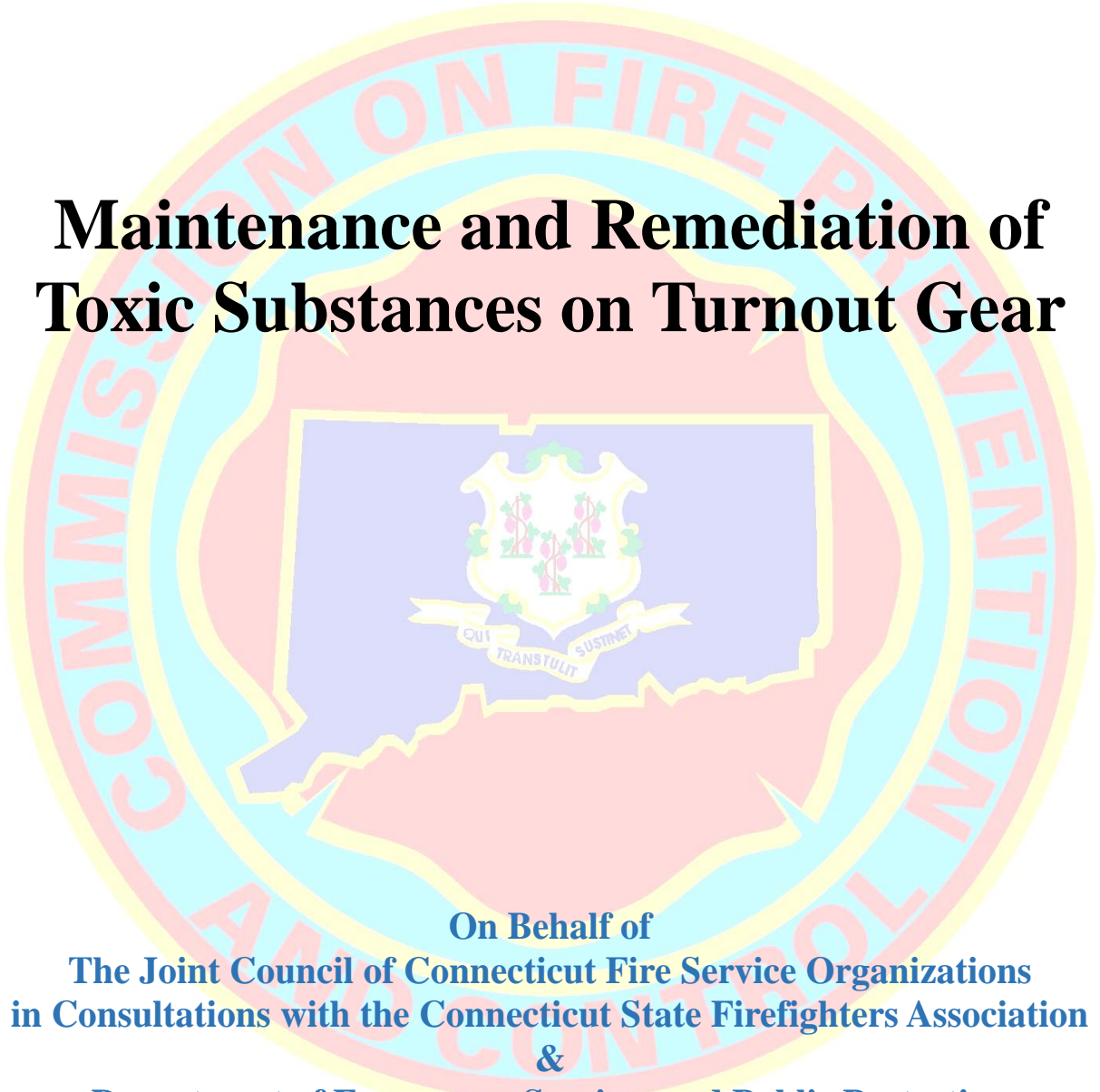


# Connecticut Statewide Model Plan

## Maintenance and Remediation of Toxic Substances on Turnout Gear

The seal of the Connecticut Commission on Fire Prevention and Control is a large, circular emblem. It features a central shield with a white background, depicting a landscape with a sun, a river, and a bridge. The shield is surrounded by a blue border containing the text "COMMISSION ON FIRE PREVENTION AND CONTROL" in white capital letters. The entire seal is set against a light blue background.

