

Operating Guideline # 105
PPC Care and Maintenance
Created January 21, 2020
Reviewed June 16, 2022



PURPOSE:

The purpose of this Operating Guideline (OG) is to describe the Muskoka Lakes Fire Department “PPC Care and Maintenance” practices for record keeping, inspection, cleaning, repair, storage and retirement of the firefighter personal protective clothing ensemble which includes bunker gear (firefighting coat and trousers including suspenders), helmet, balaclava, gloves, boots, and personal issue SCBA face piece.

ISSUE/RATIONALE:

A firefighters personal protective clothing (PPC) ensemble provides the primary protection against injury such as thermal insult, impact, cuts, punctures and lacerations which are associated with a variety of fire conditions including structural fires, vehicle fires, wildland fires, and to a limited degree, exposure to hazardous materials and bodily fluids that may be encountered in the course of a routine emergency response. It is critically important that this protective clothing be subject to proper maintenance over the course of its expected serviceable life-time so that firefighters are properly protected from injury.

GUIDELINE:

General

1. The “Personal Protective Clothing Care and Maintenance Program” (PPCCMP) is a program designed to ensure that the protective clothing ensemble worn by firefighters is properly cared for and maintained. The Deputy Fire Chief is designated as the “Program Administrator” and is responsible for ensuring that the provisions of this Standard Operating Guideline (SOG) are adhered to.
2. Every firefighter shall read and be familiar with the manufacturer’s instructions including any warnings provided with each element of his or her PPC ensemble.
3. Every firefighter is responsible to ensure that every element of his/her PPC ensemble is clean and maintained in serviceable condition and for the routine inspection of all elements at frequent intervals as detailed in this guideline.
4. PPC should not be worn in any area of the fire station where food preparation is conducted.
5. PPC should not be worn or brought into the office/administration areas.
6. PPC should not be worn or brought into sleeping or living areas, or in training rooms without the permission of the officer in charge of the station.

Records

7. The Deputy Fire Chief shall ensure that the following records are kept for each PPC ensemble or ensemble element including:
 - a) Person to whom the element is issued
 - b) Date and condition when issued
 - c) Manufacturer name and model # or name of design
 - d) Manufacturer’s identification number and serial number

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- e) Month and year of manufacture
 - f) Date(s) of inspections/cleanings by third party
 - g) Reason for third party cleaning (annual/heavy soiled/repair or contamination with bodily fluids or hazardous material) and name of third party cleaning service
 - h) Date(s) of repairs, nature of repair and name of repair service
 - i) Date of retirement
8. The Deputy Fire Chief shall also record an inventory of spare PPC gear and record pertinent data as described in sentence 5 for all instances where spare gear is issued.

After-Use Inspection

9. Every firefighter shall conduct an after-use inspection of each element of his or her PPC ensemble for the following:

- a) Soiling
- b) Contamination
- c) Physical damage as applicable to each element (rips, tears, cuts, thermal damage, damaged or missing hardware, damaged or missing reflective trim, loss of seam integrity, broken or missing stitches, correct assembly of shell, liner, drag rescue device – if provided – loss of adjustment function, suspension/retention systems, shrinkage, loss of elasticity or flexibility, embrittlement, exposed or deformed steel toe/midsole/shank) and in the case of SCBA face piece, crazing, cracking discolouration, excessive scratches, bubbling, warping, and/or webbing damage.
- d) Loss or reduction of the interface properties that allow the element or component to continue as an effective interface (e.g. – loss of shape or the inability to remain attached to the respective element(s) where attachment is required.)

10. Where any component of the PPC ensemble is found to be in need of repair following an after-use inspection or at any time, the firefighter shall report this immediately to his or her company officer or the officer in charge of the station at that particular time. Arrangements shall be made through the Deputy Fire Chief at his or her discretion for repair/replacement/advanced cleaning where appropriate.

Routine cleaning

11. Every firefighter is responsible to clean his or her PPC when it becomes soiled. Dry debris shall be brushed off and other debris may be rinsed off with water. Helmets and boots may be wiped clean with a soft cloth as necessary. Other elements that are more heavily soiled shall be washed in the washing machine at Port Carling or Bala in accordance with practices prescribed from time to time. Firefighters should handle contaminated gear with non-latex gloves and eye protection as a minimum. Only detergents or cleaning solutions provided by the department shall be used. NOTE: DO NOT transport soiled PPE inside the passenger compartment of **ANY vehicle**. Soiled PPE should be bagged in a plastic bag and transported to the station for routine or advanced cleaning outside of the passenger compartment, in a compartment outside.

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NOTE: For heavily soiled PPC, remove PPC at the incident site, then bag it for transport to the station (outside of the crew compartment of the apparatus/vehicle).

12. Where laundering is needed and PPC items will require time to be dried, firefighters should arrange for a spare PPC ensemble to use by contacting their District Chief or the Deputy Fire Chief.

NOTE: Personal clothing worn under the PPC ensemble can also be soiled in certain circumstances. It is recommended that firefighters keep a spare set of clothing at their stations to change into following any situation that may lead to soiling.

13. All elements of the PPC ensemble shall be air dried only in a well-ventilated area. Do not dry in direct sunlight.

14. SCBA face pieces shall be cleaned and disinfected in accordance with the manufacturer's recommendations.

Annual Advanced Inspection, Cleaning (and Repair)

15. Where "advanced cleaning" is required by an independent service provider, firefighters shall remove the clothing at the incident site, bag it for transport to the station (outside of the crew compartment of the apparatus/vehicle) and properly label the bag noting the date, name of the firefighter, and sufficient details about the nature of the soiling so as to allow the cleaners to decide upon the appropriate decontamination/cleaning procedures.

