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| ***REPLACE WITH YOUR MASTHEAD*** | | |
| **VFIS logo black JPG** | **SOG Title: Carcinogen Preventive Practices** | |
| **SOG Number:** | |
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| **ABC Fire Department General Operating Guideline** | | |

**Carcinogen Preventive Practices**

***This is a sample of a standard operating guideline (SOG) on this topic. You should review the content, modify as appropriate for your organization, have it reviewed by your leadership team and if appropriate your legal counsel. Once adopted, make sure the SOG is communicated to members, implemented and performance monitored for effective implementation.***

1. PURPOSE

1.1. To provide best practices for the prevention of Occupational Carcinogen Exposure, which maximizes protection against occupational cancers and other occupational diseases, as well as preserve the quality of life of members and customers for ABC Fire Department.

2. REFERENCES

2.1. Current edition of the NFPA 1500, Standard on Fire Department Occupational Safety and Health Program

2.2. Current edition of NFPA 1582, Standard on Comprehensive Occupational Medical Program for Fire Departments

2.3. ABC Fire Department SOG, Respiratory Protection Policy

2.4. ABC Fire Department SOG, Medical and Physical Requirements

2.5. ABC Fire Department SOG, PPE Protective Clothing Use, Care and Maintenance

2.6. ABC Fire Department SOG, Emergency Incident Rehab

3. GLOSSARY OF COMMON TERMS

3.1. CANCER- A term for a group of serious disease in which abnormal cells divide without control and can invade nearby tissues. Cancer cells can also spread to other parts of the body through the blood and lymph systems.

3.2. CARCINOGEN- Any substance or agent that tends to produce a cancer. A substance or agent that can cause cells to become cancerous by altering their genetic structure so that they multiply continuously and become malignant. Carcinogen exposure can occur from the inhalation, ingestions, or absorption of many different types of substances into our bodies. Carcinogens act on our DNA, causing dangerous changes at the cellular level. These include change in the rate of cell division, which increases the probability of abnormal DNA synthesis. This can lead to cancer, a group of diseases involving abnormal cell growth with the potential to metastasize or spread to others parts of the body.

3.3. CLEANING- The physical removal of dirt and debris which generally is accomplished with soap and water and physical scrubbing.

3.4. CONTAMINATION/CONTAMINATED- The process by which ensembles, ensemble elements, equipment, or the body are exposed to hazardous materials, body fluids, or CBRN terrorism agents. This can include products of combustion, soot, contaminants, or carcinogens.

3.5. ON-SCENE DECONTAMINATION- The process of removing contaminants while still on an emergency scene in order to leave the hazards on the scene. This is done in an effort to reduce exposure time and contamination of the apparatus and station. This also reduces the chance of secondary exposure.

3.5. SECONDARY EXPOSURE- An exposure to a carcinogen that did not occur directly but occurred by the transfer of contaminate by personnel exposed to the original source. This may occur by direct contact with the contaminant, inhaling or absorbing the off-gassing from protective clothing and equipment, or by failure to decontaminate equipment.

4. SCOPE

4.1. This policy applies to all employees of the ABC Fire Department and any non-ABC Fire Department recruits participating in Regional Recruit Training. This also includes employees who are off-duty participating in ABC Fire Department sponsored training and those contracted by the community college to conduct ABC Fire Department sponsored training.

4.2. ABC Fire Department recognizes there is an occupational hazard of exposure to carcinogens and other occupational health hazards. Because of this, ABC Fire Department has established guidelines in an attempt to prevent or reduce exposures.

4.3. ABC Fire Department will attempt to provide the safest workplace possible. Following establishes Standard Operating Guidelines (SOGs) and policies are one way to limit the occupational risks of exposure. The effectiveness of the guidelines lies in the compliance of our members under the leadership of the ABC Fire Department officers.

