

## **FIRE SERVICE REFERENCE BOOKLET 11**

# **STATEWIDE INCIDENT REHABILITATION GUIDELINES FOR EMERGENCY RESPONDERS**

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**Developed Jointly by  
The NJ County OEM EMS Coordinators  
The NJ EMS Task Force  
and the  
NJ Division of Fire Safety**

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**State of New Jersey**  
**Statewide Incident Rehabilitation Guidelines for**  
**Emergency Responders**



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## **TABLE OF CONTENTS**

PREFACE .....	3
THE DEVELOPMENT GROUP CONSISTS OF THE FOLLOWING REPRESENTATIVES: .....	4
STANDARD OPERATING PROCEDURES FOR EMERGENCY MEDICAL SERVICES FOR INCIDENT REHABILITATION.....	5
I. PURPOSE .....	5
II. SCOPE .....	5
III. CONSIDERATIONS .....	6
IV. RESPONSIBILITIES .....	6
V. DETAILS OF ESTABLISHING AND OPERATING REHAB .....	9
APPENDIX A – NJAC 5:75 – 2.9 REHAB REGULATIONS.....	12
APPENDIX B DEFINITIONS .....	13
APPENDIX C MANAGING HEAT AND COLD STRESS.....	15
HEAT STRESS CLASSIFICATIONS, SIGNS, SYMPTOMS, AND TREATMENT.....	18
APPENDIX D – BORG SCALE .....	23
APPENDIX E – REHAB AREA SETUP .....	24
APPENDIX F – REHAB MEDICAL OPERATIONS .....	26
APPENDIX G – REST AND NOURISHMENT.....	31
APPENDIX H – REHAB RESOURCES.....	32
APPENDIX I – REFERENCES.....	33
APPENDIX J- SAMPLE REHAB JOB AIDS .....	34-42
APPENDIX K- NJ DIVISION OF FIRE SAFETY SAMPLE REHAB SOP .....	43-44
APPENDIX L-SAMPLE TACTICAL WORKSHEETS.....	45-54
UNION COUNTY SAMPLE FORMS .....	45
SOMERVILLE/HILLSBOROUGH SAMPLE FORMS .....	46-47
BURLINGTON COUNTY SAMPLE FORMS.....	48-52
GENERIC SAMPLE FORMS .....	53-54
PROMULGATION STATEMENT .....	55
ENDORSING SIGNATURES .....	55

## **PREFACE**

What issues or factors most contribute to injury or line of duty deaths for fire and emergency response personnel? A significant percentage of injuries and illnesses, and more than half of all fatalities are directly related to the stress and overexertion of those involved in emergency scene operations or training exercises. What has been done to address these issues? National Fire Protection Association (NFPA) 1500, Standard on Fire Department Occupational Safety and Health Program identifies many of these issues that are injuring and killing emergency responders and it provides a standard to minimize or prevent this from happening.<sup>1</sup>

A recent study by Indiana University at looks at how to identify and measure various mental and physiologic stressors on the body during firefighting activities and at actual incidents. <sup>6</sup> The study found that these stressors are present during all phases of firefighting and each have the potential to be life-threatening, putting firefighters at critical exertion limits. It also found that, in many instances these stressors keep the body stressed at unhealthy levels for up to three hours after leaving the scene of an incident. The same study also identified that if firefighters are dehydrated prior to emergency response they are at greater risk for injury and illness. What this study reinforces is the importance of not only being physically fit, but the need to ensure that firefighters receive appropriate levels of rehabilitation based upon individual levels of physical and mental conditioning.

One solution is to consider these factors pre-emergency. While improvements to health, wellness and fitness have increased significantly in recent years, much remains to be done. Even with such improvements, the issue of excessive stress and overexertion does not go away. When responders are pushed beyond the limits of their conditioning, injury or deaths will occur.

Assigning adequate personnel to perform required tasks safely is the first step toward reducing the chances of over exerting members working at an emergency incident or training event. Even then members will become exhausted and need relief. NFPA 1500 requires fire departments to develop policies and procedures for “rehab”; to provide for food, fluid replacement, rest, and medical evaluations or treatment as needed.

Although NFPA 1500 requires policies be in place, it provides little guidance for actual set-up and operation of a rehabilitation area, with little to no criteria for evaluating members once there. When reviewing the published data on this subject, there was no single source of information available. In 1992 the United States Fire Administration (USFA) released Report FA-114, Emergency Incident Rehabilitation which offered basic information and a sample Standard Operating Procedure (SOP).<sup>7</sup> Since 1997 there have been several full length texts and other publications focusing on rehabilitation and it was this increased interest that led to NFPA 1584, Recommended Practice on the Rehabilitation of Members Operating at Incident Scene Operations and Training Exercises.<sup>5</sup> First released in early 2003 as recommended practices, the document was changed to a formal standard in 2008.

As a result of this change to NFPA 1584, a committee was formed by County Emergency Medical Service Coordinators and the Firefighter Safety & Health Advisory Committee of the NJ State Fire Commission to develop a New Jersey Statewide Incident Rehabilitation Guideline.

**This document is a meant to be a guideline. It has been designed to serve as a template for any agency or organization who wishes to develop and implement rehabilitation in the**

## **FIRE SERVICE REFERENCE BOOKLET 11 – NJ INCIDENT REHABILITATION**

**emergency setting.** The actual Guideline is only 7 pages, the rest of the document are tools and templates to help emergency services organization be more reliable in providing effective rehabilitation services.

