

# ***Snohomish County Fire Chiefs Association***

## **DOCUMENT 60-06-09**

### **ON SCENE – REHABILITATION GUIDELINE**

Adopted December 2009 County Chiefs Meeting

#### **INTENT**

To provide standard operating guidelines to implement and use rehabilitation as a tactical requirement of the Incident Command System (ICS) at the scene of a fire/emergency or training exercise to ensure that personnel who are operating within ICS and may be suffering from metabolic heat buildup, dehydration, physical exertion, and/or extreme weather receive evaluation and care.

#### **POLICY**

Fire Department Incident Commanders (IC) establish and use a Rehabilitation Group at large scale events that pose any significant physical and/or mental threats to personnel, including significant temperature extremes, training events that involve strenuous physical exertion, and at any other incident the IC deems appropriate. Large-scale events are defined in this policy as any incident that requires a first-alarm or greater assignment, an event that requires personnel to use more than one SCBA bottle during sustained activity, when ambient temperatures and/or humidity, (SEE see attached chart) are extreme or when other incident-related geographical, weather, or temperature conditions exist that make establishment of Rehabilitation prudent.

In accordance with Labor & Industries, all members will be trained to recognize heat- and cold-related illnesses to facilitate appropriate response and treatment.

#### **DISCUSSION**

Emergency operations can be hot, strenuous work and Firefighters work in extreme environments with little opportunity to cool or warm their bodies, as the case may be, by normal means. Turnout gear and other encapsulating protective equipment can make it difficult to dissipate heat buildup and can result in heat stress. Severe climate conditions can make it difficult to adequately warm bodies. This SOP serves as a guide to prevent heat/cold/mental stress casualties.

#### **PROCEDURE**

Early in each incident, the Incident Commander considers the incident's unique circumstances and makes appropriate provisions for the rehabilitation of all members operating at the emergency scene. These provisions include medical evaluation, treatment and monitoring, food and fluid replenishment, mental rest, and relief from extreme climate and other environmental factors associated with the incident. All members who enter and leave Rehab shall be assigned by the IC and tracked through the personnel accountability system.

**Branch Directors, Group Supervisors, Unit Leaders** ensure their individual units are cognizant of the emergency incident's physical demands, and take proper precautions to protect assigned personnel's health and safety.

**Company Officers** maintain awareness of the condition of each member operating within their span of control and ensure that adequate steps are taken to protect each member's health and safety. Company Officers shall periodically assess their crew to determine their need for Rehab, keeping in mind the more extreme the conditions, the greater need for rehab. The incident command structure is used to request relief from active emergency operations, and the reassignment of fatigued crews to Rehabilitation.

During hot weather, all personnel are encouraged to drink water and activity beverages throughout the work day. During any emergency incident or training event, individual members shall advise their supervisor when they believe that their level of fatigue or exposure to heat or cold is approaching a level that could negatively affect them, their crew, or the operation in which they are engaged. Additionally, members remain aware of the health and safety of other members of their crew, or in other words, continually watch out for one another.

The Incident Commander establishes a Rehabilitation Group/Officer (Rehab) when conditions indicate that rest and rehabilitation is needed for personnel operating at an incident scene or training event. Rehab is usually either a resource that functions under or within Staging. Establishing Rehab is considered early in the event to ensure adequate resources are deployed and/or summoned to appropriately staff the function. Depending on the complexity and/or size of the incident, more than one Rehabilitation function may be established on individual Branches, Divisions, or Groups. A Rehabilitation Officer/Supervisor, preferably a certified paramedic, is placed in charge of the Rehabilitation area. Upon arrival, Fire Department members may be assigned to assist in Rehab area. Fire Departments are encouraged to have available to Incident Commander, handheld weather measuring devices or computer programs that will read temperature, wind chill, humidity, heat index.

Personnel are sent to Rehab after the use of a second 30-minute SCBA cylinder, or the use of a single 45-minute or 60-minute SCBA bottle, or after 40 minutes of intense work without SCBA, or when deemed necessary by the IC, Company Officer, or Crew or Team Leader. In order to maintain ICS accountability, Crews and Teams are relieved, assigned to, report in to and report out of Rehab together (not as individuals) in accordance with the personnel accountability system.