On Behalf of  
The Joint Council of Connecticut Fire Service Organizations  
in Consultations with the Connecticut State Firefighters Association  
&  
Department of Emergency Services and Public Protection  
Commission on Fire Prevention and Control

July 2023

# Background

The purpose of this Plan is to provide aid and guidance to fire departments in the preparation of a Plan for the Maintenance and Remediation of Toxic Substances on Turnout Gear in compliance with PA-22-139.

**Public Act No. 22-139 AN ACT CONCERNING ADOPTION OF THE RECOMMENDATIONS OF THE TASK FORCE TO STUDY CANCER RELIEF BENEFITS FOR FIREFIGHTERS.**

**Be it enacted by the Senate and House of Representatives in General Assembly convened:**

**Section 1. (NEW) (*Effective from passage*) (a) The Joint Counsel of Connecticut Fire Services Organization, in consultation with the Connecticut State Firefighters Association, must come up with a joint plan for maintenance and remediation of toxic substances on turnout gear. Such plan shall be submitted to the Commission of Fire Prevention and Control by July 1, 2023. Upon approval of such plan, the commission shall advise fire departments on implementation of the plan.**

**(b) Within ninety days of approval by the Commission, each fire department shall adopt a plan for the maintenance and remediation of toxic substance on turnout gear.**

In June, 2023 the Joint Council of Connecticut Fire Service Organizations in consultation with the Connecticut State Firefighters Association developed, approved and transmitted a Plan for the maintenance and remediation of toxic substances on turnout gear to the Commission on Fire Prevention and Control. In response, the Commission, with minor revisions, approved the Plan at their meeting on June 27, 2023.

The Public Act requires that within ninety days of approval by the Commission, each fire department shall adopt a plan for the maintenance and remediation of toxic substances from turnout gear. The authors of this Model Statewide Plan encourage adoption of this Plan or that it serve as a minimum foundation for your department Plan.

Cancer prevention is a critical component of a fire department's risk management and member wellness program. It is well understood that fire fighters are exposed to contaminants that soil PPE and other fire service gear. Cross contaminated equipment and gear are highly suspected of adversely influencing long-term fire fighter health and wellness. Further, it is important to note that eligibility for State of Connecticut Cancer Relief Fund benefits also requires firefighters to 1) Have submitted to annual physical examinations subsequent to entry into such service that have failed to reveal any

evidence of such cancer or a propensity for such cancer; (2) have not used any cigarettes, as defined in section 12-285, or any other tobacco products, as defined in section 12-330a, within fifteen years; (3) have worked for not less than five years as (A) an interior structural firefighter at a paid municipal, state or volunteer fire department, or (B) a local fire marshal, deputy fire marshal, fire investigator, fire inspector or such other class of inspector or investigator for whom the State Fire Marshal and the Codes and Standards Committee, acting jointly, have adopted minimum standards of qualification pursuant to section 29-298.

## **Maintenance and Remediation of Toxic Substances on Turnout Gear**

Each recognized Connecticut fire department shall have a written plan which specifically addresses the use, handling, cleaning, and repairing of firefighter turnout gear. This plan shall include proper storage and handling when exposed to products of combustion or other potentially hazardous environments; inspection and cleaning requirements; repair; and documentation.