The Guideline offers an Incident Commander the ability to provide for the rehabilitation needs of **first** responders. It provides a framework of standardized systems and terminology to ensure a greater level of personnel safety. **Further, it is strongly recommends that fire agencies meet with their local EMS Providers to discuss rehabilitation services and/ or enter into a Memorandum of Understanding (MOU), or develop local policies to determine how rehabilitation services will be provided, utilizing the recommended guidelines contained within this document.**

This Statewide Incident Rehabilitation Guideline has been developed in a collaborative effort by a group of New Jersey County EMS Coordinators and the Firefighter Health & Safety Advisory Council of the NJ State Fire Commission, with guidance from Physician Medical Advisers noted below, the New Jersey EMS Task Force under the authority of the New Jersey County EMS Coordinators Association.

### **The development group consists of the following representatives:**

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# **Standard Operating Procedures for Emergency Medical Services For Incident Rehabilitation**

## **I. PURPOSE**

- A.** It is the intent of this document to ensure that the physiologic and mental stressors of Emergency Responders/ Public Safety Personnel operating at the scene of an emergency incident, a training incident, or preplanned event do not deteriorate to a level that may affect the safety and/ or well-being of each responder, or jeopardizes the safety and integrity of the operation/ scene. Rehabilitation, if implemented early and operated correctly, allows the Incident Commander to safely maximize utilization of on-scene resources.
- B.** It is the goal of this guideline to provide a mechanism for the safe return of emergency responders to available status as soon as possible without disregard for the need to hold those requiring further assessment and/ or treatment that may be unfit to return to duty.
- C.** Rehabilitation is a key component of responder health and safety as set forth by NFPA 1584, N.J.A.C 5:75 – 2.9, State of New Jersey Statewide Incident Rehabilitation Guideline, and USFA Emergency Incident Rehabilitation (FEMA FA-314 July 2008) standards for emergency incidents, planned events and training evolutions rehabilitation. These Standards serve as primary reference documents for this guideline.
- D.** Utilization of regional-based resources to prevent 'stripping' a small geographic area. This plan also limits the logistical and financial burdens on a single jurisdiction.

## **II. SCOPE**

- A.** This guideline applies to any and all emergency agencies operating at emergency incidents, planned events or training exercises within the State of New Jersey, where strenuous physical or mental activities or exposure to extreme heat or cold may exist. Whether Fire, EMS, Police, Hazmat or Public Health the appropriate resources will be dispatched based upon local protocols.
- B.** It is the intent of this document to meet the requirements as set forth by N.J.A.C. 5:75-2.9 The NJ Department of Community Affairs, Fire Service Incident Management System Regulation, Medical Unit / Responder Rehabilitation. (Appendix A).
- C.** A local procedure should be established to prompt the Incident Commander to ask if additional incident rehabilitation resources are required.

### **III. CONSIDERATIONS**

The Incident Commander (IC) should establish a Rehabilitation Unit or Group when conditions indicate that rest and rehabilitation are needed for responders operating at an incident scene or training evolution. This determination should be made based on:

1. The duration of the operation;
2. The level of physical exertion (refer Appendix D), and
3. Environmental conditions, including but not limited to temperature, humidity, and wind chill factors.
4. Heat stress index above 90 degrees Fahrenheit (Appendix C)
5. Wind chill index below 10 degrees Fahrenheit (Appendix C)
6. Responders who utilize more than two (2) SCBA 30 Minute cylinders; or utilize self contained supplied air breathing apparatus or respirators for longer than forty-five (45) minutes.
7. Situations that generally produce the need for a Rehabilitation Group/ Unit including but not limited to:
  - Incidents declared as “All Companies in Service”, multi-alarm fire or EMS incidents
  - Prolonged Extrication Incidents
  - Wild land Operations
  - Water Rescue/ Recovery Operations
  - Hazardous Material Incidents
  - Technical Rescue/ Recovery Incidents
  - Search Operations
  - Prolonged Hostage Situations
  - Civil Unrest Incidents
  - Prolonged Traffic Diversions or Crowd Control Operations
  - Training Exercises or Planned Special Events
  - Any other situations as deemed necessary by the IC

All emergency personnel assigned to an incident may not necessarily require rehabilitation and/or the same level of rehabilitation just because rehabilitation is established. It is the ICs responsibility to ensure that responders who appropriately meet the criteria based on individual work time, physical exertion, mental stressors or exposure to environmental conditions are assigned to rehabilitation. For example: Fire personnel assigned to an emergency incident not utilized for a tactical assignment may be assigned to receive hydration and nourishment without a medical evaluation. Fire, Police or EMS not exposed to harsh environmental conditions may only require rest (a break), hydration and nourishment.

### **IV. RESPONSIBILITIES**

- A. Authority Having Jurisdiction (AHJ):** It is recommended that all local Fire Departments and/ or EMS Agencies build appropriate rehabilitation resources into their response grids/ alarm plan. This allows for dispatch of appropriate recommended resources for a specific type of incident. Nothing in this guideline shall preclude the Incident Commander from upgrading or downgrading as necessary.

**B. Incident Commander (IC):** The Incident Commander is ultimately responsible for the health and well-being of all personnel operating at an emergency incident or training evolution. The IC should consider the circumstances of each incident or event to ensure adequate provision early on in an incident for rest and rehabilitation of all personnel. These provisions may include but are not limited to: medical evaluation, monitoring and treatment, food and fluid replenishment, physical and mental rest, and relief from extreme climate conditions or any other environmental parameters of an incident. It is recommended the IC ensure the following:

- Establishment a rehabilitation group/ unit early in the incident to reduce adverse physical/ mental effects on emergency responders and public safety personnel while operating during emergency or training conditions
- Designation and/ or assignment of appropriately trained personnel to manage the Rehabilitation Group/ Unit
- Ensure sufficient resources are assigned to the Rehabilitation Group/ Unit
- Ensure adequate and appropriately trained EMS personnel are available for medical monitoring and/ or treatment of emergency response personnel on scene
- Once Rehabilitation is established the IC will ensure that emergency personnel are assigned to and rotated through Rehabilitation (including Rehabilitation staff) as appropriate, and in a priority order based on level of exertion, amount of work performed or time exposed to environmental conditions
- The IC will determine who (IC, Operations Section Chief (OSC), Safety, etc.) will be responsible to have the delegated authority to coordinate assigning emergency personnel to the Rehabilitation Unit, and to ultimately determine final disposition status of incident personnel. The person(s) filling this role should be a “high ranking” local officer
- Include rehabilitation in the incident/ event size-up
- The IC should ensure that Rehabilitation Group/ Unit staffing expands and contracts to meet the needs of the incident. Due to exertion levels common during the overhaul phase of fire operations, maintaining rehabilitation is especially important to decrease the possibility of firefighter injury
- The IC will be responsible to demobilize/ release the Rehabilitation Group/ Unit after all incident responders requiring and/ or assigned to RG have completed the process.
- The IC will be responsible to ensure that the appropriate personnel are assigned to assist with the breakdown of the rehabilitation area and ensure that the area is free of all incident- generated trash.
- The IC will ensure that all incident-related Rehabilitation Tactical Work Sheets and Rehabilitation Medical Documentation is appropriated, collected and retained, in accordance with local protocols.

**C. Rehabilitation Group Supervisor/ Unit Leader:** When any level of rehabilitation is established a properly trained, preferably a certified Emergency Medical Technician Basic (EMT-B) or paramedic (EMT-P) shall be designated as the Rehabilitation Group Supervisor/ Unit Leader. Using Incident Command System (ICS) best practices, the Rehabilitation Group Supervisor/ Unit Leader will follow the chain of command established within the incident. Rehabilitation will typically fall under the Operations Section in the



## **FIRE SERVICE REFERENCE BOOKLET 11 – NJ INCIDENT REHABILITATION**

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EMS Branch/ Group. For large scale incidents Rehabilitation may fall within the Logistics Section. The RG Supervisor/ Unit Leader shall ensure the following:

- Donning a (Rehabilitation) vest
- In consultation with the IC and/ or OSC as appropriate, identify a suitable location for rehabilitation operations that can accommodate a large amount of emergency personnel including the Rehabilitation staff
- Identify a suitable area near selected site that can be utilized for a Personnel Protection Equipment (PPE) drop-off area
- Ensure that the rehabilitation area is an area large enough for ambulance(s) assigned to the RU, with an egress route for transport of personnel if required.
- Ensure that the rehabilitation area is staged away from hazardous atmospheres, including apparatus exhaust fumes and/ or smoke
- Requisition of needed rehabilitation equipment and supply assets, and coordination of placement/ set-up in consultation with the IC
- Establish a Rehabilitation Operation to include medical evaluation, treatment, transportation, hydration, nourishment and rest
- Ensure that emergency incident personnel assigned to be rehabilitated are safely and efficiently processed and returned to operations as appropriate

**D. Rehabilitation Group / Unit:** The Rehabilitation Group/ Unit shall be comprised of a sufficient number of personnel (span of two (2) Rehabilitation Unit Group/ Unit Emergency Medical Technicians for every ten (10) public safety responders working at the incident) to perform medical monitoring, rehydration, and manage food and nourishment supplies for the maximum number of emergency personnel anticipated to potentially be in the Rehabilitation Area at any given time. The Rehabilitation Group/ Unit shall consist of certified Emergency Medical Technicians, but may also include EMS providers trained to the First Responder level and Community Emergent Response Team (CERT) personnel to assist with non-medical tasks such as documentation, maintaining supplies, and set-up and take- down of the Rehabilitation Area. When necessary, available paramedics maybe assigned to the Rehabilitation Treatment Unit to perform Advanced Life Support (ALS) assessments and treatments as appropriate in Type IV or < Rehabilitation Operations (refer section V.,B-2) Otherwise paramedics will be requested and dispatched to Rehabilitation to assess and treat emergency personnel that meet state ALS criteria. The Rehabilitation Group/ Unit shall expand and contract to meet the needs of the incident.

**E. Chief Officers:** All Chief Officers should make every effort to maintain awareness of the condition of each company/ unit operating within their span of control to ensure that adequate steps are being taken to provide for each responder's health and safety. The command structure should be utilized to request relief and reassignment (rehabilitation) of fatigued responders.

**F. Supervisors / Company Officers:** All supervisors and/or company officers should make every attempt to maintain an awareness of the condition of each responder operating within their span of control, and ensure that adequate steps are taken to provide for each responders health and safety. The command structure should be utilized to request relief and reassignment (rehabilitation) of fatigued responders.

- G. Emergency Responders:** It is ultimately the responsibility of every emergency responder to maintain awareness of his or her condition, and of those operating with them at an emergency incident, planned event and/ or training evolution, to ensure adequate steps are being taken to provide for each responder's health and safety. The command structure should be utilized to request relief and reassignment (rehabilitation) of fatigued responders.

## **V. Details of Establishing and Operating Rehab**

- A. Establishment:** The procedure for Emergency Incident Rehabilitation Operations (EIRO) at an emergency scene, training exercises, large scale operations or preplanned events are as follows:

1. There are five (5) types (levels) of rehabilitation operations that may be utilized. National Incident Management System (NIMS) Incident Types have been applied to the following Rehabilitation Type Incidents, with a Level V having the least amount of resources and ICS structure and a Level I. as having the most.
2. The County Fire and/ or EMS Coordinators, in conjunction with the IC, may assist the Rehab Group Supervisor/ Unit Leader in rotating companies/ units to the RA for rest and rehabilitation and/ or medical evaluation.
3. The Rehabilitation Group Supervisor/ Unit Leader shall be responsible for managing rehabilitation operations.

