

Washington County Volunteer Fire & Rescue Association Standards Manual



Title: Rehabilitation at Incident Scene & Training Exercises

WCVFRA Approval:

05/17/2018

Original Date: Standard Number: 11/21/2013 Supersedes Date: 600-02 Number of Pages:

11/21/2013

18

01. Purpose:

To provide guidance on the implementation and use of a rehabilitation process as a requirement of the incident management system (IMS) at the scene of a fire, other emergency, or training exercise. To ensure the physical and mental condition of personnel operating at the scene of an emergency or training exercise does not deteriorate to a point that affects the safety of any individual, or jeopardizes the safety and integrity of the emergency operations and/or training exercise where strenuous physical activity and exposure to heat and cold exist.

02. Applicability:

Applies to all fire, rescue and EMS operational units, Division of Emergency Services, fire & rescue corporations, and all fire, rescue, EMS personnel, both career and volunteers.

03. Definitions:

Active Cooling The process of using external methods or devices (e.g., hand and forearm immersion,

misting fans, ice vests) to reduce elevated core body temperature.

Energy Drink A type of beverage containing stimulants (caffeine and other ingredients such as taurine,

ginsing, and guarana) that is marketed as providing mental or physical stimulation.

Hydration The introduction of water in the form of food or fluids into the body.

Passive Cooling The process of using natural evaporative cooling (e.g., sweating, doffing personal

protective equipment, moving to a cool environment) to reduce elevated core body

temperature.

Procedure An organizational directive issued by the authority having jurisdiction or by the

department that establishes a specific policy that must be followed.

Recovery The process of returning a member's physiological and psychological states to levels that

indicate the person is able to perform additional emergency tasks, be reassigned, or

released without any adverse effects.

Rehabilitation An intervention designed to mitigate against the physical, physiological, and emotional

stress of fire fighting in order to sustain a member's energy, improve performance, and

decrease the likelihood of on-scene injury or death.

Rehab Manager Rehabilitation Manager is a person or officer assigned to manage rehabilitation.

Shall Indicates a mandatory requirement.

Should Indicates a recommendation or that which is advised but not required.

Sports Drink A fluid replacement beverage that is between 4 percent and 8 percent carbohydrate and

contains between 0.5 g and 0.7 g of sodium per liter of solution.

600-02 - Rehabilitation at Incident Scene & Training Exercises - 05/17/2018

Раде 1

WCVFRA 22

DES

WCMD

SOG

Standard Operating Guideline, written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely, which can be varied due to operational need in the performance of designated operations or actions.

SOP

Standard Operating Procedure, a written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely for the performance of designated operations or actions.

04. WHO MUST REPORT TO THE REHABILITATION GROUP/DIVISION?

a. Working Incidents:

Upon completion of an assignment in the "hot zone", personnel shall report to the Rehabilitation Group/Division prior to requesting or undertaking additional assignments. The Rehab Manager or their designee will be responsible for the Rehab area. Crew members shall undergo a mandatory rest and recovery period if:

- i. They have used two full 30/45-minute air cylinders
- ii. Worked 45 minutes or
- iii. Command staff, a company officer, or a senior firefighter in charge of a crew directs the crew members to do so

Personnel shall not report back to their staffing pool or reassigned unless they have been evaluated and released by the Rehab Manager.

b. Live Fire Training:

The standards listed for working incidents shall apply to live fire training with the following exception. All working crews shall report to the Rehabilitation Group:

i. Upon completion of a working evolution, rather than after two full 30/45-minute air cylinders or 45 minutes of work time

c. Other Training and Activities:

The need to establish Rehabilitation Group will be determined by the Training Officer and Command Staff prior to commencement of non-live-fire trainings or activities. Factors that may influence the determination include environmental conditions, tasks performed, use of SCBA, and duration of the training. If the Rehab Group is required for the training activities, the objective evaluation of a participant's fatigue level shall be the criterion for a mandatory rest and recovery period. Upon completion of a training evolution or after a maximum of 45 minutes of working time, all personnel will be evaluated for a mandatory rest and recover period by the Rehab Group Personnel, Officers, or Command staff. Any personnel requiring a rest or recovery period will be evaluated by the Rehab Group personnel before resuming participation in the training session.

d. Accountability:

Personnel reporting to the Rehabilitation Group shall enter and exit as a crew. If a crew member is taken out of service, this shall be conveyed to Command. The remaining crew members shall report to the staffing pool for their next assignment. Crews shall not leave the Rehabilitation Group until authorized to do so by the Rehab Manager, or designee.

e. Scope:

The principles and procedures discussed in this standard shall apply to all personnel attending or operating at emergency incidents, training operations, and other operations where strenuous physical activity and/or mental stress can occur and/or exposure to heat or cold extremes are present.

600-02 – Rehabilitation	n at Incident Scene & Training I	xercises - 05/17/2018
WCVEDA 994	DES	WCMD

05. Responsibilities:

a. Incident Commander:

Shall consider all circumstance and make early, as well as adequate provision for the rest and rehabilitation of all on scene personnel. These provisions shall include as necessary medical evaluation, treatment and monitoring, food & fluid replenishment, mental rest, relief from extreme climactic and other environmental parameters of the incident. The rehabilitation area shall include the provision of Emergency Medical Services (EMS) at a Basic Life Support (BLS) level or higher. Designate and assign a supervisor to manage rehabilitation and ensure sufficient resources are assigned to the group/division. It is recommended that an additional EMS resource be requested to supplement Rehab operations on all incidents with a confirmed IDLH environment.