4.4. Occupational cancers are preventable if exposure prevention and reduction can be implemented. This includes education on the causes of exposure, specific carcinogens, and the methods to prevent or reduce the exposure.

5. THE CANCER PROBLEM

5.1. General

5.1.1. In recent years, the fire service has become more aware of the increased incidence of occupational cancers and diseases in the fire service. Researchers have identified the increased incidence of occupational cancers and the increased incident of occupational cancers overall in firefighters.

5.1.2. Throughout a career, firefighters may be exposed to various carcinogens at fire scenes and at the fire station. These carcinogenic exposures can include, but are not limited to various metals, chemical substances, minerals, toxic gases, diesel exhaust (a Category 1 carcinogen), aromatic hydrocarbons, and soot (a Category 1 carcinogen).

5.1.3, Even while wearing traditional full personal protective ensembles, firefighters may experience systematic exposure to various carcinogens that likely occur through dermal exposure or inhaling the off-gassing of these compounds while removing protective clothing.

5.1.4. These exposures may occur during fire suppression, overhaul, and investigation operations. They are not limited to just personnel operating in the IDLH atmosphere, but also to members operating as Incident Command, Incident Safety, Pump Operators, Rapid Intervention Teams, or any other position exposed to smoke from a fire.

5.1.5. Exposures to carcinogens are not limited to the emergency scene but may also occur as secondary exposures when removing and cleaning protective clothing and equipment.

5.1.6. Secondary exposures may also occur by wearing contaminated protective clothing into the fire station, public places, or while riding in fire apparatus without being properly decontaminated.

5.1.7. Secondary exposures may also affect our families, friends, and customers if not properly decontaminated.

5.1.8. Firefighting culture creates an atmosphere for carcinogen exposure and provides a barrier to prevention methods. This culture often leads to removing SCBA during the overhaul phase of the fire, failing to properly clean helmets and launder protective clothing, and using soiled and dirty great as a badge of honor.

5.2. Medical and Physical Requirements

5.2.1. Personnel shall comply with the requirements in ABC Fire Department SOG Medical and Physical requirements., specifically in regard to NFPA 1582, pre-employment physicals and annual medical requirements.

5.2.2. The purpose of this is to ensure the continued health of members and aid in early identification of health issues.

5.2.3. Personnel shall discuss their annual cancer risk with the medical practitioner.

5.2.4. Personnel should conduct month self-exams to aid in early detection of cancer.

6. EQUIPMENT

6.1. Decontamination Kits

6.1.1. Each front-line engine, ladder, squad, rescue, EMS vehicle, along with the Safety Training Officer and Recruit Class shall be issued and maintain an On-Scene Decontamination Kit.

6.1.2. The On-Scene Decontamination Kit shall include at a minimum 2 buckets, 1 bucket lid, decontamination wipes, decontamination towels, a 10-foot section of garden hose, a spray nozzle, a 2 ½” to garden hose adaptor, a soft bristled brush, a bottle of tide, blue contaminated PPE bags, and contaminated PPE tags.

6.1.3. These kits are intended to be used of On-Scene Decontamination but may also be used at the station for the purpose of Basic Cleaning of PPE and SCBA.

6.1.4. The two-bucket system is intended to be used as a clean bucket/dirty bucket. The clean bucket is used to carry equipment or for rinsing, while the dirty bucket is used for mixing soapy water or transporting dirty equipment.

6.2. Personal Protective Equipment (PPE)

6.2.1. All personnel shall follow ABC Fire Department SOG Protective Clothing Use, Care and Requirements in regard to the cleaning of protective clothing.

6.2.2. The Shift Safety Training Officer (STO) shall carry a supply of hoods stored in a bucket on their vehicle. All personnel shall swap out contaminated hoods a clean hood after every fire.

6.2.3. Helmets and footwear are often neglected and can lead to secondary exposures of firefighters, stations, apparatus, and customers. On scene decontamination and routine or advanced cleaning shall also include the helmet and footwear.