### **B. Rehabilitation Operations:**

1. **Type V:** The incident can be handled with single resources from local and mutual aid jurisdictions. The incident is contained within the first operational period and often within an hour to a few hours after resources arrive on the scene. Rehabilitation operations should be established to meet the incident rehabilitation needs of an event / incident. Resources for Type V response are usually handled at the local level. Minimum recommended resources for this type are as follows:

- One (1) Type IV ambulances (add more as needed)
- Local rehabilitation supplies as needed (i.e.: Rehab Tags & Logs, water, towels, chairs, misters, etc.)
- Advanced Life Support (as needed)

**Example:** Room & Content Fire or Vehicle Extrication with 4-8 Firefighters exerted x >20 Minutes (Single Alarm)

2. **Type IV:** Command and General Staff functions are activated only if needed. The incident is usually limited to one operational period. Rehabilitation operations should be established to meet the incident rehabilitation needs of the event /incident. Incident resources for Type IV response are usually handled by local and mutual aid resources. The minimum recommended resources for this level are as follows:

- Three (3) Type IV ambulances
- One (1) Rehabilitation Unit (additional as needed)
- Advanced Life Support Unit (as needed)
- County EMS Coordinator (as needed)

**Example:** Residential structure fire with an interior attack with heavy overhaul operations utilizing >8 Firefighters “packed up” utilizing at least one air bottle with >20 minutes of exertion each. (Two Alarm or greater)

3. **Type III:** When capabilities exceed initial emergency response. Some or all of the Command and General Staff positions are activated, as well as Division/ Group Supervisor and/or Unit Leader level positions. These incidents may require more than one operational period. Rehabilitation operations should be established to meet the incident rehabilitation needs of the event / incident. Incident Resources for Type III response are usually handled with local, mutual aid and regional resources. Minimum recommended resources for this level are as follows:

- Five (5) Type IV ambulances
- Two (2) Rehabilitation Units (additional as needed)
- Advanced Life Support Unit (as needed)
- County EMS Coordinator(s)

**Example:** High-rise or large commercial building with >24 Firefighters with an interior attack with heavy overhaul operations, each utilizing at least one air bottle with >20 minutes of exertion each. (Three Alarm or greater)

4. **Type II:** This level of incident extends beyond the capabilities for local control and is expected to go multiple operational periods. A Type II incident may require the response of resources out of area, including regional and/ or national resources, to effectively manage the operations, Command and General staffing, and Rehabilitation operations should be established to meet incident rehabilitation needs of the event / incident. Minimum recommended resources for this level are as follows:

- Type IV ambulances (as appropriate to operations)
- Rehabilitation Units (as appropriate to operations)
- Advanced Life Support Unit (as needed)
- County EMS Coordinators ( consider NJ EMS Task Force Advance Team)
- State resources (as needed)

**Example:** Wild land or Forest fire with >50 Firefighters working over a large geographic area on a hot day

5. **Type I:** This incident is the most complex, requiring national resources to safely and effectively manage and operate. All Command and General Staff positions are activated. Operations personnel often exceed 500 per operational period. Branches are established. Rehabilitation operations should be established to meet the incident rehabilitation needs of the event /incident. Minimum recommended resources for this level are as follows:

- Type IV ambulances (as appropriate to operations)
- Rehabilitation Units (as appropriate to operations)
- Advanced Life Support Unit (as needed)
- County EMS Coordinators
- NJ EMS Task Force; Advance Team

- State or Federal resources (as needed)

**Example:** Wild land or Forest fire with >500 Firefighters working over a large geographic during a single operational period.

- 6. Rehabilitation Area:** The Rehabilitation Area should be set up as a two (2) zone unit. It shall have a controlled entrance and exit, with an accountability site at the entrance for checking responders in and out of the RU. There shall be a vital signs (VS) evaluation area prior to the entry into the rest and hydration area. There shall be a medical evaluation/ treatment area, with an exit to the transport area. (*refer Appendix E*)
- 7. Location:** It shall be the responsibility of the EMS Branch Director/ Group Supervisor to choose a suitable location for the Rehabilitation Area. The Incident Commander shall approve this location. The location should have the following characteristics:
- Location(s) should be far enough away from the incident scene for responders to safely remove their SCBA and turn-out gear. (NOTE equipment & turn-out gear should not be brought into the RA; the Rehabilitation Unit Leader must designate an area as an equipment & turn-out gear drop zone.)
  - Location(s) should provide suitable protection from the prevailing environmental conditions (i.e.: in hot weather; it should be a cool shaded area, during cold weather it should be a warm, dry area.)
  - Location(s) must be easily accessible for EMS transport units.
  - Location(s) must be free from exhaust fumes from apparatus or equipment (including those involved in the rehabilitation unit's operations)
  - Location(s) must be large enough to accommodate multiple responders, crews, companies based upon the size of the incident.
  - Upon release from the Rehabilitation Unit location(s) should allow for prompt re-entry in to the emergency operations scene

## **APPENDIX A – NJAC 5:75 – 2.9 Rehab Regulations**

### **5:75-2.9 NJ Department of Community Affairs Fire Service Incident Management System Regulation - Medical unit/responder rehabilitation (rehab)**

