



CITY OF VANDALIA DIVISION OF FIRE

General Operating Guidelines

Chapter 3- Health, Safety, & Risk Management

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GUIDE 21 – Fire Ground Gross Decontamination Procedures

A. PURPOSE

This General Operating Guideline has been established to provide a procedure that the Division of Fire believes can reduce a firefighters exposure to hazardous substances during training, suppression and overhaul activities, and to ensure that a firefighters protective clothing, hand tools and other equipment can be "grossly" decontaminated prior to returning to quarters.

The other objectives of this GOG include:

1. Preventing exposing firefighters to inhalation and/or ingestion of hazardous substances while removing their self-contained breathing apparatus (SCBA) or while exchanging air cylinders.
2. Establishing a "first aid" procedure/protection and decontamination process for firefighters that are suddenly aware of an acute hazardous materials exposure during suppression or overhaul activities.
3. To ensure all personnel are properly de-conned in a timely manner if there is any possibility of exposure to a likely harmful substance during training or at an emergency scene.

The best protection firefighters have from respiratory carcinogens is their SCBA. The best protection from dermal contact is protective clothing. Therefore, this procedure calls for the removal of as much of that contamination as possible prior to removing it.

B. DEGREE OF CONTAMINATION

"Exposure to hazardous substance" is the key to determining the firefighter decontamination needs. Products of combustion--including smoke--are considered hazardous. If you enter a smoky atmosphere and/or come into contact with burned materials or runoff from suppression agents, you should undergo decontamination. All training that may expose members

to dust, gasses, smoke, viruses, molds or fibers shall require that their PPE undergo an initial on scene or at site decontamination.

C. RESPONSIBILITY

It shall be the responsibility of Incident Safety Officer (ISO) or the Incident Commander (in the absence of a designated ISO) to ensure that any necessary decontamination of firefighters and equipment be completed before personnel and equipment are returned to quarters.

It shall be the ISO responsibility to ensure that the appropriate type and degree of decontamination is performed on firefighters and equipment involved in "live fire" training, fire suppression, overhaul/salvage activities, and/or during fire investigations.

It shall be the responsibility of the Company Officer (FFIC) to ensure that all company personnel take the appropriate measures to protect against respiratory exposure prior to removing SCBA face pieces or during bottle exchange following "live fire" training, fire suppression, overhaul/salvage activities, and/or during fire investigations.

It shall be the responsibility of the Company Officer (FFIC), Driver, and Firefighters to ensure that all clothing and equipment used during "live fire" training, fire suppression, overhaul/salvage activities, or during fire investigation is decontaminated prior to placing it on the apparatus back in service.

It shall be the responsibility of individual firefighters to ensure that they receive at least minimum decontamination prior to removing face pieces or exchanging air bottles, or prior to returning to quarters after training, suppression or overhaul activity.

It shall be the responsibility of the driver/operator "pumping the fire" to establish a decontamination line at his/her earliest opportunity. Ideally the decontamination line should be the flexible garden hose carried in one of the apparatus decontamination kits carried on each engine and the ladder truck.

Fire Explorers assisting on the fire ground can assist in establishing the decontamination line, and should ensure that firefighters coming to them for an air bottle exchange are decontaminated prior to having their cylinder changed. Both Firefighters and Fire Explorers shall wear their PPE (including gloves and possibly a dust mask) when decontaminating and/or exchanging SCBA or SCBA cylinders.

D. PROCEDURES

The "level of decontamination" may range from the simple "one-minute wash down" following an exposure to wood or paper smoke, to an unanticipated complex hazardous materials containment procedure required for exposure to poisonous residues.

Most required decontamination dealing with protection of the respiratory tract can be accomplished with a decontamination hose line. Brushing and wiping will remove gross contaminants, but they will not remove, and may tend to make airborne the microscopic particles which target the respiratory system.

A decontamination line (ideally the coiled garden hose, included in the De-Con kits) will be charged (to "idle" pressure ONLY) and extended from the "primary" pumping apparatus for use by firefighters exiting the "hazard zone". Firefighters should take advantage of this decontamination

line prior to reporting to the cylinder exchange area. When possible or necessary there may be a decontamination line (or a second line) established, and used in the cylinder exchange area.

Personnel (Fire Explorers) filling/recycling SCBA cylinders from the exchange area shall be decontaminated prior to placement back on the apparatus.

The amount of water and duration of wash are judgmental factors to be considered by the person performing the decontamination. Where products of combustion and suppression residues or dust are visible there will be more inclination to be thorough, but it is the invisible materials, such as asbestos, glass fibers, and toxic residues which will most warrant your attention.

