

## **PURPOSE**

The Peoria Fire–Medical Department (PFMD) is concerned about the safety and welfare of each of our members. This SOP establishes mandatory departmental procedures to decrease members’ exposure to cancer-causing products of combustion. These are the best practices that the fire service has at this time and are subject to change as we learn better ways to protect our members’ health.

## **Reference**

- *Contamination of firefighter personal protective equipment and skin and the effectiveness of decontamination procedures*, Kenneth W. Fent, Barbara Alexander, Jennifer Robert, et al. (2017)

## **POLICY**

### **Responsibilities**

The on-scene PFMD BC is responsible for ensuring that Peoria Firefighters follow the procedures described in this document. If a Peoria BC is not on-scene, or does not implement these procedures, each PFMD Company Officer is responsible for ensuring that his/her crew properly complies with these procedures.

Most importantly, it is each member’s responsibility to comply with this policy. Failure to do so increases exposure to carcinogens, increases your cancer risk, and may cause second-hand exposure to your family.

### **Turnouts**

A complete set of turnouts includes:

1. Coat
2. Pants
3. Suspenders
4. Helmet
5. 2 Hoods
6. 2 pairs of Gloves
7. Boots

## **PROCEDURES**

The procedures in this policy include:

- Gross Decontamination
- Changing and Refilling Bottles

- Personal Decontamination
- Rehab and Reassignment
- Equipment Decontamination and Isolation
- Transporting Contaminated Equipment
- In-Station Personal Decontamination
- Returning to Service
- Decontaminating Hose
- Decontaminating Turnouts

### **Gross Decontamination (prior to reassignment)**

Gross Decontamination on-scene is a critical part of cancer prevention. Turnouts most actively off-gas immediately after exiting the fire and consequently, this is the most dangerous time to remove your regulator or face piece. Gross decon reduces off gassing and thereby reduces our exposure to inhaled toxins and carcinogens.

The USFA (United States Fire Administration) tested three methods of gross decontamination after a fire:

1. Dry decon (brushing off large particles and soot using a dry brush)
2. Damp decon (wiping off large particles and soot using a damp towel)
3. Wet decon (Initial rinsing to remove large particles, scrubbing with soap and water, and rinsing with clear water)

They found that wet decon is the most effective way to reduce Polycyclic Aromatic Hydrocarbons, (PAH) from turnouts. Wet decon can reduce off gassing by about 85%.

The Engineer shall establish a gross decon station near the entry/exit point; at least 50' away from the apparatus, downwind and downhill if possible, before crews exit the Hot Zone.

The engineer will set up the gross decon station with the following:

- Green traffic cone
- Soft-bristle brush
- Redline
- CitroSqueeze® spray soap

Turnouts most actively off-gas when members leave the fire occupancy; therefore, members shall leave the hot zone with enough air to complete gross decon.

<p><b>Standard Operating Procedure</b></p> <p><b>POST-FIRE DECONTAMINATION PROCEDURES</b></p>	<p><b>PEORIA FIRE-MEDICAL DEPARTMENT</b></p> <p><b>Operations</b></p> <p><b>202.08AP</b></p> <p><b>Initial 03/25/2019</b>      <b>Page 3 of 7</b></p>
---	---

Members shall not remove their regulator or facepiece until after completing gross decon to prevent inhalation exposure to off-gassing contaminants from turnouts.

Individual firefighters shall notify the sector officer when they reach 50% air. The Sector Officer shall report 50% air notification to the IC. A low air alarm should never sound in the hazard zone unless a firefighter is having an emergency.

*“The policy of air management for the Regional Operations Consistency Committee (ROCC) is; **it is unacceptable to leave the hazard zone with low air alarms activated during normal operations.***

*“This policy requires firefighters to leave without using their emergency reserve.”*  
(MP 202.05C 01/18 Air Management)

The PFMD Incident Commander shall order crews exiting the Hot Zone to report to gross decon, and if at the end of the incident, then to rehab sector. For example, “Command to E191, go to gross decon station and then report to rehab.”

Members exiting the Hot Zone—including those who have not entered the fire building—shall immediately decontaminate each other.

### **Gross decon Procedure**

Members shall perform gross decon on their turnouts by using the following method:

- Stay on air and do not remove your regulator or SCBA facepiece.
- Loosen helmet strap and let helmet hang on the back of your neck.
- Hold collar tightly closed around the neck to keep water out.
- Your partner will rinse you off starting from your head down to your boots using a gentle stream with copious amounts of clear low-pressure water.
- Using a 1:4 solution of CitroSqueeze® and water, completely spray helmet, facemask, hood, coat, pants, boots, and SCBA, and scrub with a soft brush.
- Rinse off with clear low-pressure water.

Members shall never use compressed air to blow off their turnouts or SCBA. Doing so embeds soot and particulates into fabric and also makes contaminants airborne.

### **Personal Decontamination (after release from the incident)**

After repeating the gross decon procedures, members shall doff their facemask, SCBA, hood, gloves, turnout coats, and bunkers, and place them away from apparatus and rehab area.

<p><b>Standard Operating Procedure</b></p> <p><b>POST-FIRE DECONTAMINATION PROCEDURES</b></p>	<p><b>PEORIA FIRE-MEDICAL DEPARTMENT</b></p> <p><b>Operations</b></p> <p><b>202.08AP</b></p> <p>Initial 03/25/2019      Page 4 of 7</p>
---	---

***Never handle potentially contaminated turnouts with bare hands! At least wear EMS gloves.***

***Members shall never place contaminated turnouts or equipment in the cab.***

Members shall wipe off their head, jaw, throat, neck, underarms and hands with as many post-fire wipes as necessary to remove contamination. If privacy allows, use another wipe to clean groin area as well.

