



**City of Winchester
Fire & Rescue Department
STANDARD OPERATING PROCEDURE**



Section:	Operations	SOP:	7.5
Subject:	Warm and Cold Weather Operations	Executed:	September 10, 2012
		Revised:	October 22, 2012 November 14, 2016
Approved:	 Scott Cullers, Fire Chief		
	 Allen W. Baldwin, Fire Chief		

PURPOSE

To provide operational procedures for managing extreme warm and cold weather conditions for the Winchester Fire and Rescue Department (WFRD) personnel and apparatus.

SCOPE

This procedure is designed to ensure for the safety of personnel and the continued operations of apparatus. This does not preclude or prevent the response of personnel to emergency incidents and/or other vital activities that are normal to our daily activity.

All fire department personnel are required to maintain a heightened state of readiness at all times. Certain weather conditions expose personnel and equipment to harsh extremes, which could have a negative impact on physical performance levels, personal safety, and continuous operation of equipment.

RESPONSIBILITY

The **Fire Chief and/or his/her designee** shall determine when fire department activities will be modified, rescheduled, or canceled due to extreme temperature conditions. Notification shall be made to all station personnel with details to any operational modifications. Extreme temperature conditions shall be continuously monitored by the Battalion Officer and adjusted accordingly as these conditions change.

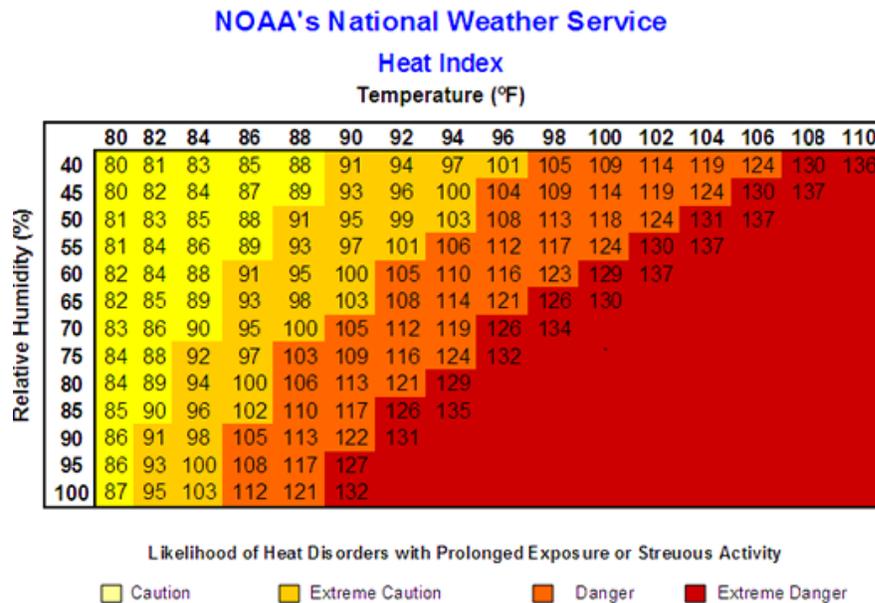
REFERENCE

WFRD Battalion Officers shall use the National Oceanic and Atmospheric Administration (NOAA) for the department's official weather information www.weather.gov. The City of Winchester, Virginia or the zipcode of 22601 shall be the search criteria.

WARM WEATHER OPERATIONS

During the summer season, the region has periods of elevated heat and humidity. All personnel should be aware of these conditions that they may be subjected to during the course of their shift and should monitor co-workers for ill-effects of heat stress. Personnel should pre-hydrate approximately 24 hours prior to reporting to work.

The heat index of 90 degrees shall be used as the standard when considering operational modifications. This shall be determined by the applying current ambient temperature and humidity data acquired and referencing it to the Heat Index chart below. The results shall be applied to the “Work/Rest Cycles and Fluid Replacement Guidelines” chart contained in this document.



Outdoor Activities

Outdoor activities during warm weather should allow for gradual acclimation to the increasing temperatures. This does not negate the need to continue outdoor activities; however precautions should be employed. Outdoor physical activities (i.e. training, hose testing, PT, etc.) should be modified and the criteria for “Work/Rest Cycles and Fluid Replacement Guidelines” chart below utilized.

Uniforms

At the authority of the **Fire Chief and/or his/her designee**, personnel may deviate from their uniform wear as per the “Work/Rest Cycles and Fluid Replacement Guidelines” chart. SOP 2.12 Uniforms shall be followed. A “modified B” class will be considered by using the department issued t-shirt and class B pants. Special events such as inspections, meetings, or public education will require the uniform SOP to be adhered to regardless of the temperature conditions.

