

Chapter 9-5

Standard Operating Guideline for Operations during Inclement Weather

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1. Purpose

This SOG outlines the considerations and procedures necessary for operations during severe weather.

2. Scope

This SOG applies to all PVFD personnel.

3. Background

Two basic categories will be used to define severe weather: Summer Storms and Winter Storms. "Summer" Storms can be present during any time of the year. The hazards associated with summer storms include lightning, flooding, high wind, heavy rain, hail, and tornadoes. Extreme heat is not necessarily a part of "storms", however it will be grouped here since it occurs in the summer months.

Winter Storms only present a problem when freezing occurs. Snow, Ice, Freezing Rain, and extreme cold are the dangers here.

4. Summer Storms

The following are precautions necessary for each element of a summer storm.

- Lightning: Avoid use of ground or aerial ladders if a storm is approaching or has very recently passed. Lightning can be present far ahead or behind of storm clouds. As soon as lightning is seen within five miles, remove persons from aerial or ground ladders. Lower the aerial if at all possible. When storm conditions are present, the aerial operator must make sure that personnel stay a safe distance from the truck. They should either be fully inside the truck or 10 feet away. If tools are being gathered from the truck, it should be done with great haste, and only if necessary.

If lightning is within five miles, roof operations should be discontinued and personnel removed from the roof. Personnel or equipment should not be gathered close to trees, utility poles, or other tall objects. Seek shelter inside a building or inside the truck cab.

how to check the distance of lightning When you see a lightning bolt, count how many seconds elapse until you hear thunder. 1 second equals 1/5 mile, or 5 seconds equals a mile.

- Flooding: The most common hazard with flooding is poor driving conditions. During flood conditions, plan a route to the fire scene that will avoid low-lying areas. Reduce the speed of the truck on wet roads or suspected wet roads. The Jake Brake should be used in the low setting if roads are *wet*. If water is covering the road, the Jake Brake should be turned off. Driving or wading through deep water should be avoided, unless a true emergency exists. Do not drive through water if any of the following are present:

- Depth greater than 2' or above the exhaust pipe
- Strong Current
- Unknown road location or condition.
- Large debris in the water

Personnel operating near flooded creeks must use extra caution. Do not go near areas that have a risk of falls into water. If you must work on slopes above creeks, use a tether line and have a person watching your movements. Refer to the SOP on water rescue for further instruction related to flooding.

- High Wind: During windy conditions, avoid driving near trees if possible. Be prepared for limbs or power lines to fall into the roadway. As you drive, scan for objects that may

blow into your path. Decrease your speed and concentrate on controlling your vehicle, since wind can cause sudden changes in vehicle direction.

When on scene, survey for trees, power lines or other objects that may cause problems from the wind. Do not park near trees or power lines. Personnel should use eye protection when exposed to high wind.

- Heavy Rain: The most common hazard with heavy rain is poor driving conditions. Decrease your vehicle speed as much as necessary to allow adequate visibility and to prevent hydroplaning. Be prepared for flooded areas and obstacles in the road. Use the same precautions as for flooding. Keep headlights on low beam, and turn off white warning lights on the front of the truck.

- Hail: The only way to stay safe from hail is to stay in quarters if at all possible. Command officers should reduce response to unconfirmed emergencies such as alarm soundings until the storm has passed. If you must go out, take the following precautions: Drive slowly, since hail build-up will decrease traction and falling hail may damage your windshield. Always wear a helmet during hailstorms to prevent injury. This includes while riding in a vehicle that is caught in a hailstorm. Keep in mind that hail is an indicator of a storm that is very likely to produce a tornado.

- Tornadoes: If a tornado warning is issued during a fire incident, all personnel should be notified immediately. The IC shall request periodic updates from OCD as to the location of the storm. If a funnel cloud is tracking toward the area, all crews should immediately find a shelter area and prepare to go there. A person should be appointed to monitor the sky for the funnel cloud, and notify all units by radio if it is seen. Any units not on scene or not in use should return to the station and seek shelter.