Firefighters or Fire Explorers performing decontaminations are cautioned against using excessive hose pressures which might blow back contaminants onto themselves, or force water and residues past the openings and down inside the firefighter's coat. The goal of this "gross" decontamination procedure is not to soak firefighters PPE, but to simply wash away contaminants on the outer shell and reduce the risk of a firefighter or firefighters coming into contact with contaminants.

If practical, crews should be performing these gross decontamination procedures on each other while they are still on air. Keeping the firefighters SCBA and face piece on during this process will prevent firefighters from getting contaminants splashed into his/her face and protect firefighters from inhaling airborne contaminants.

Please remember that this procedure is designed to "grossly" decontaminate firefighters exposed to the most common fire ground hazards. Exposure to more complex hazardous materials will require formal (technical) decontamination.

Firefighters exposed to biological or blood borne pathogen materials should reference the Division of Fire's Infection Control and PPE Maintenance and Care GOG's for specific handling and decontamination procedures.

E. OPERATIONAL DECONTAMINATION

Reasonable precautions shall be taken to maintain an uncontaminated atmosphere to the breathing zone and face piece supply hose. During routine fire ground operations one of the following situations may occur:

- A firefighter wants to remove his/her mask.
- A firefighter is not out of air, but wishes to remove only their regulator.
- A firefighter is in need of a cylinder exchange.
- A firefighter is going to the command post for a "face to face" meeting.
- A firefighter is going to rehab and/or into staging

1. Wet Decontamination Procedures

The procedure for decontaminating yourself in these scenarios is:

- a. Brush and/or wash off your gloves.
- b. Close pocket, radio pocket, and storm flaps.
- c. Remove your helmet, brush and/or wash off the outer shell.
- d. When being sprayed off clutch your collar to minimize water entry at neck opening.

- e. With your hood in place, wash off your hood, face piece, and regulator.
- f. Wash down the SCBA tank and connections (gently on the fittings), if you remove your regulator; keep it clear of contaminated clothing.

2. Dry Decontamination Procedures

During cold inclement weather the process of soaking our members while performing wet decontamination procedures may create additional safety problems such as hypothermia and may create equipment failure issues.

To minimize this risk dry decontamination may be performed utilizing the following procedures:

- a. Brush off all large particles from the firefighters PPE, working from the head down, using a whisk broom or similar device.
- b. Use damp towels or "rehab wipes" to wipe the area around the firefighters mask and face piece to suspend any particulate matter.
- c. Attempt to remove all of the visible contaminants
- d. A significantly exposed firefighter may be too dirty for dry decontamination procedures and should therefore be decontaminated utilizing the wet procedures and should then change into a spare set of PPE.

F. POST INCIDENT DECONTAMINATION

It is essential that we reduce the possibility of cross contamination of our personnel, work areas, apparatus and fire stations. Most of the common fire ground contaminants can result in chronic exposure to known health hazards such as asbestos and fiberglass dusts which will dry, fall from clothing, hose and equipment to become air borne respiratory hazards.

1. Post Incident Decontamination Procedures

- a. When contaminants are visible on a firefighters personal protective equipment (PPE) the PPE should be grossly decontaminated at the scene prior to being placed on the apparatus. Once decontamination is completed firefighters can use large trash bags within the apparatus decontamination kits to further protect the cab, compartment, or other equipment from becoming "cross contaminated".
- b. Grossly (visibly) contaminated equipment (i.e. fire hose, hand tools, SCBA's) will be thoroughly cleaned (with appropriate cleaning agents) and/or decontaminated prior to being placed back into service or on the apparatus.
- c. All apparatus involved with fire suppression and/or overhaul activities will be washed with soap and water or the appropriate cleaning agent before entering the station. This includes cleaning the cab or compartment in which contaminated gear was transported back to the station in. Surfaces in the cabs of apparatus should be wiped clean.
- d. All fire hose involved in fire suppression and/or overhaul activities will be washed with soap and water or the appropriate cleaning agent and allowed to dry prior to being placed on a hose rack or before placed back into service on a fire engine/ladder.

- e. Firefighters are strongly encouraged to shower, change into a clean uniform, and to wash their contaminated uniforms immediately following a fire incident.
- f. Firefighters PPE should be washed and dried in the provided machines if they are still dirty (contaminated) after being grossly decontaminated in the field.
- g. Firefighters involved in cleaning/decontaminated (or "breaking down" gear readying it for the washer) gear and equipment shall wear appropriate protection to guard against inhalation, ingestion or injection/absorption of particulate matter. The lowest level of acceptable protection should be latex gloves; dust masks (N95 masks preferred) and eye protection.