6.2.4. Contaminated protective clothing shall not be transported in personal vehicles unless they are placed in a protective case or bag to prevent secondary exposure or contamination.

6.2.5. Contaminated protective clothing shall not be worn in the apparatus cab to avoid cross contamination. Contaminated protective clothing shall be removed and placed in a blue contaminated PPE bag until it can be cleaned.

6.3. Respiratory Protection

6.3.1. All personnel shall comply with ABC Fire Department SOG Respiratory Protection Program.

6.3.2. APR type respirators may be used to provide respiratory protection in situations where SCBA use is not required in accordance with ABC Fire Department SOG Respiratory Protection Program. This includes but is not limited to:

6.3.2.1. Protection from possible dust particles during salvage, overhaul, and fire investigation.

6.3.2.2. Certain hazardous materials incidents.

6.3.2.3. Airborne Contaminants in EMS environment

6.3.2.4. Dust producing activities

7. DECONTAMINATION

7.1. On-Scene

7.1.1. On-Scene wet decontamination of the protective clothing and SCBA is intended to remove large particulates using reduction by water and if necessary, soap.

7.1.2. On-Scene wet decontamination shall be required when exposed to products of combustion, possible contaminants, or potential carcinogens under the following situations:

7.1.2.1. Vehicle Fires when exposed to smoke;

7.1.2.2. Trash or refuse fire when exposed to smoke;

7.1.2.3. Structure fires that are classified as a working fire or requires the use of respiratory protection by at least one member;

7.1.2.4. Other situations upon determination of the Incident Commander, Incident Safety Officer, Safety Training Officer, or Chief Officer that on-scene decontamination is needed.

7.1.2.4.1. The determination of the need for On-Scene Decontamination by an of these cannot be overridden by a higher-ranking officer unless exigent circumstances exist and this shall be documented.

7.1.3. Every effort should be made to conduct On-Scene Wet Decontamination prior to removal of respiratory protection or at least prior to removing the SCBA and SCBA Face piece.

7.1.4. On-Scene Wet Decontamination should be conducted by using a hose line (firehose or green decontamination line) starting at the top of the helmet and spraying down to the feet. Attention should be given to under the arms, groin area, and bottoms of boots. Upon removing the SCBA, the inside backplate of the SCBA and the back of the firefighter shall be decontaminated as well.

7.1.5. Following removal of the PPE, wet decontamination wipes should be used on the face, scalp, neck, jawline, forearms, hands, shins and knees.

7.1.6. Setup of the On-Scene Wet Decontamination shall be the responsibility of the Engineer of the Attack Engine unless otherwise assigned by the Incident Commander.

7.1.7. Fires that go to higher alarms or fires involving special situations of increased risk of exposure should cue the Incident Commander to consider technical decontamination and dispatch of the HazMat Decontamination Unit.

7.1.8. In the event of cold weather, a dry decontamination shall be utilized by using brushes to remove as much of the contaminants as possible. When doing dry decontamination, respiratory protection shall be used by all members.

7.2. In-Station

7.2.1. Personnel shall shower as soon as possible following a fire or exposure to combustible products. This should attempt to be done within the hour (shower in the hour) of exposure or immediately upon returning to the station and completing equipment decontamination.

7.2.2. Showering should be done initially in water that is the same or cooler than body temperature to attempt to remove as much decontamination without opening the pores of the skin. Following this, warmer water may be used to open the pores to attempt to remove any contaminant that entered the pore at the exposure.

7.2.3. The entire body shall be washed with special attention to the scalp, jaw line, neck, groin, and the small of the back.

7.2.4. After showering, clean uniforms shall be worn and the contaminated uniforms and clothing shall be laundered before reuse.

7.2.5. Personnel shall wash/clean their hands prior to using the restroom or relieving themselves. This should be done with soap and water if available or at a minimum by the use of decontamination wipes.