Apparatus

Apparatus and equipment should be maintained with proper fluid levels. This includes: engine oil, engine coolant, and transmission fluid. Reservoirs should be checked and topped off if needed. Apparatus shall have an adequate supply of drinking water to sustain the crew assigned to that apparatus. Air conditioning units shall be in working order and shall be used to maintain personnel and drug boxes at normal work temperatures.

Work/Rest Cycles and Fluid Replacement Guidelines

(Average Acclimated Firefighter wearing department issued uniform)

Heat Index Chart Category	Easy Work Building inspections/preplans, Lifting less than 30 pounds Walking up to 2 miles	Moderate work Single vehicle extrication, Lifting up to 50 pounds, Climbing stairs up to 10 stories, Physical fitness (cardio)	Hard Work Firefighting Salvage/overhaul, Work performance evaluations	Uniform Class
Normal 79 and below	-	50 min./10 min.	40 min./20 min.	B
Caution 80-90	45 min./15 min.	40 min./20 min.	30 min./30 min.	B
Extreme Caution 91-103	30 min./30 min.	20 min./40 min.	20 min./40 min.	Modified B
Danger 104-124	20 min./40 min.	Not Recommended	Not Recommended	Modified B
Extreme Danger 125 and above	Not Recommended	Not Recommended	Not Recommended	Modified B

- Emergency incidents may dictate a modified work/rest cycle at the discretion of the Incident Commander.
- The work/rest times and fluid replacement volumes will sustain performance and hydration for most incidents. Rest means minimal physical activity (sitting or standing) preferably in shade (if possible).
- CAUTION: HOURLY FLUID INTAKE SHOULD NOT EXCEED 1 ½ QUARTS OR MORE THAN 12 QUARTS DAILY.
- Wearing bunker pants, helmet and road safety vest will increase heat index by 5 degrees.
- Wearing full turnout gear will increase heat index by 10 degrees.

COLD WEATHER OPERATIONS

During the winter season, temperatures can become extremely cold for long periods of time. All personnel should be aware of these conditions that they may be subjected to during the course of their shift and should monitor co-workers for ill-effects of the cold.

The wind chill temperature of 34 degrees shall be used as the standard when considering operational modifications. This shall be determined by applying the current ambient temperature and wind speed data acquired; and referencing it to the Wind Chill chart below.

Wind Chill Chart

Temperature (°F)

CALM	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-63	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-72	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-77	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-81	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-84	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-87	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-89	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-91	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-93	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-95	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-97	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-83	-98	-98

Frostbite occurs in 15 minutes or less

Outdoor Activities

Outdoor activities during cold weather should allow for gradual acclimation to the decreasing temperatures. This does not negate the need to continue outdoor activities; however precautions should be employed. Outdoor physical activities (i.e. training, hose testing, PT, etc.) should be modified.

Uniforms

During cold weather periods personnel are encouraged to dress in layers. Reference to SOP 2.12 Uniforms will outline department issued wear that can accomplish this.

All personnel are encouraged to keep extra t-shirt, socks, and winter gloves in a ziplock bag and place them on the apparatus at the start of your shift. As conditions warrant, damp items be removed to avoid becoming hypothermic due to perspiration.

Apparatus

Apparatus and equipment should be maintained with proper fluid levels. This includes: engine oil, engine coolant, and transmission fluid. Reservoirs should be checked and topped off if needed. Apparatus shall have an adequate supply of drinking water to sustain the crew assigned to that apparatus. Apparatus heating units shall be in working order and shall be used to maintain personnel and drug boxes at normal work temperatures.

Other considerations for apparatus should include:

- Opening pumper drains
- Check for water seepage into pre-connected lines
- When out of the station for significant amount of time, keep fire pumps in gear
- Circulate water between tank and pump
- At a fire with a charged line, never completely close nozzle. Leave nozzle slightly opened to allow it to flow so the hose will not freeze.
- A spray bottle of antifreeze can help free frozen caps or couplings.

Hydration & Rehab

Officers need to encourage hydration and monitor the amounts of fluids crews are taking in. The use of warm fluids can also help, but should be cautious with the amount of caffeinated drinks like coffee or soft drinks.

Incident Commanders should have a plan in place to get personnel out of the elements and somewhere they can warm up. Refer to “SOP 3.6 Firefighter Rehabilitation” for more information.

The IC should keep in mind the importance to rotate crews in and out of the work zone earlier and more often than in normal operations. Company officers need to monitor personnel for signs of fatigue.