Once designated, the Rehabilitation Officer / Supervisor dons the ICS Rehab Vest, secures the Rehabilitation Division checklist and Rehabilitation Record from the Command Vehicle, and is briefed on the incident objectives by the IC. The IC and the Rehab Officer determine and agree to the Rehab location. Ideally, Rehab is located at a place large enough to accommodate multiple crews and for personnel to safely remove turnout gear, SCBAs, and/or encapsulating personal protective equipment to facilitate cooling; or by adding clothing, blankets, or other methods to relieve cold

stress as the case may be, and be far enough away from the scene to protect personnel from environmental conditions and vehicle or equipment exhaust.

1. The Rehab Officer ensures the following essential resources (when applicable) are available in the Rehab Area:
  - Potable water
  - Electrolyte replacements (for long duration incidents)
  - Water supply for active cooling
  - Medical monitoring equipment
  - Food (long-duration incidents)
  - Blankets and warm, dry clothing (freezing temperatures)
  - Portable heating units
  - Washroom facilities including hand-washing station (long-duration incidents)
  - Relief from climate.
  
2. The Rehab Officer ensures that medical care is available in the Rehab Area and that personnel:
  - “Dress down” to enable cooling
  - Receive a minimum of 20 minutes of rest if warranted
  - Re-hydrate themselves to satisfy thirst and be encouraged to continue hydrating after the incident
  - Are provided with means to actively cool themselves
  - Movement is documented entering and leaving the Rehab Area in accordance with the personnel accountability system.
  
3. The Rehab Officer ensures the Rehabilitation Division Checklist is followed.
  
4. The Rehabilitation Record is filled-out completely and accurately for each individual entering and leaving the Rehab Area.
  
5. The rehabilitation protocol found on the Rehabilitation Record is followed for each individual entering and leaving the Rehab Area.

Rehabilitations Area Guidelines Include:

- All personnel pre-hydrate on an ongoing basis and re-hydrate during and after an incident.
- Members shall be grossly deconed, when applicable, before reporting to the REHAB area. This will prevent contamination of the site.
- Members shall rest for a minimum of 20 minutes following the use of a second, 30-minute SCBA bottle, or after using a single 45-minute or 60-minute SCBA bottle, or after 40 minutes of intense work without SCBA.
- Members drink a minimum of 16 ounces or greater of water while in the Rehab Area. Water consumption amounts shall be adjusted in line with temperature and relative humidity levels. In general, the greater temperature and humidity, the greater the need for water consumption.

- EMS personnel perform medical evaluation and monitoring procedures and remain alert to symptoms of a health and/or safety concern. These methods are to include measuring core temperature, heart rate, blood pressure, and mental status.
- Members who are treated for any heat-related injuries shall be removed from active duties until cleared by an advanced medical provider (EMT-P on scene, or a Physician).
- EMS Personnel shall be alert for members with signs of heat/cold stress and / or unprotected exposures, decreased loss of consciousness, chest pain, shortness of breath, weakness, pale or clammy skin, low blood pressure, elevated CO levels, general complaints such as cramps or aches/pains, and changes in gait/speech/behavior and/or dizziness. These members are to be transported to an appropriate facility for a physician's evaluation.
- If a member is treated and transported from an incident scene or the Rehab Area, a Medical Incident Report, and an Accident Report (individual injury and Supervisor's report) are completed and a copy placed in the employee's Medical File. If an exposure to an infectious disease is discovered in the Rehab Area, the Rehab Officer initiates procedures required in the agency specific Exposure Control Plan. Additionally, the Incident Safety Officer shall be notified as soon as possible to facilitate incident specific documentation and tracking.
- Nutritional snacks and meals are provided during long-duration incidents
- Tobacco products are not permitted in the Rehab Area.
- High Caffeine "energy drinks" should be avoided.
- Members shall not be assigned directly to the operation through the Rehab officer but must be through staging when established.
- Members shall not return to operations if he/she does not feel adequately rested/recovered.
- Members shall not return to operations if the REHAB Officer sees evidence of medical, psychological, or emotional distress, or if the member appears otherwise unable to safely perform his/her duties. The ISO should be notified immediately of these situations.
- EMS staff in Rehab shall have the authority, as delegated from the Incident Commander, to use their professional judgment to keep members in Rehab or to transport them for further medical evaluation or treatment.

## **FORMS**

The Rehabilitation Checklist (RC) and Rehabilitation Record (RR) forms are appended to this SOP, and are available on the Command vehicle and at *U:FireUsers:FORMS:RehabChecklist or Rehab Record*. Completed RDC and RR forms are appended to the incident report.