- i. The incident commander (IC) shall ensure that a rehabilitation group is established when indicated
- ii. The IC shall assume the responsibility if it is not delegated
- iii. The IC shall consider the circumstances of each incident and make adequate provisions early in the incident for the rest and rehabilitation of all members operating at the scene
- iv. The IC or rehabilitation manager shall identify those resources to be used at an incident rehabilitation facility
- v. Mental health facilities shall be made available to all members of the department

b. Officers/Supervisors:

Shall maintain an awareness of the condition of all personnel under their command or within their span of control and ensure adequate steps are taken to provide for each person's health and safety. It is imperative the Incident Command and Accountability Systems are utilized to request relief and the reassignment of fatigued crews. All officers/supervisors shall continuously encourage members to maintain proper nutrition, hydration, and a healthy lifestyle prior to emergency operations or training exercises.

- i. Company officers shall maintain an awareness of the physical and mental conditions of each member operating within their span of control and ensure adequate steps are taken to provide for each member's safety and health.
- ii. Company officers shall ensure that members remain hydrated and that potable fluids are available
- iii. Company officers shall continuously assess their crew at least every 45 minutes and more frequently when working in extreme conditions to determine their need for rehabilitation

c. Personnel:

During periods of hot weather, members shall be encouraged to drink water and full strength activity beverages throughout the workday. During any emergency incident or training evolution, all members shall maintain their hydration and advise their company officers when they believe 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 involved. Members shall also remain aware of the health and safety of other members of their crew.

- i. Members shall participate in rehabilitation activities when assigned
- ii. Members shall maintain their hydration
- iii. Members shall advise their company officers when they believe 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 involved
- iv. Members shall remain aware of the health and safety of other members of their crew

00)-02 – Rehabili	itation at Incident Scene 8	Training Exercises - 05/	17/2018
WCVERA 99			CMD

d. Rehabilitation Manager:

Shall be selected from EMS company officer or qualified EMS personnel:

- i. When established, the rehabilitation manager shall be responsible for all rehabilitation
- ii. The rehabilitation manager shall designate a responder rehabilitation location(s) and have the location(s) communicated to incident personnel
- iii. The rehabilitation manager shall request necessary medical personnel to evaluate medical condition of personnel being rehabilitated
- iv. The rehabilitation manager shall request necessary resources for rehabilitation of personnel (e.g., water, juice, personnel)
- v. The rehabilitation manager shall request feeding as necessary for personnel being rehabilitated
- vi. The rehabilitation manager shall release rehabilitated personnel for reassignment
- vii. The rehabilitation manager shall release those individuals needing additional medical care to EMS
- viii. The rehabilitation manager shall maintain the accountability of all personnel in the rehabilitation location
- ix. The rehabilitation manager shall maintain appropriate records and documentation
- x. Wearing of the Rehabilitation Manager Vest if available
- xi. Designating the rehabilitation location if the Incident Commander has not already done so, securing and providing the necessary resources for rehabilitation

e. First EMS Unit designated to setup Rehabilitation:

Unless a life safety issue immediately exists.

f. Rehabilitation Group/Division Personnel (EMS):

Shall consist of the Rehab Manager, all non-firefighters, and any EMS personnel assigned by command staff. Rehab Group / Division Personnel shall report directly to the Rehab Manager.

Their responsibilities shall include checking vital signs, monitoring for hypothermia/ hyperthermia, other medical issues and providing treatment and transportation to medical facilities as required. Rehab Group/Division Personnel shall inform the Rehab Manager when personnel require an extended period of rehabilitation or transportation to a medical facility.

06. Rehabilitation Operational Phases:

- a. Three (3) Phases of Rehabilitation –Rehabilitation Operations will work in three (3) phases to assist the Rehab Group/Division monitor better and healthier nutritional supplements depending on the physical demand of the current operations:
 - i. Phase One (1) Incident is still "ALL Hands Working"
 - ii. Phase Two (2) Incident is in "Overhaul/Winding Down Stage"
 - iii. Phase Three (3) Incident is in "Wrap-Up Stage"
- b. Fire & EMS Incidents Rehabilitation Phases:
 - i. Rehab Manager will determine what "Phase" of Rehab the Group/Division will be operating in.
 - ii. During Phase 1 & 2
 - 1. All personnel operating within the Hot and Warm Zones are required to be checked out by EMS in Rehab prior to Reporting to Rehab 255 for nutriments.
 - 2. After being checked out by EMS, crew members will be given "**REHAB CARD**", they shall use them to retain Nutritional Selections from and instructed by Rehab 255 crew.
 - 3. Any operational personnel who were working in the Hot or Warm Zones who report to Rehab 255 with **NO** "**REHAB CARD**" will be allotted Rehydration Supplements {Water/Electrolyte Replacement Beverages} **ONLY** and will be instructed to see the Rehab Group/Division for processing.
 - 4. **REHAB CARDS** will not be needed from those operations/personnel outside the Hot or Warm Zones.



- 5. Fire Police, Apparatus Operators and any other Non-Operational Personnel, unless advised otherwise by the Rehab Manager or the Incident Commander /Command Staff do not require a **REHAB CARD**.
- iii. During Phase 3
 - 1. **REHAB CARDS** are no longer required to be presented to Rehab 255 unless instructed by the Rehab Manager.
- iv. If there is NO Rehabilitation Group/Division upon the arrival of Rehab 255, the Rehab 255 OIC will report to Command to confirm Phases of Rehab to be used or if operations will be Canteen Services ONLY {Phase 3 Rehab}.