- (a) Incident commanders shall ensure that the physical or mental condition of first responders operating at the scene of an emergency does not deteriorate to a point where it affects the safety of each member, or jeopardizes the safety and integrity of the operation.
- (b) Responder rehabilitation (rehab) shall be used to evaluate and assist personnel who may be suffering from the effects or sustained physical exertion during emergency operations.
- (c) Command officers should consider the need for rehab during the initial planning stages of an emergency response. Climatic or environmental conditions (for example, high or low temperatures) shall not be the sole justification for establishing rehab. Any activity or incident that is large in size, long in duration, and/or labor intensive will rapidly deplete the energy and strength of personnel and therefore merits the establishment of rehab.
- (d) All supervisors shall maintain an awareness of the condition of each member operating within their immediate span of control and ensure that adequate steps are taken to provide for each member's safety and health. The command structure shall be used to request relief and the reassignment of fatigued crews.
- (e) When the circumstances dictate it, responder rehabilitation shall be the responsibility of a medical unit under the logistics section.
- (f) A medical unit shall provide a specific area where personnel will assemble to receive:
  - 1. Medical assessment
  - 2. Nourishment and re-hydration
  - 3. Treatment of injuries
  - 4. Monitoring of physical condition
  - 5. Transportation for those requiring treatment at medical facilities
  - 6. Initial critical incident stress debriefing
- (g) Critical components of a rehab operation shall include:
  - 1. Nourishment and re-hydration
  - 2. Rest
  - 3. Recovery
  - 4. Medical evaluation and treatment
  - 5. Accountability
- (h) Fire departments shall develop and utilize written standard operating procedures/guidelines for rehab. Each of the elements in (g) above shall be included when developing standard operating guidelines or procedures for carrying out rehab operations.
- (i) Rehab shall be responsible to identify resources that have been cleared from rehab and ready for reassignment through staging or released from the incident.

## APPENDIX B

### Definitions

**1. Active Cooling:** The process of using external methods or devices (i.e. hand and forearm immersion, misting fans, ice vests) to reduce elevated core body temperature.

**2. Advance Life Support (ALS):** Emergency Medical Treatment beyond Basic Life Support level as defined by the medical authority having jurisdiction.

**3. Basic Life Support (BLS):** Emergency medical treatment at a level as defined by the medical authority having jurisdiction.

**4. Company:** A group of first responders/ members: 1. under the direct supervision of an officer; 2. trained and equipped to perform assigned tasks; 3. usually organized and identified as engine companies, ladder companies, rescue companies, or multi- functional companies; 4. operating with one piece of fire apparatus (engine, aerial fire apparatus, elevating platform, quint, rescue, squad, ambulance) except where multiple apparatus are assigned that are dispatched and arrive together, continuously operate together, and are managed by a single company officer; and 5. arrival at the incident scene on the fire apparatus.

**5. Core Body Temperature:** temperature of the central blood.

**6. Crew:** A team of two or more responders.

**7. Emergency Incident:** Any situation to which the emergency services organization responds to deliver emergency services, including rescue, fire suppression, emergency medical care, special operations, law enforcement, and other forms of hazard control and mitigation.

**8. Emergency Medical Care:** The provision of treatment to patients including first aid, cardiopulmonary resuscitation, basic life support (first responder or EMT level), advanced life support (paramedic level), and other medical procedures that occur prior to arrival at a hospital or other health care facility.

**9. Emergency Medical Services (EMS):** Provision of treatment, such as first aid, cardiopulmonary resuscitation, basic life support, and other pre-hospital procedures including ambulance transportation of patients.

**10. Emergency Operations:** Activities of the Fire and/or EMS departments or agencies relating to rescue, fire suppression, emergency medical care, and special operations, including response to the scene of the incident and all functions performed at scene.

**11. Hydration:** A fluid balance between water lost by normal functioning and oral intake of fluids in the form of liquid and foods that contain water.

**12. Incident Commander (IC):** The person(s) who are responsible for all decisions relating to the management of the incident and is in charge of the incident site.

## **FIRE SERVICE REFERENCE BOOKLET 11 – NJ INCIDENT REHABILITATION**

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**13. Incident Management System (IMS):** A system that defines the roles and responsibilities to be assumed by responders and the standard operating procedures to be used in the management and direction of emergency incidents and other functions.

**14. Medical Monitoring:** The on-going system evaluation of members who are at risk of suffering adverse effects from stress or from exposure to heat, cold, or hazardous environments.

**15. Member:** A person involved in performing the duties and responsibilities of a fire department, under auspices of the organization.

**16. Passive Cooling:** A process of using natural evaporation cooling (i.e. sweating, doffing personal protective equipment) to reduce elevated core body temperature.

**17. Patient:** An emergency responder who undergoes medical monitoring and treatment during the rehabilitation process.

**18. Personal Accountability System (PAS):** A system that readily identifies both the location and function of all members operating at an incident scene.

**19. Procedure:** An organization directive issued by the authority having jurisdiction or by the department that establishes a specific policy that must be followed.

**20. Rate of Perceived Exertion (RPE):** A subjective impression of overall physical effort, strain, and fatigue during acute physical exertion. (Appendix B)

**21. Recovery:** The process of returning a member's physiological and psychological states to normal or neutral where this person is able to perform additional emergency tasks, be re-assigned, or released without any adverse effects.

**22. Rehabilitation:** An intervention designed to mitigate 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.

**23. Rehabilitation Group Supervisor/ Unit Leader:** The person(s) or officer(s) assigned to manage the Rehabilitation Group/ Unit.

**24. Sports Drink:** Fluid replacement beverage that is between 4 percent and 8 percent carbohydrate and contains between 0.5 G and 0.7g of sodium per liter of solution.

**25. Standard Operating Procedure (SOP):** A written organization directive that establishes or prescribes specific operational or administrative methods to be followed routinely for the performance of designated operations or actions.