If a fire run is dispatched during a tornado warning, all apparatus will remain in quarters unless the run is of a very serious nature. If the run is a confirmed fire or rescue, normal rolling procedure will be used, unless modified by a command officer. All crews shall use extreme caution while responding, and be prepared to find immediate shelter.

****Shelter areas****: Persons in the station during a tornado warning should seek shelter in the interior of the building, away from windows or loose objects. Personnel on apparatus should don their turnout gear. If a funnel cloud is imminent, the apparatus should stop. Each person should find a ditch or low lying area and lay in it, face down, until the tornado passes.

- Extreme Heat: During periods of extreme heat, personnel should pre-hydrate. This means drinking as much water as possible *over a period of time before a fire*. When crews go into rehab at a fire, each person should drink as much water as possible to replenish lost water. Avoid drinking soft drinks or caffeinated drinks during a fire. Sports drinks or water with lemon juice are highly recommended.

Whenever there is a working fire during extreme heat, the IC shall secure extra crews to spread out the workload. Crews should be rotated through rehab more often to allow them time to cool down. Rehab should be set up in a shady, breezy area. Do not rely on truck air conditioners to cool personnel. The IC may request a TARC bus for rehab if necessary.

A person should be appointed to supervise rehab. Their duties will include: Liaison with EMS to check firefighters; assist firefighters in cooling down and changing air cylinders; secure drinks and a hoseline; account for all crews in rehab.

Crews should shed turnout gear as soon as it is no longer needed. All personnel should be alert for signs and symptoms of heat stress.

5. Winter Storms

Winter storms are usually insignificant until the temperature drops below 20 degrees for an extended period of time. This is when snow and ice build-up is most likely to become a problem.

Personnel should prepare for winter work by dressing in layers before responding to fires. They should also drive cautiously on slick roads. Care should be used on slick surfaces to avoid falling. Each station officer shall make sure that entrances to the station are kept clean. It is recommended that each pumper carry a pail of ice-melt to scatter on high traffic areas of the scene. Oil-Dri can then be scattered to improve traction.

Tire chains shall be applied at the discretion of the station officers. Apparatus drivers shall turn off the Jake Brake when driving on icy roads. Drivers shall avoid quick starts or stops, and reduce travel speed. The top speed for apparatus with tire chains is 35mph. When roads are ice covered, all unconfirmed fire runs shall be made by the first due pumper only. All other apparatus shall remain in quarters until the IC advises.

When the temperature stays below 20 degrees for longer than one day, pumper discharges shall be drained and RV antifreeze applied to the valve and connection threads. The rest of the pump shall be left wet.

Apparatus should not be washed if the temperature is below 20 degrees. If washing is done, all door seals must be thoroughly dried to prevent sticking closed due to ice.

If 8476 is used as a service vehicle during extremely cold weather, the pump, booster reel, and piping must be fully drained. The pump gauge must be wrapped with towels to insulate it from freezing. The Indian tank must also be removed from the truck.

At a fire scene, the following precautions should be taken to deal with extreme cold weather:

- Apparatus drivers should keep their cab warm for returning crew members.
- Pumpers not being used for pumping shall have their pumps engaged, and circulate water through their tank at idle.
- Avoid flowing water on walking or driving surfaces.
- Assign a person to clean off snow covered walkways and driveways, especially if they are on a hill.
- Keep water flowing through hoselines until they are taken up.
- If master streams are in use, put a tarp over truck cabs that may become ice covered.
- If aerial master streams are in use, exercise the aerial periodically to prevent ice build-up. Operate the aerial fully retracted if possible. Drain the aerial waterway as soon as it is shut down.
- Avoid climbing on an ice covered ladder.
- Do not lay tools down where they may become covered by snow, or freeze to the ground.
- Personnel in rehab should try to become dry, and avoid becoming sweaty
- Turnout gear shall be left on unless it can be placed in a well-heated area while not being worn.