07. Expectations During the Three Phases of Rehabilitation:

- a. Under PHASE I "ALL Hands Working"
 - i. Nutritional Selections: *REHAB CARD Needed
 - 1. Water
 - 2. Electrolyte Beverages (Sports Drinks)
 - 3. Fruit Juices
 - 4. Popsicles
 - 5. Coffee/Hot Tea
 - 6. Protein Bars/Nutrigrain Bars/Power Bars
 - 7. Fruit Product Selections
 - 8. Nutritional Products Protein Rich & Easy to Digest
 - ii. Assisting with Rehab:
 - 1. Medical Certified Personnel may assist EMS Crews with Vital Signs and Medical Care under EMS Crew Leader if approved by the Rehab Manager.
- b. Under PHASE II "Overhaul/Winding Down Stage"
 - i. Nutritional Selections: *REHAB CARD Needed
 - 1. Water
 - 2. Electrolyte Beverages (Sports Drinks)
 - 3. Fruit Juices
 - 4. Popsicles
 - 5. Protein Bars/Nutrigrain Bars/Power Bars
 - 6. Fruit Product Selections
 - 7. Nutritional Products Protein Rich & Easy to Digest
 - 8. Candy Bars
 - 9. Preparation of Sandwiches (1 per person)
 - ii. Assisting with Rehab:
 - 1. Medical Certified Personnel may assist EMS Crews with Vital Signs and Medical Care under EMS Crew Leader if approved by the Rehab Manager.
- c. Under PHASE III "Wrap-Up Stage"
 - i. Nutritional Selections: *NO REHAB CARD Needed
 - 1. Water
 - 2. Electrolyte Beverages (Sports Drinks)
 - 3. Fruit Juices
 - 4. Coffee/Hot Chocolate
 - 5. Sodas
 - 6. Popsicles
 - 7. Protein Bars/Nutrigrain Bars/Power Bars
 - 8. Fruit Product Selections
 - 9. Nutritional Products Protein Rich & Easy to Digest
 - 10. Candy Bars
 - 11. Preparation of Sandwiches

WCVFRA Secretary

15

- ii. Assisting with Rehab:
 - 1. Medical Certified Personnel may assist EMS Crews with Vital Signs and Medical Care under EMS Crew Leader if approved by the Rehab Manager.
- d. Canteen Service Calls "NO Rehab Services Required"



08. Establishment of the Rehabilitation Group/Division:

a. Responsibility:

The Incident Commander will establish a Rehabilitation Group or Division when conditions indicate that rest and rehabilitation is needed for personnel operating at an incident scene or training evolution.

A supervisor will be placed in charge of the Group/Division and shall be known as the Rehab Manager. The Rehabilitation Group/Division Manager will establish the phases of Rehab that crews are operating in {Phase 1, 2 or 3}. The Incident Commander can override the Rehab Phase's at any time after conferring with the Rehab Group/Division Manager.

The Rehab Manager will typically report to the Logistics Officer in the framework of the incident management system.

Duration of operations, level of physical exertion and environmental conditions, including temperature, humidity, and wind-chill factors shall be considered. (i.e. Extreme climate or environment; humiture reaches 96 or the air temperature is below 32F, heat stress index >90 degrees F; wind chill <10 degrees F. full assignments, large scale incidents, hazardous materials incidents requiring entry teams, labor intensive incidents > 45 minutes or more of strenuous activity, long duration incidents over 60 minutes).

b. Location:

The location for the Rehabilitation Group/Division area will normally be designated by the Incident Commander. If a specific location has not been designated, the Rehab Manager shall select an appropriate location based on the site characteristics and designations below and relay this to Command.

c. Site Characteristics:

- i. Far enough outside the immediate perimeter to provide physical and mental rest from the stress and demands of the incident or training evolution.
- ii. Far enough outside the immediate perimeter to permit the removal of PPE (Including boots).
- iii. The site shall include an area where members can remove and leave their protective clothing and protective equipment prior to entering the designated rehabilitation area.

500-02 - Re	habilitation	at Incident Scene & Training E	xercises - 05/17/2018
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- iv. Should provide suitable protection from the environmental conditions. It should be warm & dry during cold weather and during warm weather it should be cool and shaded.
- v. Far enough outside the immediate perimeter to be free of vehicle exhaust, equipment noises and the general flow of communications.
- vi. Should be large enough to accommodate multiple crews according to the size of the incident.
- vii. The site shall include a medical monitoring and treatment area. Should be easily accessible by EMS units, but out of the traffic flow of other vehicles.
- viii. Each rehabilitation area shall be given a geographic name consistent with its location at the incident site.
- ix. Should provide easy access to Staging without requiring travel through other operational areas. Allow prompt reentry back into the emergency operation upon completion of recuperation.
- x. No tobacco use shall be permitted in or near the rehabilitation area.

d. Designated Sites:

- i. Structures such as barns, garages, schools, building lobbies or other structures (Tents).
- ii. Large capacity vehicles such as school or municipal transportation buses and or rehab unit.
- iii. Emergency apparatus large enough to meet the current needs of the Rehab Manager.
- iv. An open but protected area such as a parking lot or field.

e. Resources:

The Rehab Manager shall secure all necessary resources required to adequately staff and supply the Rehabilitation Area. The supplies should include the items listed below (minimum):

- i. Other awnings, fans, tarps, smoke ejectors, heaters, dry clothing, extra equipment, flood lights, blankets and towels, hand washing station, traffic cones and fire line tape (to identify the entrance and exit of the rehabilitation area).
- ii. Mental decompression. CISD/CISM if necessary.
 - 1. Is on site evaluation & defusing necessary?
 - 2. Response to station for evaluation & defusing necessary?
 - 3. Coordinate debriefing within 24-48 hours of the incident?
- iii. Concerns regarding hot and cold environmental conditions:
 - 1. Warm condition concerns
 - 2. Extra hydration
 - 3. Shelter from sun
 - 4. Prevention of burns on hot asphalt
 - 5. Cooling therapies
- iv. Cold weather
 - 1. Wind shelter
 - 2. Increased calorie consumption
 - 3. Thawing of gear
 - 4. Frostbite check

f. Staffing Procedures:

- i. Rehab staffing is based on the anticipated workload. The recommended ratio of Rehab personnel to members currently assigned to rehab should meet the span of control.
- ii. This recommendation equates to a ratio of ten persons assigned to Rehab for a single EMS unit or about three companies in Rehab at the same time. The IC should consider supplementing Rehab in the event of weather extremes. The IC may also elect to redeploy underused resources to Rehab to facilitate the surge created by incident de-escalation /demobilization.