Documentation should also encompass accessory equipment such as flash hoods and SCBA that a firefighter may wear. NFPA 1851 and the original manufacturer of the item(s) care and maintenance instructions shall be considered as a guide for proper care. Records should be maintained on file and copies should follow the firefighter's personnel records in addition to equipment records.

Acknowledgment of compliance of this plan will be submitted with the annual contribution for qualified firefighters required in Section 5 of Public Act 22-139. Additional information will be forwarded once available.

### **Section I - Introduction**

#### **A. Objectives**

To identify a plan which specifically addresses the cleaning, maintenance and remediation of toxic substances often found on a firefighter's personal protective equipment after operations at emergency incident scenes and training. This plan includes proper handling when exposed to products of combustion or other potentially hazardous environments, cleaning requirements, inspection, repair and documentation. Documentation shall include accessory equipment such as flash hoods and self-contained breathing apparatus that a firefighter may wear. NFPA 1851 and the original manufacture shall be considered as a guide for proper care. Records shall be kept on file and copies should follow the Firefighters personnel records in addition to equipment records.

## **B. Applicability**

This policy is applicable to and for each recognized Connecticut Fire Department to include a municipal department, fire district and or fire company.

## **C. References**

### **Firefighter Cancer Support Network**

<https://firefightercancersupport.org/>

**NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2020 Edition.**

<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1851>

**NFPA Research Foundation – PPE and Fire Service Gear Cleaning Validation**

<https://www.nfpa.org/News-and-Research/Resources/Fire-Protection-Research-Foundation/Current-projects/Investigation-of-Turnout-Clothing-Contamination-and-Validation-of-Cleaning-Procedures>

## **Section II - General Guidelines – Structural Personal Protective Equipment**

### **A. Structural Personal Protective Equipment:**

1. Personnel shall be educated about the proper use and care of protective clothing.
2. Department leadership shall establish the following practices in accordance with NFPA 1851:
  - a. PPE should undergo Advanced Cleaning at a minimum of every 6 months or as soon as possible after clothing has been subject to contamination. (NFPA 1851 7.3.4, 2020 version).
  - b. Clothing should be kept in good repair with no rips, tears or holes.
  - c. It is strongly recommended to have two sets of structural personal protective equipment ensembles for each member (hoods, gloves, etc.). Departments should consider this a best practice and obligate staff time and funding to reach this goal.
  - d. Inspect all personal protective equipment for any damage, rips, tears, cuts, and thermal damage.

3. Soiled, contaminated, or otherwise used or dirty PPE shall not be transported inside the cab areas of a fire apparatus, fire department vehicle, or in a member's private vehicle.
4. After a Gross Decon, the dirty PPE shall be bagged and transported outside the cab or interior of a fire apparatus until it can be properly cleaned.
5. Soiled, contaminated, or otherwise used or dirty PPE shall NOT be laundered at home or at a publicly available laundry facility.
6. All personal protective equipment shall be prohibited from inside the living areas of the fire station. Personal protective equipment shall only be kept on the apparatus floor.
7. Each set of personal protective equipment shall be documented to include the serial number and date placed into service. This information will be recorded in the department's records management system.
8. A maintenance log shall be maintained as to the service history of the personal protective equipment, which would include each cleaning or repair.
9. Any personal protective equipment subject to a carcinogen or toxic environment shall be documented in the department's records management system.
10. In all cases, users shall follow the manufacturer's direction. Nothing in this document shall supersede or override the manufacturer's guidance or that contained within NFPA 1851.

### **Section III - Cleaning**

- A. NFPA 1851 identifies and defines three primary types of cleaning:
  1. Preliminary Exposure Reduction.
  2. Advanced.
  3. Specialized.
- B. Gross or Field Decon pre-rinse shall be implemented before a firefighter removes any firefighting equipment.

