

# VALLEY SAFETY OFFICERS

## Recommended Practice for Limiting the Exposure to Carcinogens in Smoke Regional Wellness Committee

Cancer is an emerging threat to today's firefighters. Statistics show that 1 in 3 firefighters will be diagnosed with cancer within their career, while 45% of firefighters will be diagnosed within 7 years of retirement. Firefighters have between a 114% for Leukemia to a 202% for Testicular greater risk of contracting cancer than the average American. This is in part due to the types of chemicals that we are exposed to on every fire we are dispatched to. Compared to fires from 50 years ago, modern fires contain many more chemicals in smoke, and these chemicals are being inhaled, ingested, and absorbed into our skin at alarming rates. In fact, with every 5 degree increase in temperature, the skin absorbs 400% more. This increased rate of absorption, coupled with the amount and type of chemicals that firefighters are being exposed too makes it imperative that firefighters protect themselves in any way they can. The recommendations below are intended to limit firefighter's exposure and ultimately protect them from contracting cancer.

### 1. Wear an SCBA from the beginning of the incident through the completion of overhaul.

- a. The Regional Wellness Committee recommends creating an identified "hot zone" where SCBA's are required. This can be identified with Fire Line tape or natural barriers
- b. All engineers should avoid working in smoke whenever possible. This includes standing upwind or wearing an SCBA if smoke conditions are at risk of exposing the engineer.
- c. It is recommended that Fire Investigators wear a "tyvex" coverall and SCBA when investigating a fire to protect them from residual products of combustion.
- d. CO Monitoring will no longer be used to identify the scene as safe

### 2. Gross decontamination of all PPE upon exiting the structure to remove soot and particles

- a. The Regional Wellness Committee recommends command direct crews to decon upon leaving the hot zone. IE: "Command to Engine XXX decontaminate your gear then report to rehab"
- b. Decontamination will be broken down into 2 levels depending on future assignments
  - i. Preliminary decontamination will take place when your crew leaves the hot zone and is assigned to go to rehab sector. During the Preliminary Decontamination your crew will use a soft bristle brush and/or a damp towel to remove large debris from your protective clothing and SCBA. After doing so protective clothing will be hung away from rehab. Your crew will then report to rehab minus their turnouts
  - ii. Gross decontamination occurs once a unit has been cleared of the incident. Prior to getting on the apparatus your crew will use a red line hose, at least 50' away, to do a thorough decontamination of all of your equipment.
    1. Gross Decontamination is not to occur prior to going to rehab or prior to being cleared of the incident. Gross Decontamination potentially could saturate your protective clothing and could cause steam burns if you are assigned to go back into the hot zone. (See step 6)

### 3. Use Wet wipes/baby wipes to remove soot from your head, face, jaw, neck, throat, underarms, and hands

- a. It is recommended that all front line units, rehab/utility units carry ample supply of wet wipes for this purpose

### 4. Shower thoroughly after the fire

- a. A hot shower should be taken before any other actions once a crew has returned to the station.
  - i. This is one of the most important things that can be done to limit exposure to carcinogens.

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## 5. Change and wash your clothes

- a. The Regional Wellness Committee recommends changing your clothes, including underwear as soon as possible.
- b. Additionally, it may be necessary to wash your clothes more than one time to wash out all of the contaminants.
- c. Following the washing of contaminated clothing it is recommended that the washing machine be run empty with hot water and bleach to decontaminate the washing machine
  - i. There are no environmental concerns that need to be addressed when using the station washing machine

## 6. Clean all PPE, gloves, hood, helmet, immediately after the fire

- a. Soap and water is the recommended solution, and it may be necessary to scrub your PPE to remove contaminants.
- b. It is also recommended to scrub the inside and outside of your turnouts and hang dry in the shade
- c. Personnel with only one set of turnouts should take care of the heavy cleaning at shift change to prevent wearing saturated turnouts into another fire.
  - i. Although turnouts may not be able to be cleaned until personnel are relieved at shift change; helmets, masks, and SCBA's should be decontaminated thoroughly.

## 7. Limit exposure to contaminated turnouts.

- a. The Regional Wellness Committee recommends placing all contaminated turnouts in an airtight bag prior to leaving the scene of a fire. These turnouts can then be stored in the crow's nest of the truck or in a compartment.
- b. No contaminated turnouts should be left in a personal vehicle.
  - i. If turnouts must be transported (rovers), turnouts should be sealed in a bag and placed in the trunk compartment of the vehicle.

## 8. Decontaminate the inside of the fire apparatus

- a. Soap and water is the recommended cleaner
- b. It is recommended that consideration be given when ordering future apparatus. When compared to cloth seating, vinyl seating will limit the amount of toxins that are absorbed into the seats

## 9. Keep all firefighting gear out of the living quarters in the station

- a. If work boots were worn on a fire scene it is recommended that they be decontaminated prior to entering the stations living quarters

## 10. Limit your exposure to residual fumes such as off-gasing smoke and Diesel Fumes.

- a. Use station exhaust systems or air curtains to prevent smoke from entering the station
  - i. If a station does not have this feature, it is recommended that the bay and truck be left open to allow air to flow freely.
  - ii. A floor fan may be used to air out the cab of the apparatus.
- b. Avoid excess exposure to Diesel fumes by not running the apparatus unnecessarily in the bay as well as ensuring all members are in the truck prior to it being started.
  - i. The truck check should be conducted in an open air environment outside of the station
  - ii. The truck should be shut off in public when possible. (unless the truck is needed to be on for lighting or other firefighter safety measures)
  - iii. All PPE should remain clear of the apparatus exhaust.

## 11. Use proper PPE while decontaminating equipment

- a. Latex, or nitrile EMS gloves should be worn while decontaminating equipment or when cleaning up/loading hose after a fire
- b. An apparatus should **not** be blown out with pressurized air, this will prevent the inhalation of dust particulates from smoke products that will become airborne.
- c. N95 masks should be worn for respiratory protection while decontaminating the inside of a fire apparatus.

Contributing Departments:

Chandler, Gilbert, Glendale, Maricopa, Mesa, North County, Peoria, Salt River, Scottsdale, Sun City, Superstition Fire/Medical