600-0 - Rehabilitation at Incident Scene & Training Exercises - 05/17/2018

WCVFRA DES WCMD WCVFRA Secretary DWS

g. Based on that ratio, the levels of Rehab are:

- i. Normal Consists of a single, dedicated EMS unit and is applicable for incidents up to and including a first alarm assignment or incidents where units will be operating for less than one hour. The responsibility of rehabilitation can be handled by a single EMS unit and can be managed by any EMS provider.
- ii. Moderate Consists of multiple dedicated resources with a designated supervisor. As the incident grows there becomes a need for more resources to handle the responsibilities of rehabilitation. On incidents greater than a first alarm, consideration should be given to increasing the number of providers assigned to the Rehab Group as well as the level of supervision. The supervisor of the Rehab Group should be an Operations Officer at EMT or higher certification and the providers operating in the group can be any combination of EMS or suppression personnel as long as the ratio of providers to firefighters needing rehab remains consistent. ALS presence in Rehab is **REQUIRED** at this level.
- iii. **Elevated** Also consists of multiple dedicated resources with a designated supervisor. During long term incidents such as large brush fires or hazardous materials incidents, the Rehab Group should be managed under the Logistics Section of the Incident Command System. Radio designation will be determined by Logistics due to the potential for multiple rehab sites, establishment of a base camp, etc.
- iv. Incident Commanders should give consideration to requesting additional EMS resources if the original EMS unit assigned to the incident becomes involved in patient care and or transport and are unable to fulfill their rehab duties.
- v. The Rehab area shall be clearly denoted. Companies are to stay within this area while assigned to the Rehab Group.
- vi. The Rehabilitation Tracking Form (Appendix A) will be used to document and track each company through Rehab.

09. Procedures/Objectives:

a. Cooling:

A primary goal of rehabilitation should be the restoration of each person's core body temperature. The most effective method of doing so is active cooling through forearm/hand immersion for at least 10 minutes. If equipment is available, this is the preferred method of cooling. Other methods involve passive cooling through hydration, removal of turnout gear, and rest.

- i. Passive cooling shall be employed to reduce fire fighter heat stress. This could include moving to a shaded or air-conditioned area, removal of PPE, ingestion of cool fluids, and rest.
- ii. Active cooling shall be employed to reduce fire fighter heat stress when passive cooling is ineffective or when a member is experiencing heat-related illness. This could include forearm immersion, misting fans, and cold towels.

b. Hydration/Rehydration:

Members entering rehabilitation shall consume fluids, regardless of thirst, during rehabilitation and be encouraged to continue hydrating after the incident.

A critical factor in the prevention of heat injury is the maintenance of water and electrolytes. Fluids must be replaced during training and emergency incidents. During heat stress, personnel should consume at least one (1) quart of water per hour. The re-hydration solution should be an <u>undiluted</u> commercially prepared activity beverage administered at about 40-degree F. When applying the 2 air cylinder rule, personnel (9d) shall rehydrate with a minimum of 8 ounces while air cylinder are being exchanged. Rehydration is important even during cold weather operations where despite the outside temperature, heat stress can occur during firefighting operations when wearing PPE. Alcoholic, caffeine, and carbonated beverages should be avoided before and during heat stress because they interfere with the body's water conversion mechanism.

600-02 - Rehabilitation at Incident Scene & Training Exercises - 05/17/2018 WCVFRA DES WCMD WCWFRA

c. Nourishment:

Food may be provided at the scene of an extended incident when units are engaged for three or more hours. A cup of soup, broth, or stew is highly recommended because it is digested much faster than sandwiches and fast food products. In addition, food such as apples, oranges and bananas provide supplemental forms of energy replacement. Fatty and/or salty foods should be avoided.

Personnel shall ensure that a means to wash members' hands and faces is available whenever calorie replacement will be used. Packaged wipes are an example of a means that members can use to wash their faces and hands.

d. Rest:

The two (2) air cylinder rule or 45-minute work period rule shall apply and shall mean that personnel working through two (2) 30/45-minute air cylinders or a 45-minute work period shall be required to be relieved and report to the Rehab area. This rule represents the maximum effort permitted prior to mandatory rehabilitation. In all cases an objective evaluation of an individual's fatigue level shall be the criteria for rehabilitation. The Rehab Manager shall determine the length of the rest period; however, it shall be no less than 10 minutes.

e. Recovery:

Personnel in the Rehab areas should maintain a high level of hydration. Personnel should not move directly from a hot environment to an air conditioned one. Such a move can cause the body's natural cooling system to shut down. It is necessary, therefore, to provide a cooling down period in an area with some amount of air flow. Certain medications such as diuretics, stimulants or antihistamines like Actifed or Benadryl impair the body's ability to sweat; therefore, extreme caution must be exercised if an individual has taken those medications.

f. Medical Evaluation:

- i. Standard specifies assessing each person for: presence of chest pain, dizziness, shortness of breath, weakness, nausea or headache; general complaints such as cramps, aches or pains; symptoms of heat or cold related stress; changes in gait, speech or behavior; alertness and orientation to person, place and time; vital signs, particularly those considered abnormal within protocol.
- ii. Rehab personnel will evaluate vital signs; question them about any symptoms, and/or injuries. Examine personnel and determine appropriate disposition such as return to staging, further rehabilitation or medical treatment/transport. Continued rehabilitation should include additional monitoring of vital signs, providing fluids and rest. Medical treatment should be in accordance with established medical protocol.
- iii. The heart rate should be measured for 30 seconds. An early oral or tympanic temperature should be taken. If the temperature exceeds 100.6F the individual should not be permitted to wear PPE. If it is below 100.6F and the heart rate remains above 110 beats per minute, the rehab time should be extended. If the heart rate is less than 100 beats per minute the chance of heat stress is negligible.
- iv. All vitals will be documented and personnel will be evaluated for signs and symptoms of heat stress, chest pain, shortness of breath, or other ill effects when entering the rehab area. If these are absent, then vitals can be taken after fifteen minutes of hydration and rest. Personnel whose pulse rates exceed 120 bpm will be sent to the treatment area for further evaluation. Personnel with other symptoms, i.e. chest pain, shall be sent to the treatment area.

- v. The following vital signs shall be obtained for all members entering rehabilitation:
 - 1. Temperature
 - 2. Heart rate
 - 3. Respiratory rate
 - 4. Blood pressure
 - 5. Pulse oximetry
- vi. Members exposed to fire/smoke shall be assessed for carbon monoxide poisoning.
- vii. The Rehab Manager shall advise the IC on the number of personnel ready to return to operations and those not and possible duration for that.

g. Prior to Release:

i. Benchmarks after Rest and Recovery should be:

- 1. Pulse: Less than 100 beats per minute
- 2. BP: Systolic less than 160mmHg and/or diastolic less than 100mmHg
- 3. Temp: Normal ranges from 98.6F to 100.6F
- 4. **SpCO:** Less than 5% (smokers may be 'normal' up to 10%)
- 5. **SpO2:** Greater than 95% (smokers may be normal down to 90%)
- 6. **Resp:** Less than 20

ii. Transport to Hospital if:

- 1. Symptoms of heat stroke
- 2. Respiratory distress/SOB
- 3. Abnormal lung sounds
- 4. Altered mental status
- 5. Irregular pulse
- 6. Persistent pulse above 180
- 7. Significant injury
- 8. Chest pain or severe headache
- 9. Other conditions as appropriate

iii. <u>Documentation</u>:

1. All medical evaluations shall be recorded on standard forms along with the member's name and complaints and must be signed, and dated by the Rehab Group Manager or his/her designee. All documentation generated by Rehab with the exception of eMEDS will be turned over to the Incident Commander.

iv. Release from Rehab:

- Personnel working in the rehab area will need to utilize an accountability system for tracking members entering and leaving the area. Time in and time out will be documented.
- 2. If members become ill or are injured, standard medical protocols will be followed. While BLS care is a minimum, for high-risk operations (e.g. hazmat operations), it will be appropriate to have ALS resources available
- 3. All personnel sent to EMS {treatment/transportation} area shall have reports completed per assessed provider in eMEDS Patient Care Report system and paper records destroyed.

v. Failed Rehab:

- 1. A person is considered to have failed rehab whenever they are unable to be released back to full operational status (returned to staging or operations).
- 2. The Rehab Manager is considered to have the delegated authority from the IC to determine if a person is able to be released back to operations or if they have failed Rehab.

Page 10 WCVFRA Secretary Mag

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00-	02 – Rehabilitation a	Incident Scene	& Training	Exercises -	-05/17/	2018

vi. Failed Rehab criteria includes, but not limited to:

- 1. Any complaint of altered level of consciousness, persistent headache, chest pain, trouble breathing, persistent air hunger, or any sign of other serious medical events.
- Vital Signs that remain outside the safe range (noted earlier in the standard) after 40 minutes in Rehab.
- 3. Any emerging injury, such as burns (i.e., developing redness), swelling or soft tissue injury, increasing muscle cramping, or spasm in spite of Rehab.
- 4. Evidence of injury from environmental extremes or any other signs of minor injury that requires medical evaluation prior to returning to an operational status.
- 5. Personnel that fail rehab will be evaluated for potential immediate transport to a hospital. The Incident Safety Officer and IC will be notified of all failed rehab events. Persons who fail Rehab will not be permitted to engage in any further activity on the incident regardless if they elect against transport to a hospital. All persons who fail Rehab, regardless of being transported, will be referred back to their departments for specific procedures on returning to duty. The disposition of the remaining members of that crew will be at the discretion of the Safety Officer or Incident Commander.
- 6. It is assumed that failure to Rehab may be potentially related to a medical condition and those persons are further assessed as a 'patient.' Rehab personnel will complete a patient care report (eMEDS) using the Rehab EMS Unit designator, unless transported then will be the transporting unit's responsibility. Furthermore, ALL expectations of patient privacy and confidentiality shall be respected and followed on any failed rehab. All personnel are strongly cautioned against discussing any person's response to rehab, regardless of perceived insignificance of the information. Any information and documentation from Rehab {excluding eMEDS} will be provided to the Incident Commander to be secured with the NFIRS's documentation.

The goal is not ONLY to go home at the end of each shift, but also to finish your career healthy. Achieving these goals will take a long term commitment by emergency personnel, officers, administration and government.