- C. Advanced cleaning of personal protective equipment should occur every six (6) months or whenever the ensemble is exposed to products of combustion. (**NFPA 1851 Advanced Cleaning 7.3.4, 2020 Edition**)
- D. Advanced cleaning should be done by trained personnel or an Independent Service Provider (ISP).
- E. For those departments that do **NOT** maintain a commercial gear washer, a signed interlocal agreement with another agency or contract with an approved vendor must be submitted.

#### **Section IV - Storage**

- A. PPE should be stored in a bag or locker.
- B. PPE shall be stored in an area that is free from diesel exhaust (a known carcinogen).
- C. PPE should be stored in an area with limited natural light.
- D. PPE stored in a large storage container must have ventilation holes to allow for the gear to breathe.

#### **Section V - General Guidelines - Flash Hood**

- A. It is recommended that flash hoods be washed after every fire or emergency service use to minimize exposure to fireground particulates. Note that frequent washing may affect a flash hood's life expectancy.
- B. Inspect for damage and continued serviceability after every fire or emergency service use.
- C. Do not allow flash hoods to be taken home, to a laundromat or to a dry cleaner for washing.

#### **Section VI - General Guidelines - Helmet**

- A. Use a cloth or brush, damp from a mixture of water and mild detergent. Wipe down all exposed surfaces of the helmet.
- B. While cleaning, look for cracks, bubbling, or deep scratches.

- C. Remove the helmet liner. Clean the liner using the detergent and water mixture and agitate the liner till clean. If your department has a liner replacement program, simply replace it.
- D. Take a soft dry towel and wipe the helmet and liner dry.
- E. Hang to dry completely in a shaded area.

### **Section VII - General Guidelines - Structural Gloves**

- A. NFPA 1851 Standard for Selection Care & Maintenance of Personal Protective Equipment does not recommend washing structure fire gloves in a washer/extractor.
- B. Structure fire gloves should be inspected, washed, and dried in the station. The following is a sample process for glove washing:
  - 1. Wear appropriate PPE, EMS nitrile or latex gloves for dermal protection and eye protection.
  - 2. One glove at a time, don one of your Structural Firefighting gloves. Using a soft brush, gently brush off all visual dirt and debris. Be gentle, you are just trying to remove the loose dirt and debris.
  - 3. After brushing off dirt and debris, visually inspect each glove. Visually inspect the entire glove looking for damage from wear & tear, contact with hazardous materials, tears and rips and loose or broken stitching. Any damaged glove must be taken out of service.
  - 4. One glove at a time, don one of your Structural Firefighting gloves. Using a spray bottle of clean water, spray glove to be cleaned. Get glove nice and wet. Using opposite hand, work water into outer shell of glove to help remove dirt and debris. Rinse with spray bottle of water.
  - 5. Using another spray bottle with a mixture of clean water and dish soap at a dilution of 1oz of dish soap and 15 oz. of water:
  - 6. Spray glove with cleaning solution soaking outer layer of glove.
  - 7. Using opposite hand work cleaning solution into glove until cleaning solution becomes a lather.
  - 8. Rinse glove clean using spray bottle with only clean water.

9. Rinse until all cleaning solution has been rinsed away.
10. Repeat using remaining glove to be cleaned (This step may be repeated as needed).
11. Set cleaned gloves aside to dry. Make sure it's a cool dry area. Keep away from heating devices and sun.

### **Section VIII - Retirement of Personal Protective Equipment**

- A. The following list are some best practices for personal protective equipment retirement for individual fire department to outline retirement standards:
  1. More than 10 years from the date that the element was manufactured.
  2. Damaged beyond repair or not cost effective to repair. For the purposes of this section, cost effective will contemplate the replacement cost of the item as well as the remaining years of service.
  3. Contaminated to the extent that it is not possible or cost effective to decontaminate.
  4. Any PPE element that has been exposed to chemical, biological, radiation, nuclear (CBRN) or terrorism agents must be immediately retired after confirmed exposure and not subjected to cleaning or decontamination.
  5. When PPE is retired the serial numbers should be confirmed and all records archived for any future reference.

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