

<b>FREWSBURG FIRE DISTRICT</b>  <b>OPERATIONAL POLICY</b>	Section <b>7</b>	EMERGENCY OPERATIONS	
	SUBJECT	EMERGENCY INCIDENT REHABILITATION	
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## I. SCOPE

This procedure shall apply to all emergency operations and training exercises where strenuous physical activity or exposure to heat or cold exists.

## II. PURPOSE

To ensure that the physical and mental condition of members operating at the scene of an emergency or a training exercise does not deteriorate to a point that affects the safety of each member or that jeopardizes the safety and integrity of the operation.

## III. RESPONSIBILITIES

### 1. INCIDENT COMMANDER

- A. The Incident Commander shall consider the circumstances of each incident and make adequate provisions early in the incident for the rest and rehabilitation for all members operating at the scene.
  - i. These provisions should include medical evaluation, treatment and monitoring; food and fluid replenishment; mental rest; and relief from extreme climatic conditions and the other environmental parameters of the incident.
  - ii. The rehabilitation shall include the provision of Emergency Medical Services (EMS) at the Basic Life Support (BLS) level or higher.

### 2. OFFICERS

- A. All officers shall maintain an awareness of the condition of each member operating within their span of control and ensure that adequate steps are taken to provide for each member's safety and health.
- B. The command structure shall be utilized to request relief and the reassignment of fatigued crews.

### 3. PERSONNEL

- A. During periods of hot weather, members shall be encouraged to drink water and activity beverages throughout the workday.
- B. During any emergency incident or training evolution, all members shall advise their supervising officer when they believe that their level of fatigue or exposure to heat or cold is approaching a level that could affect themselves, their crew, or the operation in which they are involved. Members shall also remain aware of the health and safety of other members of their crew.

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#### IV. ESTABLISHMENT OF REHABILITATION SECTOR

1. The Incident Commander shall establish a Rehabilitation Sector when conditions indicate that rest and rehabilitation is needed for personnel operating at an incident scene or training evolution. A qualified EMS member will be placed in charge of the sector and will be known as the Rehab Officer.
2. The location for the Rehabilitation Area will normally be designated by the Incident Commander. If a specific location has not been designated, the Rehab Officer shall select an appropriate location based on the site characteristics and designations below.
  - A. It should be in a location that will provide physical rest by allowing the body to recuperate from the demands and hazards of the emergency operation or training evolution.
  - B. It should be far enough away from the scene that members may safely remove their turnout gear and SCBA and be afforded mental rest from the stress and pressure of the emergency operation or training evolution.
  - C. It should provide suitable protection from the prevailing environmental conditions. During hot weather, it should be in a cool, shaded area. During cold weather, it should be in a warm, dry area.
  - D. It should enable members to be free of exhaust fumes from apparatus, vehicles, or equipment (including those involved in the Rehabilitation Sector operations).
  - E. It should be large enough to accommodate multiple crews, based on the size of the incident.
  - F. It should be easily accessible by EMS units.
  - G. It should allow prompt reentry back into the emergency operation upon complete recuperation.

#### V. SITE DESIGNATION

1. A nearby garage, building lobby, or other structure.
2. Several floors below a fire in a high-rise building.
3. A school bus, municipal bus, or bookmobile.
4. Fire apparatus, ambulance, or other emergency vehicles at the scene or called to the scene.

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5. Retired fire apparatus or surplus government vehicle that has been renovated as a Rehabilitation Unit. (This unit could respond by request or be dispatched during certain weather conditions.)
6. An open area in which a rehab Area can be created using tarps, fans, etc.

## VI. RESOURCES

1. The Rehab Officer shall secure all necessary resources required to adequately staff and supply the Rehabilitation Area. The supplies should include the items listed below:
  - A. Fluids - water, activity beverage, oral electrolyte solutions and ice.
  - B. Food – fresh fruit, soup, broth, or stew in hot/ cold cups.
  - C. Medical - blood pressure cuffs, stethoscopes, oxygen administration devices, cardiac monitors, intravenous solutions and thermometers."
  - D. Other - awnings, fans, tarps, smoke ejectors, heaters, dry clothing, extra equipment, floodlights, blankets and towels, traffic cones and fire-line tape (to identify the entrance and exit of the Rehabilitation Area).