RECOMMENDED FLUID INTAKE

Activity	Fluid Intake	<u>Duration</u>
Structural firefighting	2-4 oz	Approximately every 20 minutes
Major Medical/MCI event	2-4 oz	Approximately every 20 minutes
HazMat or Technical rescue	2-4 oz	Approximately every 15-30 minutes considering time element in removing PPE
Wild land Firefighting	2-4 oz	Approximately every 20 minutes

Additional Material

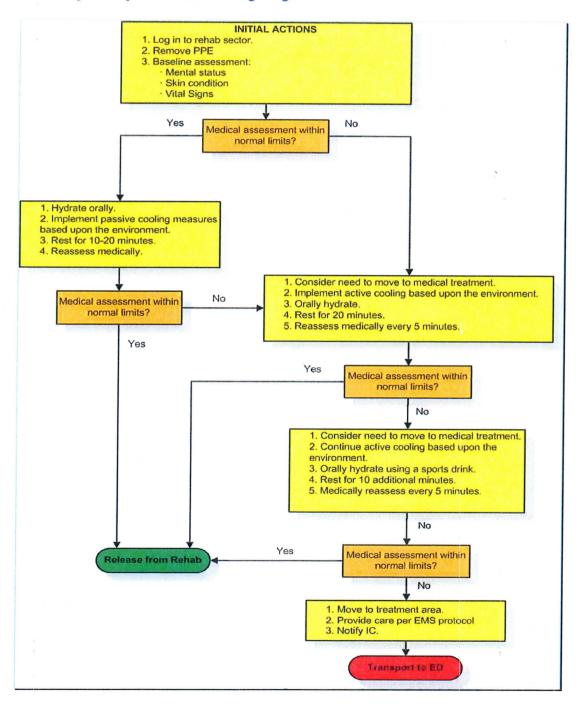
Appendix A – Rehab Tracking Sheet

Appendix B - NOAA's National Weather - Wind Chill Chart

Appendix C - NOAA's National Weather - Heat Index Chart

Appendix D - Urine Hydration Chart

Appendix E – Example of a possible Rehab Triage Tag



600-02 - Rehabilitation at Incident Scene & Training Exercises - 05/17/2018 WCVFRA DES WCMD

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- NFPA 1584: Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises (2015)
- Firefighter Rehab: An Introduction to NFPA 1584 (IAFC)
- Medical/Rehab Unit Leader Check List Crew Boss Rehab
- The Elephant on the Fire Ground: Secrets of NFPA 1584 Compliant Rehab (2008)
- Firemedically Making Rehab a Requirement: NFPA 1584 (12/2007)
- Northern Virginia Emergency Incident Rehabilitation, Second Edition (10/2012)

600-02 - Rehabilitation at Incident Scene & Training Exercises - 05 17/2018
WCVFRA DES WCMD

