



Novi Fire Department

Director of Public Safety
Chief of Police
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Subject	Directive	Number of Pages	
Fire Fighter Rehabilitation and Safety	685	7	
This Directive Supersedes All Previously Issued Correspondence Relative To This Topic			
Standards:	NFPA 1584 Standard	Effective Date	Review Date
		10/06/2015	05/01/2025

I. Purpose

The purpose of this directive is to ensure that the physical and mental condition of fire fighters operating at the scene of an emergency, or a training exercise do not deteriorate to a point that affects the safety of personnel. In addition, the policy is implemented to meet the requirements set forth in NFPA 1584.

II. Responsibilities

A. Incident Command

1. Incident Command shall make adequate provisions early in the incident for the rest and rehabilitation of all fire fighters operating at the scene.

B. Officers and Senior Fire Fighters

1. All Supervisors shall maintain an awareness of the condition of each fire fighter operating within their span of control. Adequate steps shall be taken to provide for each employee's safety and health.

C. Personnel

1. During any emergency incident or training evolution, all fire fighters shall advise their Supervisor when they believe that their level of fatigue or exposure to heat or cold is approaching a level that could affect their own personal safety.
2. Fluid replenishment is encouraged throughout the operation. Employees shall also use their best efforts to remain aware of the health and safety of other personnel in their crew.

III. Establishment of Rehabilitation Sector

A. Responsibility

1. The Incident Commander will establish a Rehabilitation Sector at all working fires and prolonged rescue details.

B. Location

1. The location should be far enough away from the scene that fire fighters can safely remove their turnout gear and SCBA and provide physical and mental rest from the stress and pressure of the emergency operation or training evolution.
2. The location should provide suitable protection from the prevailing environment and extreme climatic conditions. During hot weather, it should be in a cool, shaded area. During cold weather, it should be in a warm, dry area.
3. The location should be large enough to accommodate multiple crews, based on the size of the incident.
4. The location should be easily accessible by EMS units.

C. Preferred Site Designations for Rehabilitation Area

1. Novi Fire Department Rehabilitation Unit
 - a. The Novi Fire Department rehabilitation unit is a designated squad, which carries all the required rehab supplies. This unit will be the preferred method for conducting rehab operations.
2. A nearby garage, building lobby, or other structure
3. A minimum of one (1) floor below the fire floor in a high-rise building
4. A school or municipal bus
5. Fire apparatus, ambulance, or other emergency vehicles
6. An open area in which a rehab area can be created using tarps, fans, etc.

D. Nine Components of Rehab Sector

1. Relief from climactic conditions - Provide an area free of smoke and sheltered from extreme heat or cold. This might be a non-fire floor in a high-rise building, a shaded area upwind from a brush fire or the heated fire apparatus cab during cold winter months. The theme is providing shelter from environmental extremes.
2. Rest and recovery - Provide members with the ability to rest for at least 10 minutes or as long as needed to recover work capacity.
3. Active and/or passive cooling or warming - Members who feel hot should be able to remove their PPE, drink water and be provided with a means to cool off. Members who are cold should be able to add clothing, wrap in blankets, and be provided with a means to warm themselves.

4. Rehydration (Fluid replacement) - Fluid volume requirements were eliminated from the standard except for pre-hydration of 500 ml (16 oz.) of fluids consumed two hours prior to scheduled events. On scene, potable fluids must be provided so members can satisfy their thirst. Fluids should also be provided to encourage continued hydration after the incident.
 - a. A typical fire fighter will lose 0.5-2.0 lb. during work in PPE. At a minimum subjects should consume 16-32 oz. of water or sport drink on the scene. For extended incidents, sport drinks should be provided.
5. Calorie and electrolyte replacement - When appropriate for longer duration events such as incidents exceeding three hours' duration or situations where members are likely to work for more than one hour. Of note, whenever food is available, means for members to wash their hands and faces must also be provided.
6. Medical monitoring specifies a minimum of six conditions that EMS 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. The specific vital signs and what defines normal is entirely up to local medical control and department medical authorities. Vital signs listed in the NFPA 1584 annex include temperature, pulse, respirations, blood pressure, pulse oximetry and carbon monoxide assessment using either an exhaled breath CO monitor or a pulse CO-oximeter (i.e. a pulse oximeter designed to measure Carboxyhemoglobin located on Supervisor's vehicle 519).
7. EMS treatment - Available on scene for members who require treatment or transport. Note that medical monitoring is documented in the fire department data collection system. When EMS treatment or transport is provided, a medical report must be generated and included in the member's employee medical record.
8. Member accountability - The personnel accountability system must track members assigned to rehab by Incident Command as they enter and leave.
9. Release - prior to leaving rehab, EMS must confirm that members are able to safely perform full duties. After being released from rehab, personnel will return to Incident Command for reassignment.