## APPENDIX C

### Managing Heat and Cold Stress

**Heat Stress:** Table.1 from the Toronto Fire Services provides information on heat stress that can be distributed as recommended training for members. Table 1 outlines recommended precautions developed by the Toronto Fire Services for four humidex ranges. Due to the variance of individual susceptibility, certain individuals may experience effects of heat stress earlier than expected. Supervisors should therefore begin to remind workers of heat stress prevention strategies as the humidex level approaches the 95-degree F. to 102 degrees F (35-degree C to 39-degree C)

An emergency service organization cannot choose to not respond to the public when it is too hot. However, it can modify its own activities to ensure it does not place its personnel at extra risk. The key to adapting to the heat is to consistently use rehabilitation process and active cooling prevention strategy. The information in Tables 1 & 2 can be used to assist a fire department to determine whether or not non-emergency activities should be re-scheduled or cancelled.

**Table 1 Activity Table (Estimation of Physical Work Loads)**

<i>Work Load</i>	<i>Kcal / hour</i>	<i>Examples of Activities</i>
<i>Light</i>	<i>Up to 200</i>	<i>Sitting or standing to control machines (driving pump operations) performing light hand or arm work (rope evolutions) intermittent walking.</i>
<i>Medium</i>	<i>200-350</i>	<i>Walking with moderate lifting, carrying, pushing or pulling (hose evolutions), SCBA (donning and doffing), fire extinguisher evolutions, mopping floors, mowing lawn on level ground.</i>
<i>Heavy</i>	<i>350-500</i>	<i>Intermittent heavy lifting with pushing or pulling using an axe (live fire burns), SCBA (search and rescue evolutions), auto extrication, ground ladder raises, roof evolutions, special operations evolutions, forcible entry operations.</i>



**HEAT STRESS INDEX**

Relative Humidity (percent)	Air Temperature (F)										
	70	75	80	85	90	95	100	105	110	115	120
	Apparent Temperature (F)										
0	64	69	73	78	83	87	91	95	99	103	107
10	65	70	75	80	85	90	95	100	105	111	116
20	66	72	77	82	87	93	99	105	112	120	130
30	67	73	76	84	90	96	104	113	123	135	148
40	68	74	78	86	93	101	110	123	137	151	
50	69	75	81	88	96	107	120	135	150		
60	70	76	82	90	100	114	132	149			
70	70	77	85	93	106	124	144				
80	71	78	86	97	113	136	157				
90	71	79	88	102	122	150	170				
100	72	80	91	108	133	166					
Apparent Temperature (F)	Danger Category		Injury Threat								
Below 80	None		Little or no danger under normal circumstances								
80 - 90	Caution		Fatigue possible if exposure is prolonged and there is physical activity								
91 - 105	Extreme Caution		Heat cramps and heat exhaustion possible if exposure is prolonged and there is physical activity								
106 - 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!								

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

**HEAT STRESS INDEX**

HUMITURE	DANGER CATEGORY	INJURY / THREAT
Below 60	None	Little or no danger under normal circumstances
80 to 90 Degrees	Caution	Fatigue possible if exposure is prolonged & there is physical activity
90 to 105 degrees	Extreme Caution	Heat cramps & heat exhaustion possible if exposure is prolonged & there is physical activity
105 to 130 Degrees	Danger	Heat cramps & heat exhaustion likely, heat stroke is possible if exposure is prolonged & there is physical activity.
Above 130 Degrees	Extreme Danger	Heat Stroke Imminent

**Heat Stress Safety**

**Purpose:** This advisory provides guidance for job-specific, safe work procedures for the prevention of heat related disorders.

**Responsibility:** The supervisor in charge of the facility or workplace is responsible for implementing these heat stress prevention guidelines on a day-to-day basis. It is the responsibility of the individual fire fighters to follow guidelines outlined in the program. All fire fighters and officers should remain aware of the signs and symptoms of heat stress in order to prevent potential injuries or illness.

**Heat Stress:** Emergency Response can be hot, strenuous work. We work in environments with extremely high temperatures with little opportunity to cool our bodies through normal sweating. Our bunker gear makes it difficult to dissipate this heat buildup and can result in heat stress. Heat stress

occurs when our body's internal core temperature rises above its normal level. It is a result of our metabolic heat buildup (from working in bunker gear) and external stress from environmental factors (temperature, humidity, etc.)

**Managing Heat Stress:** The management of heat stress requires an understanding of the contributing factors and how heat stress can affect a worker. Factors that affect heat stress are environmental (climate), workload, and clothing worn. Combined, these factors will dictate the rate of heat gain and ultimately, the amount of heat loss required to protect the worker. Aspects of the thermal environment that impact heat stress include air temperature, humidity, radiant heat (from the sun or other heat source), and air movement. A worker's metabolic rate is associated with the physical demands of the work performed; higher work demands increase the metabolic process and result in the internal generation of heat. Clothing material, construction, and usage affect the potential heat exchange between the body and the environment and therefore potentially contribute to the risk of heat stress. Other contributing factors that affect the way we manage heat stress are the fire fighter's physical fitness and body composition. Thus it is essential that the fire fighter stay in good physical condition.

**Controls:** The key to managing heat stress is to be familiar with the controls used to prevent it and to minimize its effects. Controls for heat stress include the following:

- (1) Fluid intake (hydration)
- (2) Work rotation
- (3) Active cooling
- (4) Rest

## Heat Stress Classifications, Signs, Symptoms, and Treatment

Type	Cause	Signs & Symptoms	Treatment	Prevention
<b>Heat rash</b>	Hot, humid environment: plugged sweat glands	Red, bumpy rash with severe itching	Change into dry clothes and avoid hot environments. Rinse skin with cool water	Wash regularly to keep skin clean and dry
<b>Sunburn</b>	Too much exposure to the sun	Red, painful, or blistering and peeling skin	If the skin blisters, seek medical aid. Use skin lotions (avoid topical anesthetics) and work in the shade	Work in the shade, cover skin with clothing, apply skin lotions with a sun protection factor of at least 15. Fair people are at greater risk
<b>Heat Cramps</b>	Heavy sweating drains a person's body of salt, which cannot be replaced just by drinking water	Painful cramps in arms, legs, or stomach that occurs suddenly at work or later at home.  Heat cramps are serious because they can be a warning of other more dangerous heat induced illnesses	Move to a cool area: Loosen clothing and drink cool salted water (1 tsp. salt per gallon of water) or commercial fluid replacement beverages. If the cramps are severe, or don't go away, seek medical aid.	Reduce activity levels and / or heat exposure. Drink fluids regularly.  Workers should check on each other to help spot the symptoms that often precede heat stroke.