Page WCVFRA Secretary / Mg

Appendix A – Rehab Tracking Sheet

Unit#:	Washington Cou	nty Volu	nteer Fire &	Rescu	e Associatio	n	Unaccer	table Vital	Limits:
MITTER							The second secon	60 (S) or >	
	Rel	habilitati	on Tracking	Sheet	-	0.5		se >100 BI	The state of the s
					@	17/3		<98.6 or >	A
								PCO >94	
Incident Lo	cation					Incide	ent Number		
County/	Last Name:		1		2nd Set		3rd Set		Transpor
State #:	First Name:	Time	1st Set	Time	(If Needed)	Time	(If Needed)	Time	Set
		B/P	THE RESERVE OF THE PERSON NAMED IN	B/P		B/P	-	B/P	
		Pulse		Pulse		Pulse		Pulse	
Position		Resp		Resp		Resp		Resp	
D. C.		SPO2		SPO2		SPO2		SPO2	
Duties		SPCO		SPCO		SPCO		SPCO	
EKG		Temp		Temp		Temp		Temp	
Disposition:	Returned to Staging/Service	e	Transported		TX Unit			Hospital	
			If vitals are	e not w/in	scceptable lim	its after 3	rd set of vitals	- Transport	Immediate
County/	Last Name:	7:-	1-4 5-4	77	2nd Set (If Needed)	-	3rd Set	7	Transpor
State #:	First Name:	Time B/P	1st Set	Time B/P	(II raeeded)	Time	(If Needed)	Time	Set
		Pulse		Pulse		B/P Pulse		B/P	
Position		Resp		Resp		COLUMN TWO IS NOT THE OWNER.	A STATE OF THE STA	Pulse	
LONHOR		SPO2		SPO2		Resp		Resp	
Duties		SPCO		SPCO		SPO2 SPCO		SPO2 SPCO	
EKG		Temp		Temp		Temp		Temp	
			-	remp	THE RESERVE OF THE PERSON NAMED IN	тешр			
THE RESERVE OF THE PARTY OF THE	Returned to Staging/Servic	e Tana	Transported If vitals are	not win	TX. Unit	ts after 3:	rd set of vitals -	Hospital Transport	Immediate
iotes:	Returned to Staging/Servic	•		not w/in	Andrew School School School	ts after 3	rd set of vitals -		
Disposition: Notes: County/ State#:		Time		not w/in Time	acceptable limi	n after 3:			
County/	Last Name:		If vitals are		acceptable limi		3rd Set	Transport	Transpor
County/	Last Name:	Time	If vitals are	Time	acceptable limi	Time	3rd Set	Transport Time	Transpor
County/	Last Name:	Time B/P Pulse Resp	If vitals are	Time B/P Pulse Resp	acceptable limi	Time B/P Pulse Resp	3rd Set	Transport Time B/P Pulse Resp	Transpor
County/ State #:	Last Name:	Time B/P Pulse Resp SPO2	If vitals are	Time B/P Pulse Resp SPO2	acceptable limi	Time B/P Pulse Resp SPO2	3rd Set	Time B/P Pulse Resp SPO2	Transpor
County/ State #: Position	Last Name:	Time B/P Pulse Resp SPO2 SPCO	If vitals are	Time B/P Pulse Resp SPO2 SPCO	acceptable limi	Time B/P Pulse Resp SPO2 SPC0	3rd Set	Time B/P Pulse Resp SPO2 SPCO	Transpo
County/ State #: Position Duties	Last Name: First Name:	Time B/P Pulse Resp SPO2 SPCO Temp	If vitals are	Time B/P Pulse Resp SPO2	acceptable limi 2nd Set (If Needed)	Time B/P Pulse Resp SPO2	3rd Set	Time B/P Pulse Resp SPO2 SPCO Temp	Transpo
County/ State #: Position Duties EKG Disposition:	Last Name:	Time B/P Pulse Resp SPO2 SPCO Temp	If vitals are	Time B/P Pulse Resp SPO2 SPCO	acceptable limi	Time B/P Pulse Resp SPO2 SPC0	3rd Set	Time B/P Pulse Resp SPO2 SPCO	Transpo
County/ State #: Position Duties EKG Disposition:	Last Name: First Name: Returned to Staging/Service	Time B/P Pulse Resp SPO2 SPCO Temp	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp	acceptable limi 2nd Set (If Needed) TX. Unit	Time B/P Pulse Resp SPO2 SPCO Temp	3rd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Hospital	Transpor Set
County/ State #: Position Duties EKG Disposition: Totes:	Last Name: First Name: Returned to Staging/Service Last Name:	Time B/P Pulse Resp SPO2 SPCO Temp	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp	2nd Set (If Needed) TX. Unit sceeptable limi	Time B/P Pulse Resp SPO2 SPCO Temp	3rd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Hospital	Transpor Set
County/ State #: Position Duties EKG Disposition:	Last Name: First Name: Returned to Staging/Service	Time B/P Palse Resp SPO2 SPCO Temp	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp	acceptable limi 2nd Set (If Needed) TX. Unit	Time B/P Pulse Resp SPO2 SPC0 Temp	3rd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Hospital Transport	Transpoi Set
County/ State #: Position Duties EKG Disposition: Totes:	Last Name: First Name: Returned to Staging/Service Last Name:	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp not win	2nd Set (If Needed) TX. Unit sceeptable limi	Time B/P Pulse Resp SPO2 SPC0 Temp Time B/P	3rd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Hospital Transport	Transpor Set
County/ State #: Position Duties EKG Disposition: Totes:	Last Name: First Name: Returned to Staging/Service Last Name:	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp not win Time B/P Pulse	2nd Set (If Needed) TX. Unit sceeptable limi	Time B/P Pulse Resp SPO2 SPC0 Temp Time B/P Pulse	3rd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Hospital Transport Time B/P Pulse	Transpor Set
County/ State #: Position Duties EKG Disposition: Totes: County/ State #:	Last Name: First Name: Returned to Staging/Service Last Name:	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse Resp	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp not win Time B/P Pulse Resp	2nd Set (If Needed) TX. Unit sceeptable limi	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse Resp	3rd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Hospital Transport Time B/P Pulse Resp	Transpor Set
County/ State #: Position Duties EKG Disposition: Totes:	Last Name: First Name: Returned to Staging/Service Last Name:	Time B/P Palse Resp SPC0 Temp Time B/P Palse Resp SPO2	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp not win Time B/P Pulse Resp SPO2	2nd Set (If Needed) TX. Unit sceeptable limi	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2	3rd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Hospital Transport Time B/P Pulse Resp SPO2	Transpor Set
County/ State #: Position Duties EKG Disposition: Totes: County/ State #:	Last Name: First Name: Returned to Staging/Service Last Name:	Time B/P Palse Resp SPC0 Temp Time B/P Palse Resp SPO2 SPC0	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp not win Time B/P Pulse Resp SPO2 SPCO	2nd Set (If Needed) TX. Unit sceeptable limi	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2 SPO2 SPCO	3rd Set (If Needed)	Transport B/P Pulse Resp SPO2 SPCO Temp Hospital Transport Time B/P Pulse Resp SPO2 SPCO	Transpor Set
County/ State #: Position Duties EKG Disposition: Totes: County/ State #: Position Duties	Last Name: First Name: Returned to Staging/Service Last Name: First Name:	Time B/P Palse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2 SPO2 SPCO Temp	If vitals are	Time B/P Pulse Resp SPO2 SPCO Temp not win Time B/P Pulse Resp SPO2	2nd Set (If Needed) TX. Unit sceeptable limi	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2	3rd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Hospital Transport Time B/P Pulse Resp SPO2	Transpor Set
County/ State #: Position Duties EKG Disposition: Totes: County/ State #: Position Duties EKG Disposition:	Last Name: First Name: Returned to Staging/Service Last Name:	Time B/P Palse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2 SPO2 SPCO Temp	If vitals are Ist Set Transported If vitals are Ist Set	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2 SPCO Temp	2nd Set (If Needed) TX Unit acceptable limi 2nd Set (If Needed) TX Unit	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2 SPCO Temp	3rd Set (If Needed) rd set of vitals - 3rd Set (If Needed)	Transport B/P Pulse Resp SPO2 SPCO Temp Hospital Transport Time B/P Pulse Resp SPO2 SPCO Temp Hospital	Transpor Set Immediate Transpor
County/ State #: Position Duties EKG Disposition: Totes: County/ State #: Position Duties	Last Name: First Name: Returned to Staging/Service Last Name: First Name: Returned to Staging/Service	Time B/P Palse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2 SPO2 SPCO Temp	If vitals are Ist Set Transported If vitals are Ist Set	Time B/P Pulse Resp SPO2 SPCO Temp not win Time B/P Pulse Resp SPO2 SPCO Temp	2nd Set (If Needed) TX. Unit acceptable limi 2nd Set (If Needed)	Time B/P Pulse Resp SPO2 SPCO Temp Time B/P Pulse Resp SPO2 SPCO Temp	3rd Set (If Needed) rd set of vitals - 3rd Set (If Needed)	Transport B/P Pulse Resp SPO2 SPCO Temp Hospital Transport Time B/P Pulse Resp SPO2 SPCO Temp Hospital	Transpor Set