IV. Rehab Sector Guidelines

A. Company level rehab

1. The company or crew must perform self-rehab (rest with hydration) for at least 15 minutes following the depletion of one 45-minute self-contained breathing apparatus (SCBA) cylinder or 40 minutes of intense work without wearing an SCBA. Following the self-rehab period, it is up to Incident Command or senior fire fighter to determine the readiness of the other crewmembers to return to duty.

B. Formal Rehab

1. Formal rehab area operations will be established in situations where emergency incidents or training sessions will extend fire fighters beyond the physical point where self-rehab activities are insufficient to ensure their well-being. Once the decision to establish rehab operations has been made, it is important that the appropriate equipment and personnel are assembled to meet the need.
2. The company or crew must enter a formal rehab area, receive a medical evaluation, and rest with hydration for a minimum of 20 minutes following:
 - a. the depletion of one 45- or 60-minute SCBA cylinder
 - b. whenever encapsulating chemical protective clothing is worn
 - c. Following 40 minutes of intense work without an SCBA.

V. Rehab Procedures

A. Entering Rehab

1. Once crews have met the requirements for formal rehab, they shall be released from operations and placed under the command of the Rehab Officer.
2. The Rehab Officer will maintain accountability of all personnel entering and leaving the Rehab Sector.

B. Discharge from Rehab

1. The Rehab Sector Officer may discharge fire fighters from the Rehab Sector if the following criteria is met:
 - a. Appropriate rehydration has occurred
 - b. A minimum of 20 minutes of elapsed time has occurred
 - c. Vital signs within appropriate levels
 - i. Heart rate <100
 - ii. Systolic BP between 100-160
 - iii. Diastolic BP <100
 - iv. Oral Temperature <100-degree Fahrenheit
 - v. SpO2 between 93-100
 - d. Fire fighter is negative for chest pain, DIB, weakness, nausea/vomiting, cramps altered LOC, etc...

C. Rehab Staffing

1. Rehab shall be provided and staffed by the highest licensed EMS personnel on the scene. They shall evaluate vital signs, examine fire fighters, and make proper disposition (return to duty, continued rehabilitation, or medical treatment and transport to medical facility).
2. Continued rehabilitation should consist of additional monitoring of vital signs, providing rest, and providing fluids for re-hydration. Medical treatment for fire fighters whose signs and/or symptoms indicates potential problems should be provided in accordance with local medical control procedures.

D. Documentation

1. All medical evaluations shall be recorded on a "Novi FD Rehabilitation Log" form. This form must be signed, dated and the time indicated by the Medical Officer or his/her designee.
2. When EMS treatment or transport is provided, a medical report must be generated and included in the member's employee medical record. See attached forms for additional information.

Novi FD Rehabilitation Log

Time: _____

Date: _____

Incident: _____

Time Out: _____

(Minimum of 15 minutes/longer than 45 minutes must have more detailed exam and documented on EMS report)

Name: _____ Company/Unit: _____

Time	BP	HR	RR	SpO2 %	CO% Oximeter	Temperature
20-45 Minutes	Systolic between 100-160 Diastolic BP <100	<100		Between 93-100 95-100 Normal 91-94 Mild Hypo 86-90 Mod Hypo <85 Severe Hypo	0-3% No evaluation 3-12% examine for LOC/Impair=transport >12%=transport	<100 F

***All vital signs must be within the normal ranges designated above to be released from rehab sector**

	<u>Yes</u>	<u>No</u>
Chest Pain	___	___
Difficulty Breathing	___	___
Dizziness	___	___
Weakness	___	___
Nausea/Vomiting	___	___
Headache	___	___
Body Cramps/Pain	___	___
Altered Mental Status	___	___

***A YES answer above indicates the need for further evaluation and/or transport)**

Treatments (fluids, food, etc.)

Medication (OTC): _____ Time Admin: _____ Transported: Yes___ No___

Other: _____ Hospital: _____

Time: _____

Unit: _____

Rehab Officer (print): _____ (Sign) _____

***Rehab sector officer must authorize release from rehab**

***This form must be retained and submitted as a permanent record of this incident**

TABLE 1-1 (Heat Stress Index / Relative Humidity)

°F	10%	20%	30%	40%	50%	60%	70%	80%	90%
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	70	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.

TABLE 1-2

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 there is physical activity
ABOVE 130°	EXTREME DANGER	Heat stroke imminent