NOTE: Advanced cleaning is indicated whenever PPC is contaminated with bodily fluids, hazardous materials or any other unusual or excessive substance.

16. The Deputy Fire Chief shall arrange for an annual inspection/advanced cleaning (and repair as required) of the bunker gear coat and trouser by an independent service provider and cause repairs to be made as necessary. All records pertaining to this service shall be maintained in accordance with sentence 5.

17. Each firefighter shall be responsible to conduct a thorough inspection of all other elements of his or her PPC ensemble when the coat and trousers are sent for their annual inspection/advanced cleaning reporting any issues identified to the Deputy Fire Chief.

Repairs

18. Repairs to any PPC ensemble element shall not be undertaken by any member of the fire department and shall only be completed by a person specially qualified to make such repairs. Contact the Deputy Fire Chief for vendors we contract for this service.

Storage

19. All PPC elements shall be stored in a clean, dry, temperature controlled environment away from direct sunlight when not in use. Airtight containers shall not be used for storage, and when transported in vehicles, PPC elements should be protected from sharp edges, objects, tools or equipment that could damage the ensemble. Similarly, PPC elements should be not be stored in such a manner so as to be exposed to concentrated vapours of gasoline or other fuels.

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20. Soiled PPC elements should not be stored; rather they should be thoroughly cleaned and air dried prior to being placed in storage.

Retirement

19. Bunker coat and trousers elements of firefighters PPC shall be retired from active service no more than 10 years from the date of manufacture or when they become damaged and are beyond reasonable repair. Retired elements may be utilized for training purposes only provided they are clearly marked "NOT FOR USE FOR LIVE-FIRE TRAINING OR STRUCTURAL FIREFIGHTING".

20. Any PPE elements removed from service and permanently retired shall be destroyed/disposed of.

Critical Incident Procedures

21. Where a firefighter sustains a critical injury as defined by the Occupational Health and Safety Act and the PPC contributed to the injury or was damaged, the subject PPC shall:

- a) be immediately secured by the Fire Chief or his designate;
- b) be preserved in the post-injury condition and not be altered, cleaned or otherwise tampered with;
- c) be located in a secured, controlled location with properly documented access provisions;
- d) be non-destructively tagged and stored in cardboard boxes only (plastic bags or containers shall not be used);
- e) NOT be released to any other individual or investigative body without the express permission of the Fire Chief; and be stored for such a period of time as prescribed by the Fire Chief based on the circumstances.
- f) Following the conclusion of any investigation conducted, the PPC shall be repaired or destroyed/disposed of as directed by the Fire Chief.

RESPONSIBILITY:

It is the responsibility of all members to comply with the provisions of this guideline and particularly that Company Officers (supervisors) and firefighters (workers) ensure that they adhere to their duties in accordance with the provisions of this document and the Occupational Health and Safety Act.

DEFINITIONS:

"Advanced Inspection/Cleaning" means the inspection and thorough cleaning of the ensemble or ensemble elements by an Independent Service Provider by washing with cleaning agents. Includes specialized cleaning that may be required to remove hazardous materials or bodily fluids.

"After-use inspection" means an inspection conducted by a firefighter following each emergency response situation or training activity that involves firefighting or rescue activities which may cause damage to any element of his or her issued PPC ensemble.

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“Bodily Fluids” means fluids that are produced by the body, including but not limited to, blood, vomit, semen, mucus, feces, urine, vaginal secretions, amniotic fluids, cerebrospinal fluid, synovial fluid and pericardial fluid.

“Crazing” means the cracking and/or hazing of the transparent portion of a SCBA facepiece.

“Embrittlement” means the hardening of a material that makes it susceptible to easy fracture.

“Element” means an individual component of the PPC ensemble (e.g. – each of the coat, trouser/suspenders, helmet, balaclava, boots, gloves, coveralls or SCBA face piece.)

“Independent Service Provider” means an independent third party utilized by the fire department to perform any one or any combination of advanced inspection, advanced cleaning, or repair services.

“Integrity” means the ability of an ensemble or ensemble element to remain intact and provide continued minimum performance.

“Interface Area” means an area of the body where the protective garments, helmet, gloves, footwear, or SCBA face piece meet. Interface area’s include, but are not limited to, the coat/helmet/SCBA face piece area; the coat/trouser area; the coat/glove area; and the trouser/boot area.

“Maintenance” means the inspection, service and repair of personal protective clothing and equipment including the determination for removal from service.

“Routine cleaning” means the light cleaning of the ensemble or ensemble elements by firefighters without taking the elements out of service. Includes brushing off debris and routine laundering or cleaning utilizing materials and facilities available in-house.

REFERENCES:

- Occupational Health and Safety Act (RSO 1990, c. 0.1)
- Section 21 Committee Guidance Note GN-4-8, Care, Maintenance, Inspection and Replacement of Structural Firefighting Personal Protective Equipment
- Section 21 Committee Guidance Note GN-4-07, Wildland Fires
- NFPA 1851 (Current Edition), Standard on Selection, Care and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting
- NFPA 1971 (Current Edition), Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting.
- MLFD OG 101, Turnout Gear
- MLFD OG 104 Use of PPC at Wildland Incidents
- MLFD OG 106, PPC Maintenance Team