600-02 - Rehabilitation at Incident Scene & Training Exercises - 05/17/2018

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National Weather Service 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	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times

30 minutes

■ 10 minutes

5 minutes

Wind (m

600-02 – Rehabilitation at Incident Scene & Training Exercises – 05/17/2018
WCVFRA DES WCMD

WCVFRA Secretary Page 15



National Weather Service Heat Index Chart



Temperature (°F)

	CHE THIS END A THE	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
	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	于是
	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			
Relative Humidity	60	82	84	88	91	95	100	105	110	116	123	129	137				
Ē	65	82	85	89	93	98	103	108	114	121	128	136					
T	70	83	86	90	95	100	105	112	119	126	1 34						
ativ	75	84	88	92	97	103	109	116	124	132							
Rel	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										2

Likelihood of Heat Disorders with Prolonged Exposure and/or Strenuous Activity

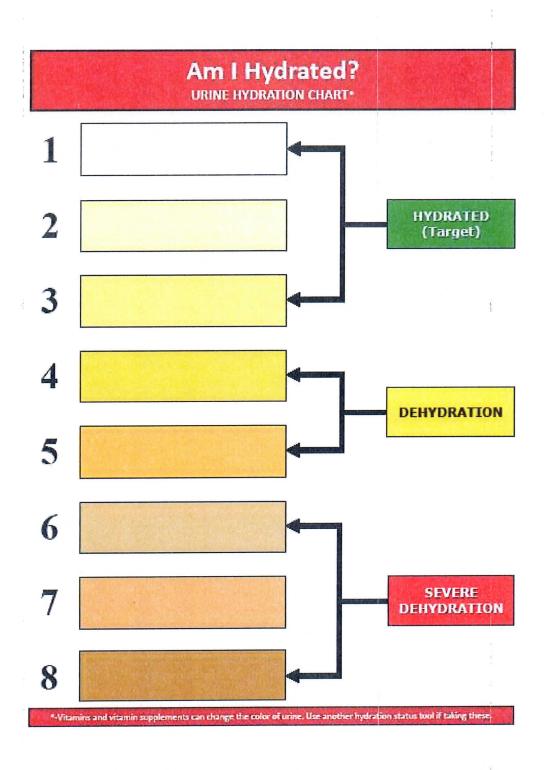
Caution Extreme Caution

Danger

Extreme Danger

600-02 - Rehabilitation at Incident Scene & Training Exercises - 05/17/2018
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Appendix E - Example of a possible Rehab Triage Tag

DATE:	1 1	INC	IDEN	IT NUMBE	R:				
	RE	SPONDER I	NFO	RMATION		政治法院			
NAME:		STATE LD.#							
AGE/D.O.B.		MALE FEMALE							
UNIT ASSIG	INMENT:			AG	ENCY:				
LOG-IN TIME:			LO	G-OUT TIME	:				
PPE USED:	FULL		PART	IAL [N	ONE			
COMMENTS	t								
	CURR	ENT WEAT	HER (VS				
TEMPERATUR	E WI	AD CHITT		RAIN / DRY	-	INDEX			
			-		_				
7417	B/P	VITAL PULSE RAT	_	RESFIRATIO	AIF	TEMPERATURE			
T/ME :	1	PULSERA	E	RESTINATION	JN2	TEMPERATURE			
:	1			-					
:	1								
:	1								
经基础	P. A. William	排作的	APT	NE.					
Nausea		Shortness	of Bre	ath	Flush	ned Skin			
Weakness		Cramping			Exha	ustion			
Headache		Seizure			Men	tal Confusion			
Sunburned		Rapid Hea	rt Rate	. [Dehy	dration			
Absence of	Sweating				•				
Characteristics		COLD SY	MPTO)MS		U SANDAR SAN			
Headache	-	Low BP	Santa S		Men	tal Confusion			
Slow Pupil	Response F	Numbness		H		de Rigidity			
Waxy Pale		Blisters		F	!	dration			
Maxy Pale	25,016	Disters	_		verily	ur exidit			
EMERGENCY M	EDICAL CARE RE	QUIRED:			YES	□ NO			
EVALUATED.	nu.					6. 6.			



INASHINGTON GOUNTRY ONGODENT REHAD TAG

WCVFRA REHAB UTILITATION Upon completion of an assignment in the hot zone of a working incident or training session, personnel shall report to the Rehabilitation Sector prior to requesting or undertaking additional assignments. Crew members shall undergo a mandatory rest and recovery period if they have use two full 30 or 45 minute air cylinders, if they have worked 45 minutes or if command staff, a company officer, or a senior firefighter

in charge of a crew directs the crew members to do so. Personnel shall not report back to his manpower pool unless they have been evaluated and released by the Rehabilitation Sector.

Personnel working in the rehab area will need to utilize an accountability system for tracking members entering and leaving the area. Time in and time out will be documented.

1. Climatic	REHA Conditions	AB PRE-RELEAS Yes N		
Cooling Rehydra Calorie Replace	& Electrolyte ment: Monitoring:	Yes No	ORALS Water Electro	
	Pi	E-RELEASE VII	AL SIGNS	40000
TIME	8/P	PULSE RATE	RESPIRATIONS	TEMPERATURE
Released By			Time:	