## VII. HYDRATION

1. A critical factor in the prevention of heat injury is the maintenance of water and electrolytes. Water must be replaced during exercise periods and at emergency incidents.
2. During heat stress, the member should consume at least one quart of water per hour. The re-hydration solution should be a 50/ 50 mixture of water and a commercially prepared activity beverage and administered at about 40 F.
3. Re-hydration is important even during cold weather operations where, despite the outside temperature, heat stress may occur during firefighting or other strenuous activity when protective equipment is worn.
4. Alcohol and caffeine beverages should be avoided before and during heat stress because both interfere with the body's water conservation mechanisms. Carbonated beverages should also be avoided.

## VIII. NOURISHMENT

1. The department shall provide food at the scene of an extended incident when units are engaged for three or more hours.

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- A. A cup of soup, broth, or stew is highly recommended because it is digested much faster than sandwiches and fast-food products.
- B. In addition, foods such as apples, oranges, and bananas provide supplemental forms of energy replacement. Fatty and/or salty foods should be avoided.

## **IX. REST**

1. The "two air bottle rule," or 45 minutes of work time, is recommended as an acceptable level prior to mandatory rehabilitation.
2. Members should re-hydrate (at least eight ounces) while SCBA cylinders are being changed.
3. Firefighters having worked for two full 30-minute rated bottles, or 45 minutes, should be immediately placed in the rehabilitation Area for rest and evaluation.
4. In all cases, the objective evaluation of a member's fatigue level should be the criteria for rehab time.
5. Rest should not be less than ten minutes and may exceed an hour as determined by the Rehab Officer.
6. Fresh crews, or crews released from the Rehabilitation Sector, shall be available in the staging Area to ensure that fatigued members are not required to return to duty before they are rested, evaluated, and released by the Rehab Officer.
7. In addition to the "two air bottle rule," non-SCBA wearing members should report to the Rehab Sector when fatigued or directed to do so by a supervising officer. Again, the objective evaluation of a member's fatigue level should be the criteria for rehab time.

## **X. RECOVERY**

1. Members in the Rehabilitation Area should maintain a high level of Hydration.
2. Members should not be moved from a hot environment directly into an air-conditioned area because the body's cooling system can shut down in response to the external cooling.
  - A. An air-conditioned environment is acceptable after a cool-down period at ambient temperature with sufficient air movement.
3. Certain drugs impair the body's ability to sweat and extreme caution must be exercised if the member has taken antihistamines, such as Actifed or Benadryl, or has taken diuretics or stimulants.

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## **XI. MEDICAL EVALUATION**

### **1. Emergency Medical Services (EMS):**

- A. EMS should be provided and staffed by the most highly trained and qualified EMS personnel on the scene (at a minimum of BLS level).
- B. They should evaluate vital signs, examine members, and make proper disposition (return to duty, continued rehabilitation, or medical treatment and transport to medical facility).
- C. Continued rehabilitation should consist of additional monitoring of vital signs, providing rest, and providing fluids for re-hydration.
- D. Medical treatment for members whose signs and/or symptoms indicates potential problems, should be provided in accordance with local medical control procedures.
- E. EMS personnel shall be assertive in an effort to find potential medical problems early.

### **2. Heart Rate, Temperature & Blood Pressure:**

- A. Vital signs including heart rate, blood pressure and respiratory rate shall be measured as early as possible in the rest period.
- B. Any member having a heart rate greater than 180, a systolic blood pressure greater than 200, a diastolic blood pressure greater than 140 or a respiratory rate greater than 30 shall be referred to advanced medical care (paramedic or physician) for further evaluation and ongoing rehabilitation.
- C. Additionally, any member with a heart rate greater than 110 beats per minute shall have an oral temperature taken.
- D. If the member's temperature exceeds 100.6 F, he/she should not be permitted to wear protective equipment for the duration of the event.
- E. If the temperature is below 100.6 F and the heart rate remains above 110 beats per minute, rehabilitation time should be increased.
- F. If the heart rate is less than 110 beats per minute, the chance of heat stress is negligible.
- G. Members should only be returned to duty if the systolic blood pressure is less than 140, the diastolic blood pressure is less than 90, the heart rate is less than 100 beats per minute, the respiratory rate is less than 20 and the oral

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H. temperature is less than 100.6 F. See Attachment 1 for a flow chart decision tree to follow when evaluating patients in the rehab sector.

## **XII. MEDICAL MONITORING**

1. Specifies a minimum of six conditions EMS personnel must assess in each member during rehab.
  - A. Presence of chest pain, dizziness, shortness of breath, weakness, nausea, or headache
  - B. General complaints such as cramps or aches and pains
  - C. Symptoms of heat or cold related stress
  - D. Changes in gait, speech, or behavior
  - E. Alertness and orientation to person, place, and time
  - F. Any vital signs considered abnormal in local protocol. Vital signs listed in the NFPA 1584 annex include temperature, pulse, respirations, blood pressure, pulse oximetry and carbon monoxide assessment.