*Note: Please use antiseptic wipes to clean up after EMS calls instead of fire wipes unless you have no other option available.*

The engineer should set up a wash station with soap and water at the apparatus so members can thoroughly wash their hands before reporting to rehab.

If members are unable to wash their hands, they should don EMS gloves before reporting to rehab.

### **Rehab and Reassignment**

During rehab, members shall measure CO by utilizing the RAD 57. If CO level is greater than 20%, refer to ALS Treatment Protocols (Carbon Monoxide Poisoning).

After rehab, members shall use their second set of clean hoods and fire gloves to prepare for reassignment.

The BCs shall carry clean extra hoods and gloves for members who fail to carry their own backup set. To obtain a clean hood or gloves, members must exchange a used hood or pair of gloves.

The BSO shall send contaminated hoods and gloves to Support Services for advanced cleaning. Support Services will return clean hoods and gloves to the BCs for restock.

### **Changing and Refilling SCBA Bottles**

When changing bottles, members shall wear EMS gloves under work gloves when handling bottles. Before disconnecting the bottle, members shall flush the area around the quick connect with clean water and wipe it down using a clean shop towel.

Members shall perform gross decon on bottles before refilling them.

<p><b>Standard Operating Procedure</b></p> <p><b>POST-FIRE DECONTAMINATION PROCEDURES</b></p>	<p><b>PEORIA FIRE-MEDICAL DEPARTMENT</b></p> <p><b>Operations</b></p> <p><b>202.08AP</b></p> <p><b>Initial 03/25/2019</b>      <b>Page 5 of 7</b></p>
---	---

### **Equipment Decontamination and Isolation**

When released to go back in service, the Engineer shall turn off the apparatus during equipment decon to minimize members' exposure to diesel exhaust, a known carcinogen.

Members shall wear EMS gloves under work gloves while cleaning and restocking equipment on apparatus. You should never handle hose or equipment with your bare hands—including during hose lays, training, or drills.

Members shall scrub and rinse all used tools and equipment with 1:4 solution of CitroSqueeze® to water, including SCBAs and bottles, prior to reloading onto apparatus.

After the incident, members shall put used turnouts into clear or white trash bags, tie the bags closed, use a Sharpie on the bag to label the turnouts with last name and employee number. Then put them in the hose bed for transport back to the station.

Members shall roll used attack hoses and place them in the hose bed for transport back to the station.

Members shall discard work gloves (**not firefighting gloves**) after use on a fire. Support Services will provide each station with a supply of replacement work gloves.

When possible, the incident commander should release first unit on-scene before releasing subsequent units so they can perform in-station personal decon as soon as possible.

### **In-Station Personal Decontamination**

The company officer will place his/her unit OOS until all members complete personal decontamination procedures at the station. The company officer shall ensure that the company returns to service as soon as possible, but in no case shall the unit go available before every member completes personal decontamination.

Members shall immediately perform in-station personal decontamination by removing and bagging all clothing worn under turnouts—including underwear—and tying the bag closed.

<p><b>Standard Operating Procedure</b></p> <p><b>POST-FIRE DECONTAMINATION PROCEDURES</b></p>	<p><b>PEORIA FIRE-MEDICAL DEPARTMENT</b></p> <p><b>Operations</b></p> <p><b>202.08AP</b></p> <p><b>Initial 03/25/2019</b>      <b>Page 6 of 7</b></p>
---	---

Members shall measure CO by utilizing the RAD 57. If CO level is greater than 20%, refer to ALS Treatment Protocols (Carbon Monoxide Poisoning).

**Shower within the Hour**

As soon as possible after the fire, members shall take a shower and scrub with soap and cold water (as cold as tolerable); followed by a second scrub with soap and hot water (as hot as tolerable).

After showering, members shall put on clean underwear and uniforms.

**Returning to Service**

Members shall replace used turnouts with their issued, clean second set. If the second set is unavailable due to a previous fire, members shall use whichever set is cleaner until turnouts can be properly decontaminated.

Members shall restock apparatus with clean hose from the storage rack. Support Services shall ensure that each station has enough reserve attack line to restock apparatus completely. Support Services should provide each station with several sections of reserve supply line.

Company officers will return their units to service after in-station personal decon, putting turnouts back on the truck, and restocking hose.

After going back in service, members shall wash all clothing and underwear worn under turnouts at a fire in a separate washer; not the one used for other non-contaminated clothing. Members shall never wash potentially contaminated clothes together with non-contaminated clothing.

Members shall remove bagged turnouts and hose from the hose bed, place them in a well-ventilated area out of direct sunlight and open the bags to allow off gassing for at least 2 hours before handling them.

**Decontaminating Hose**

Members shall wear EMS gloves under work gloves when handling potentially contaminated hose.

Members shall clean dirty hose by putting it on the hose rack, scrubbing with a brush and soap/water, and rinsing with clear water.

Allow the hose to air dry, roll it, and put it on the hose rack for future use.

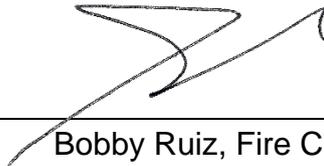
### Decontaminating Turnouts

Members shall notify Support Services of their contaminated turnouts. Support Services will collect the turnouts from the station, perform an advanced cleaning, reassemble the turnouts, and perform a routine inspection before delivering turnouts to the assigned members.

Support Services will send turnouts exposed to bulk chemicals, highly infectious biological contaminants, asbestos, or other substances of a highly hazardous or unusual nature for specialized cleaning.

Support Services will retire turnouts exposed to CBRN agents.

Approved:

  
\_\_\_\_\_

Bobby Ruiz, Fire Chief

04/18/2019

\_\_\_\_\_

Date