<b>Type</b>	<b>Cause</b>	<b>Signs &amp; Symptoms</b>	<b>Treatment</b>	<b>Prevention</b>
<b>Heat Exhaustion</b>	Fluid loss and inadequate salt and water intake causes a persons' body cooling system to breakdown	Heavy sweating, cool moist skin, elevated body temperature over 100.4 degrees F (38 degrees C), weak pulse, normal or low blood pressure; person is tired and weak, person faints, has nausea and vomiting, is very thirsty, is panting or breathing rapidly; vision can be blurred.	<p align="center"><b>GET MEDICAL AID</b></p> <p>This condition can lead to heat stroke, which can kill.</p> <p>Move the person to a cool, shaded area; loosen clothing; provide cool (salted) water to drink. Use active cooling (forearm immersion and misting fans) to lower core body temperature</p>	<p>Reduce activity levels and / or heat exposure. Drinking fluids regularly.</p> <p>Workers should check on each other to help spot the symptoms that often precede heat stroke.</p>
<b>Heat Stroke</b>	<p>If a person's body has used up all its water and salt reserves, it will stop sweating.</p> <p>This can cause body temperature to rise. Heat stroke can develop suddenly or can follow from heat exhaustion</p>	Body temperature over 105.8 F (41 C) and any one of the following: the person is weak, confused, upset, or acting strangely; has hot, dry, red skin; a fast pulse; headache or dizziness. In later stages, a person can pass out and have convulsions.	<p align="center"><b>ARRANGE TRANSPORTATION TO A MEDICAL FACILITY</b></p> <p>This condition can kill a person quickly.</p> <p>Remove excess clothing; provide immediate active cooling using forearm immersion and misting fans; spray the person with cool water; offer sips of cool water if the person is conscious.</p>	<p>Reduce activity levels and / or heat exposure. Drink fluids regularly.</p> <p>Workers should check on each other to help spot symptoms that often precede heat stroke.</p>

## **Cold Stress & Frostbite Classifications Signs, Symptoms, and Treatment**

**Cold Stress:** The following information is useful in identifying the cause, signs and symptoms, treatment, and prevention of injuries related to sub-freezing conditions.

**Frostbite:** Frostbite occurs when the skin actually freezes and loses water. In severe cases, amputation of the frostbitten area may be required. While frostbite usually occurs when the temperatures are 30 degrees F (16 degrees C) or lower, wind chill factors can allow frostbite to occur above freezing temperatures. Frostbite typically affects the extremities, particularly the feet and hands.

**Signs & Symptoms:** Frostbite symptoms vary, are not always painful, but often include a sharp, prickling sensation. The first indication of frostbite is skin that looks waxy and feels numb. Skin color turns red, then purple, then white, and is cold to the touch. In severe cases, blisters may be present. Severe frostbite results in blistering that usually takes about 10 days to subside. Once damaged, tissues will always be more susceptible to frostbite in the future.

**Treatment:** Do not rub the area to warm it. Wrap the area in a soft cloth, move the member to a warm area, and contact medical personnel. Do not leave the member alone. If help is delayed, immerse the affected part in warm, not hot, water (maximum 105 degrees F (40.6 degrees C)). Do not pour water on the affected part. If there is a chance that the affected part will get cold again do not warm. Warming and re-cooling will cause severe tissue damage.

**Hypothermia:** Hypothermia which means “low heat” is a potentially serious health condition. This occurs when body heat is lost faster than it can be replaced. When the core body temperature drops below the normal 98.6 degree F (37 degrees C) to around 95 degrees F (35 degrees C) the onset of symptoms normally begins.

**Signs and symptoms:** The person may begin to shiver and stomp their feet in order to generate heat. Workers may lose coordination, have slurred speech, and fumble with items in the hand. The skin will likely be pale and cold. As the body temperature continues to fall these symptoms will worsen and shivering will stop. Workers may be unable to walk or stand. Once the body temperature falls to around 85 degrees F (29.4 degrees C) severe hypothermia will develop and the person may become unconscious. At 78 degrees F (25.6 degrees C) the person could die.

**Treatment:** Treatment depends on the severity of the hypothermia. For cases of mild hypothermia move the member to a warm area and have them stay active. Remove wet clothes and replace with dry clothes or blankets. Cover the member’s head. To promote metabolism and assist in raising internal core temperature, have the member drink a warm (not hot) sugary drink. Avoid drinks with caffeine. For more severe cases do all the above, plus contact emergency medical personnel, cover all extremities completely, and place very warm objects, such as hot packs or water bottles on the victim’s head, neck, chest, and groin. Arms and legs should be warmed last. In cases of severe hypothermia treat the member very gently and do not apply external heat to re-warm. Hospital treatment is required.

If member is in the water and unable to exit, they should secure collars, belts, hoods, and similar equipment in an attempt to maintain warmer water against the body. Move all extremities as close to

the torso as possible to conserve body heat. As the member is removed from the water, administer the following treatment:

- (1) Stop further cooling of the body and provide heat to begin re-warming.
- (2) Carefully remove member to shelter (Note that sudden movement or rough handling can upset heart rhythm).
- (3) Keep member awake.
- (4) Remove wet clothing and wrap in warm covers.
- (5) Re-warm neck, chest, abdomen, and groin but not extremities.
- (6) Apply direct body heat or use safe heating devices.
- (7) Give warm, sweet drink, but only if member is conscious.
- (8) Monitor breathing and administer artificial respiration if necessary.
- (9) Call for medical help or transport member carefully to nearest medical facility.

