/or heat damage that may be masked.
- 3.4** Discolored areas indicate excessive exposure to heat and/or flame impingement. These areas are damaged, and need to be thoroughly checked for strength loss or other signs of degradation. In protective clothing, all three layers should be examined for damage if the outer shell is charred.
- 3.5** Fabric or material damage is evidenced by rips, tears, cuts, abrasions, worn areas and fraying. To check for weakening of fabric, flex and attempt to tear and to push a finger or thumb through the material. The extent and complexity of damage should be used to determine the appropriate follow-up action. Large areas where quilt stitching in the liner is broken or missing may indicate the need to replace the liner.
- 3.6** Thread or seam damage is evidenced by skipped, broken or missing stitches. All layers of

the PPE must be checked for any type of stitch or seam failure.

- 3.7** Turnout clothing, which is damaged or does not comply with manufacturer specifications, shall not be used or worn.
- 3.8** Inspection intervals and washing of PPE shall not exceed 6 months.

4.0 REFERENCES

WAC 296-305-02001 [Statutory Authority: RCW 49.17.' 010, .050,.060: 96-11-067 (Order 94-27), S296-305-02007, filed 02/17/99, effective 06/01/99.]

5.0 APPENDIX

Appendix A: Personal Protective Equipment Inspection Program
Appendix B: Warning Concerning Protective Clothing
Appendix C: Structural Fire fighter Protective Clothing User
Instruction, Safety and Training Guide

PERSONAL PROTECTIVE EQUIPMENT INSPECTION PROGRAM

Inspection programs serve two primary purposes. They help to ensure that the Fire Fighter's Personal Protective Equipment will provide its designed protection and it provides a means to document the service and wear life characteristics of the department's PPE.

A systematic and routine top-to-bottom inspection should be made, while wearing protective gloves, to all PPE to confirm its serviceability. Inspections shall be completed and documented to ensure that an unsafe PPE is found and removed from service.

Below is an inspection program and grading scale, which will be used to identify the PPE's current condition.

INSPECTION FREQUENCY

Inspections shall be performed upon receipt of new PPE, at once every six months, after each cleaning, and/or following any application where the PPE has been damaged contaminated. In the event of exposure to hazardous materials, PPE should be isolated and inspected

GENERAL AREAS OF INSPECTION

Soiled PPE should be cleaned before inspection to ensure proper detection of damage such as discoloration and/or heat damage that may be masked. Each type of damage indicates a potential problem with the protective features of the PPE and apply to all PPE including helmets, boots, gloves, and protective garments.

Inspect every article of personal protective equipment for the following types of wear or damage:

- Cleanliness, or lack thereof, can indicate contamination of the PPE with foreign substances that may be flammable, toxic, and/or carcinogenic. Soiled PPE should be cleaned and restored to 'good' condition.
- Char, Heat Damage, or burned areas indicate excessive exposure to heat and/or flame impingement. These areas are damaged and need to be thoroughly checked for strength loss or other signs of degradation. In protective clothing, all three layers should be examined for damage if the outer shell is charred.
- Fabric or Material Damage is evidenced by rips, tears, cuts, abraded or worn areas, fraying, weak or easily torn areas, and others. This type of damage has many possible causes and can often be repaired. To check for weakening of fabric, flex, attempt to tear, and attempt to push a finger or thumb through the material. The extent and

- complexity of damage should be used to determine the appropriate follow-up action. Large areas where quilt stitching is broken or missing may indicate the need to replace the liner.
- Thread or Seam Damage is evidenced by skipped, broken, or missing stitches. All layers of the PPE must be checked for any type of stitch or seam failure. .
- Discoloration can indicate many types of possible damage including: dye loss, frosting, heat degradation, chemical contamination, and others. These areas should be thoroughly checked for strength and integrity. Any loss of strength or weakening of the material(s) is a sign of damage and grounds for removal from service for repair or retirement.
- Dye loss resulting from heat or chemical contamination (as opposed to general fabric fading) should be thoroughly checked as to the severity of the damage.
- Reflective Trim may be missing, loose, burned, melted, or have lost its reflective properties. Trim may appear to be undamaged to the human eye when it has actually lost much of the ability to reflect. A simple "flashlight" test for checking reflective properties is: Hold a bright, "focused" beam, flashlight at eye level, either next to the temple or on the bridge of the nose. Stand at least 20 feet (40 feet is better) from the trim sample; aiming the light beam at the sample. Note the brightness of the reflected light coming back comparing this with a sample of "new" trim. Replace trim if the reflected light is substantially less than that seen on the new trim.

**SPECIFIC AREAS
OF INSPECTION**

In addition to the above general inspection items, check each article of personal protective equipment for these PPE "item" specific forms of (possible) damage.

1. Helmets (Structural and Wildland)

- a) Shell
- b) Bubbling of shell material - Delamination or soft spots – (Dents, cracks, nicks, gouges, flaking
- c) Loss of surface gloss

2. Face Shield or Goggles

- a) Reduced clarity
- b) Scratches
- c) Cracks
- d) Warping
- e) Attachment hardware
- f) Retention system (elasticity, hardware, seal)

3. Inner Shell and impact Liner

- a) Warping
- b) Wear
- c) Broken or missing components
- d) Proper installation and attachment

4. Suspensions

- a) Cracked or missing suspension components
- b) Torn head band or size adjustment slots
- c) Stripped adjustment ratchet knobs
- d) Reduced pliability and other signs of wear
- e) Proper installation and fit