7.2.6. Personnel shall wash/clean their hands prior to consuming any food or beverage or placing anything in or around their mouths or face.

7.3. Rehabilitation Area

7.3.1. Rehabilitation areas will be established in accordance with ABC Fire Department SOG Emergency Incident Rehabilitation.

7.3.2. All PPE shall be removed, prior to entering the rehabilitation area

8. TOBACCO USE

8.1. The use of tobacco products has been shown to be a contributor to multiple types of cancer. These habits contribute to and may exacerbate the cancer risk among firefighters.

8.2. While North Carolina does not yet have Presumptive Legislation for cancer as an occupational illness, those states that do place strict limits on tobacco users. The use of these products could impede the classification of a cancer diagnosis as an occupational exposure.

8.3. The use of tobacco products on the fire scene or prior to proper decontamination can lead to the introduction of carcinogens to the mouth (ingestion) or respiratory tract (inhalation). Contaminated hands and fingers can transfer carcinogens to the mouth by placing cigarettes or smokeless tobacco into your mouth.

8.4. The use of tobacco products by members of the ABC Fire Department is strongly discouraged.

8.5. Those members that desire assistance with tobacco cessation should contact the ABC Fire Department Wellness Center, the current Employee Assistance Program (EAP) providers, their personal physician, or the ABC Fire Department Human Resources Wellness Coordinator.

9. APPARATUS AND EQUIPMENT

9.1. General

9.1.1. Apparatus and equipment shall be cleaned immediately following a fire or exposure to remove contaminants and carcinogens to reduce cross-contamination.

9.1.2. Apparatus interiors shall be cleaned regularly to ensure that they remain free of contaminants and carcinogens.

9.1.3. Diesel Exhaust has been shown to disperse up to 650 feet. Attention should be made to the location of the apparatus exhaust during incident operations, training, and daily activities to reduce the introduction of diesel exhaust to the area that members are operating or congregating.

9.1.4. All personnel shall wear medical gloves or other impermeable work gloves while fueling apparatus and vehicles to avoid exposure of fuel to the skin of the hands and arms. Following fueling procedures, hands shall be washed as soon as possible.

9.2. In-Station

9.2.1. All doors that separate the apparatus bay from living and working areas shall remain closed at all times except when moving personnel through the doors. They shall not be propped open while the apparatus is operating or moved in or out of the station.

9.2.2. Personnel assigned to fire stations with mechanical exhaust ventilation systems (such as Plymovent) shall utilize and operate these systems when leaving or returning to the station.

9.2.3. Mechanical exhaust ventilation hoses shall be hooked to the apparatus exhaust prior to re-entering the apparatus bay. This shall be done by bring the apparatus to a stop before the exhaust crosses the threshold area, the hose attached and secured, and a signal given to the driver to proceed into the bay.

9.2.4. If exhaust fumes accumulate in living or work areas, personnel shall avoid working in these areas until properly vented.

9.2.5. Operation of diesel and gasoline powered engines or generators started or operated for any reason, shall be done outside of the fire station.

9.2.6. Remember that apparatus engines shall not be run when hooked to the mechanical exhaust ventilation hoses longer than five (5) minutes or greater than 1500 rpms. This shall only be done as long as the switch for the system is in the manual position.

10. RECORDING/DOCUMENTATION

10.1. Respiratory exposures shall be documented in accordance with OSHA regulations and ABC Fire Department SOG on the appropriate form.

10.2. Personnel should document the gases, toxins, and possible chemicals and carcinogens that they are exposed to on the appropriate forms.

***This is a sample guideline furnished to you by VFIS. Your organization should review this guideline and make the necessary modifications to meet your organization’s needs. The intent of this guideline is to assist you in reducing exposure to the risk of injury, harm or damage to personnel, property and the general public. For additional information on this topic, contact your VFIS Risk Control representative.***

**References:**

Concord Fire Department, Concord North Carolina, 2022.