Also attached is a Rehabilitation Algorithm to help the Rehabilitation Officer / Supervisor evaluate personnel assigned to the Rehab Area.

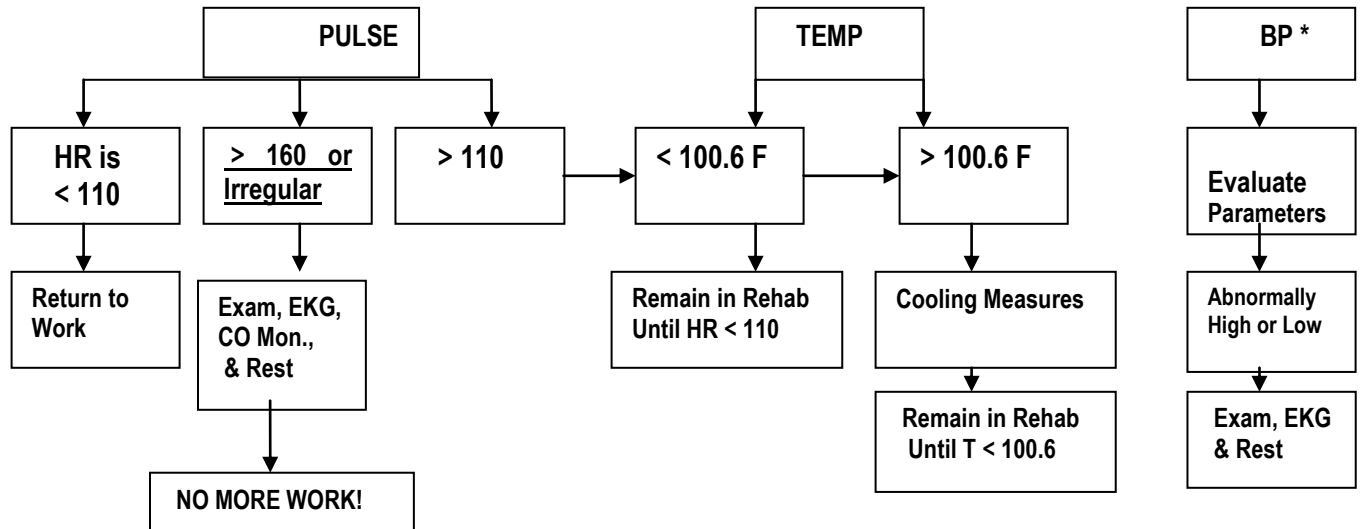
**REFERENCES:**

- Washington Administrative Code 296.305
- National Fire Protection Association
- NFPA 1584 Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises
- FEMA /US Fire Administration Emergency Incident Rehabilitation February 2008
- International Association of Fire Chiefs Rehabilitation and Medical Monitoring  
Bryan E. Bledsoe, DO, FACEP





## REHABILITATION ALGORITHM



\* Consideration must be given to what the individual's normal BP state is.

### Members should have fluid intake as follows:

<u>Activity:</u>	<u>Fluid Intake:</u>	<u>Duration:</u>
Structural Firefighting	2-4 oz.	Approx. every twenty minutes
Major Medical/MCI Incidents	2-4 oz.	Approx. every twenty minutes
HazMat or Technical Rescue	2-4 oz.	Approx. every fifteen to thirty minutes considering time element in removing PPE
Wildland Firefighting	2-4 oz.	Approx. every twenty minutes

## HEAT STRESS INDEX

		Temperature (°F)															
		80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
Relative Humidity (%)	40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
	45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
	50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
	55	81	84	86	89	93	97	101	106	112	117	124	130	137			
	60	82	84	88	91	95	100	105	110	116	123	129	137				
	65	82	85	89	93	98	103	108	114	121	128	136					
	70	83	86	90	95	100	105	112	119	126	134						
	75	84	88	92	97	103	109	116	124	132							
	80	84	89	94	100	106	113	121	129								
	85	85	90	96	102	110	117	126	135								
	90	86	91	98	105	113	122	131									
	95	86	93	100	108	117	127										
100	87	95	103	112	121	132											

### Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

■ Caution   
 ■ Extreme Caution   
 ■ Danger   
 ■ Extreme Danger

# WIND CHILL CHART



## NWS Windchill Chart