5. Crown Straps and Ear Covers

- a) Proper installation and fit

6. Chin Strap

- a) Fasteners
- b) Slides and Closures

7. Hoods

- a) Shrinkage
- b) Loss of elasticity
- c) Seam integrity
- d) Closure system

8. Coats and Pants**Outer Shell**

- a) Damage to pockets
- b) Hardware
- c) Reinforcements
- d) Seam integrity/quilt stitching
- e) Closure system

Moisture Barrier and Thermal Liner

- a) Delamination of seam seals
- b) Seam integrity
- c) Attachment system (to outer shell)

Protective Wristlets (coat only)

- a) Shrinkage
- b) Loss of elasticity
- c) Seam integrity
- d) Thumb hole elongation

9. Suspenders (Pants only)

- a) Shrinkage
- b) Loss of elasticity

- c) Seam integrity

10. Gloves

- a) Shrinkage
- b) Loss of elasticity/flexibility
- c) Seam integrity

11. Footwear, Protective

- a) Loss of elasticity
- b) Delamination of seam seals
- c) Material damage
- d) Steel toe, shank damage
- e) Sole tread wear
- f) Waterproof-ness

Footwear: Leather

- a) Steel toe, shank damage
- b) Rips, tears, holes
- c) Sole tread wear
- d) Closure system
- e) Waterproof-ness

12. Station/Work Uniform and Wildland Garments

- a) Seam integrity
- b) Damaged pockets
- c) Closure systems

WARNING CONCERNING PROTECTIVE CLOTHING

I have been instructed on how to select personal clothing, which may be worn under Department provided Personal Protective Equipment (PPE)

I understand the hazards of wearing clothing under protective garments that are considered unsafe due to poor thermal stability or poor flame resistance and may drip, melt, or stick to my skin and which could cause injury to myself despite wearing the appropriate protective garments over such clothing.

Signed: _____

Date: _____

Quarterly PPE Inspection Form for Structural Fire Fighting

*Indicates required information

*Name: _____ *Date: _____ *Station Assignment: _____

COAT:	
*Damage or Repairs Needed? _____	
*Mo. Laundered: _____	*Size: _____ *Serial Number: _____
REFLECTIVE TRIM:	
Rips or Tears _____	Location: _____
Needs Resewing: _____	Location: _____
Poor Reflectability _____	Location: _____
CUFFS AND WRISTLETS:	
Holes or Fraying _____	Location: _____
Snaps Missing _____	Left _____ Right _____
SHELL:	
Holes or Tears _____	Location: _____
Discolored Areas _____	Location: _____
Seams Splitting _____	Location: _____
Damaged Leather _____	Location: _____
Low Material Strength _____	Location: _____
Torn Pockets _____	Location: _____
Snaps Missing _____	Location: _____
ZIPPERS:	
Fraying at Male End _____	
Missing Teeth _____	
Missing or Broken Slider _____	
Pulling away from shell _____	
VELCRO:	
Fraying _____	Location: _____
Melted _____	Location: _____

COAT CONTINUED . . .

Missing _____	Location: _____
Worn out _____	Location: _____
HARDWARE	
Snaps Missing / Broken _____	Location: _____
Hooks Missing or Broken _____	Location: _____
D-Ring Bent or Missing _____	Location: _____
LINER	
Thermal: Burns, Holes, Rips or Low Material Strength _____	
Moisture: Burns, Holes, Cracks, Missing Snaps / Velcro _____	

PANTS:	
*Damage or Repairs Needed? _____	
*Mo. Laundered: _____	*Size: _____ *Serial Number _____
REFLECTIVE TRIM:	
Rips or Tears _____	Location: _____
Needs Re-sewing _____	Location: _____
Poor Reflectability _____	Location: _____
CUFFS AND WRISTLETS:	
Holes or Tears _____	Location: _____
Discolored Areas _____	Location: _____
Seams Splitting _____	Location: _____
Damaged Leather _____	Location: _____
Low Material Strength _____	Location: _____
Torn Pockets _____	Location: _____
ZIPPERS:	
Missing Teeth _____	
Pulling Away from shell _____	
Slider Missing / Broken _____	

PANTS CONTINUED . . .

VELCRO:	
Fraying _____	Location: _____
Melted _____	Location: _____
Missing _____	Location: _____
Worn Out _____	Location: _____
HARDWARE:	
Snaps Missing or Broken _____	Location: _____
Suspender Buttons Damaged or Missing _____	Location: _____
Hooks Missing or Falling Off _____	Location: _____
D-Rings Bent, Missing or Broken _____	Location: _____
Waist Size Adjusters Missing or Damaged _____	Location: _____
LINER	
Thermal: Burns, Holes, Rips or Low Material Strength _____	
Moisture: Burns, Holes, Cracks, Missing Snaps / Velcro _____	

BOOTS
*Damage or Repairs Needed? _____
*Size: _____
Holes or Leaks _____
Broken Pull Loops _____
No Tread Under Heel or Ball of Foot _____

GLOVES
*Damage or Repairs Needed? _____
*Size: _____
Holes _____
Ripped Seams _____
Damaged Cuffs _____

HELMET

*Damage or Repairs Needed? _____

Missing Ear Flaps _____

Broken Ratchet Mechanism _____

Damaged Chin Strap System _____

Headband/Suspension System Loose _____

Damaged Chin Strap System _____

Headband/Suspension System Loose _____

Faceshield and/or Hardware Damaged _____

COMMENTS:

Personnel Protective Equipment☐ **Replaced**☐ **Ordered**☐ **Repaired****Date:** _____**PPE:** _____**Size:** _____**Firefighters Signature:** _____

Structural Fire fighter Protective Clothing User Instruction Safety and Training Guide
goes here.