## **XIII. DOCUMENTATION**

1. All medical evaluations should be documented on an appropriate worksheet or NYS PCR. Documentation should include the name of the rehabbed firefighter, the date and time of rehab, vital signs, and the disposition of the rehabbed firefighter. Attachment 2 may be utilized to document rehabilitation activities.

## **XIV. ACCOUNTABILITY**

1. Members assigned to the Rehabilitation Sector should enter and exit the Rehabilitation Area as a crew whenever possible.
2. The crew designation, number of crew members, and the times of entry to and exit from the Rehabilitation Area shall be documented by the Rehab Officer or his/her designee on the District Check-In/Out Sheet. (attachment A.
3. Crews should not leave the Rehabilitation Area until authorized to do so by the Rehab Officer or his/her designee.
4. Upon entering the Rehabilitation Sector, interior firefighters shall surrender their red tag to the Rehabilitation Officer. Once interior firefighters are cleared to return to service, they shall collect their red tag from the Rehabilitation Officer prior to returning to work.

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### HEAT STRESS INDEX (Humiture)

		Relative Humidity								
		10%	20%	30%	40%	50%	60%	70%	80%	90%
Temperature Degrees F	104	98	104	110	120	132				
	102	97	101	108	117	125				
	100	95	99	105	110	120	132			
	98	93	97	101	106	110	125			
	96	91	95	98	104	108	120	128		
	94	89	93	95	100	105	111	122		
	92	87	90	92	96	100	106	115	122	
	90	85	88	90	92	96	100	106	114	122
	88	82	86	87	89	93	95	100	106	115
	86	80	84	85	87	90	92	96	100	109
	84	78	81	83	85	86	89	91	95	99
	82	77	79	80	81	84	86	89	91	95
	80	75	77	78	79	81	83	85	86	89
	78	72	75	77	78	79	80	81	83	85
	76	79	72	75	76	77	77	77	78	79
	74	68	70	73	74	75	75	75	76	77

NOTE: Add 10° F when protective clothing is worn and add 10° F when in direct sunlight.

HUMITURE °F	DANGER CATEGORY	INJURY THREAT
BELOW 60°	NONE	LITTLE OR NO DANGER UNDER NORMAL CIRCUMSTANCES
80° -90°	CAUTION	FATIGUE POSSIBLE IF EXPOSURE IS PROLONGED AND THERE IS PHYSICAL ACTIVITY
90° -105°	EXTREME CAUTION	HEAT CRAMPS AND HEAT EXHAUSTION POSSIBLE IF EXPOSURE IS PROLONGED AND THERE IS PHYSICAL ACTIVITY
105° -130°	DANGER	HEAT CRAMPS OR EXHAUSTION LIKELY, HEAT STROKE POSSIBLE IF EXPOSURE IS PROLONGED AND THER IS PHYSICAL ACTIVITY
ABOVE 130°	EXTREME DANGER	HEAT STROKE IMMINENT!

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Table 1-1  
**WIND CHILL INDEX**

		Temperature (degrees F)												
		45	40	35	30	25	20	15	10	5	0	-5	-10	-15
Wind Speed (MPH)	5	43	37	32	27	22	16	11	6	0	-5	-10	-15	-21
	10	34	28	22	16	10	3	3	-9	-15	-22	-27	-34	-40
	15	29	23	16	9	2	-5	-11	-18	-25	-31	-38	-45	-51
	20	26	19	12	4	-3	-10	-17	-24	-31	-39	-46	-53	-60
	25	23	16	8	1	-7	-15	-22	-29	-36	-44	-51	-59	-66
	30	21	13	6	-2	-10	-18	-25	-33	-41	-49	-56	-64	-71
	35	20	12	4	-4	-12	-20	-27	-35	-43	-52	-58	-67	-75
	40	19	11	3	-5	-13	-21	-29	-37	-45	-53	-60	-69	-76
	45	18	10	2	-6	-14	-22	-30	-38	-46	-54	-62	-70	-78

**A**

**B**

**C**

**Wind Chill Temperature (degrees F)**

**Danger**

**A** (45 degrees / -22 degrees)

**Mild danger** -Frost Bite, Frost  
Nip, Chill blain, Early Hypothermia

**B** (-25 degrees / -75 degrees)

**Moderate danger** - Skin may Freeze,  
Increased Risk of Hypothermia

**C** (Below -75 degrees)

**Great danger**- Skin may  
Freeze in less than 30 seconds