**Immersion Foot:** Immersion foot is caused by having feet immersed in cold-water temperatures above freezing for long periods of time. It is similar to frostbite but considered less severe.

**Treatment:** Soak feet in warm water, then wrap loosely with dry cloth bandages. Drink a warm, sugary drink.

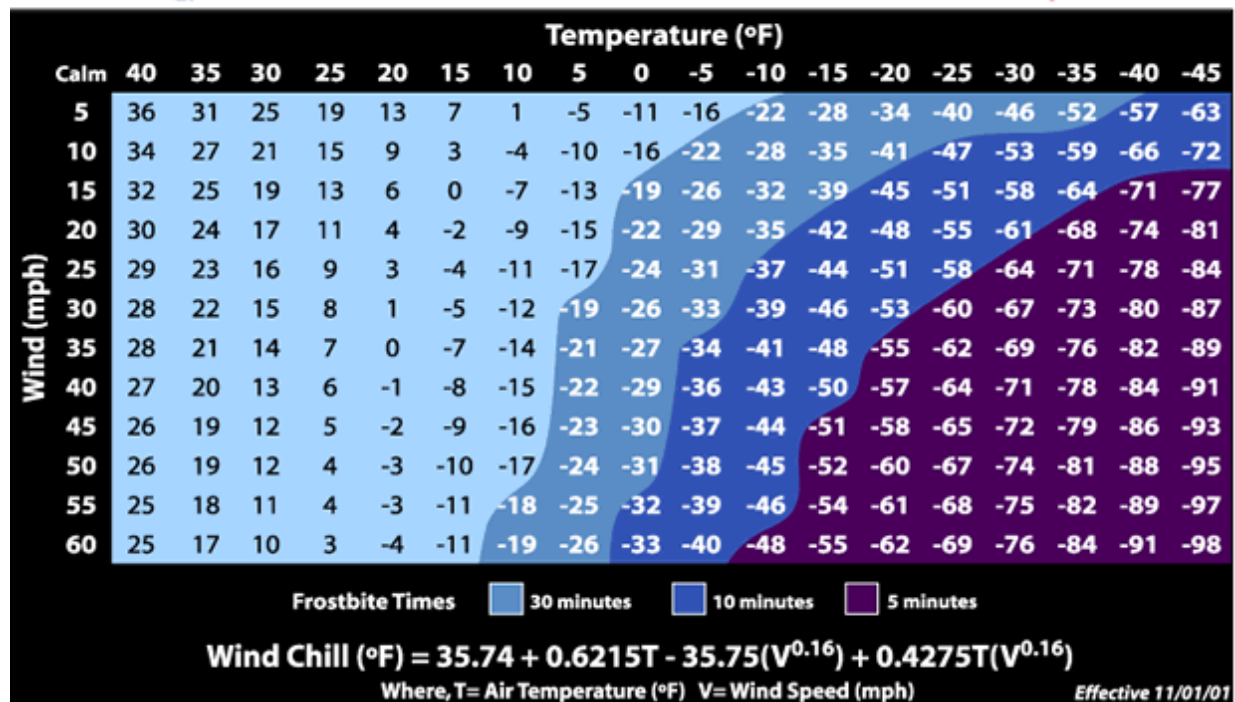
**Prevention:** Plan for work in cold weather. Wearing appropriate clothing and being aware of how your body is reacting to the cold are important to preventing cold stress. Avoiding alcohol, certain medications, and smoking can also help to minimize the risk.

#### **NATIONAL WEATHER SERVICE WIND CHILL – TEMPERATURE INDEX**

<b>WIND CHILL TEMPERATURE</b>		<b>DANGER</b>
A	Above -25 F	Little danger for a properly clothed person
B	-25 F / -75 F	Increasing danger, flesh may freeze
C	Below -75 F	Great danger, flesh may freeze in 30 seconds



# NWS Windchill Chart



## APPENDIX D – Borg Scale

The Borg Scale is a simple method of rating perceived exertion (RPE) and can be used to gauge a responder's level of intensity of exertion at an incident, to help assist the incident commander in determining the responders need for a medical assessment as part of rehabilitation, based on their assigned task and physical condition. A person's exertion rating may provide a fairly good estimate of the actual heart rate during physical activity\* (Borg, 1998). For example, if a person's rating of perceived exertion (RPE) is 12, then  $12 \times 10 = 120$ ; so the heart rate should be approximately 120 beats per minute. Note that this calculation is only an approximation of heart rate, and the actual heart rate can vary quite a bit depending on age and physical condition. The Borg Scale maybe utilized as a subjective tool to assist with determining level of exertion for each responder task assigned at an incident.

### How to Use the Perceived Exertion Scale

While doing the physical activity in their assigned task, we want the responder to rate their perception of exertion. This feeling should reflect how heavy and strenuous the activity they were involved in felt to them, combining all sensations and feelings of physical stress, effort, and fatigue. Do not concern yourself with any one factor such as leg pain or shortness of breath, but try to get them to focus on their total feeling of exertion.

Have them look at the rating scale below and rank their exertion level while they were engaging in their assigned activity; it ranges from 6 to 20, where 6 means "no exertion at all" and 20 means "maximal exertion." Choose the number from below that best describes your level of exertion. This will give us a good idea of the intensity level of their assigned activity.

Try to have them appraise their feeling of exertion as honestly as possible, without thinking about what the actual physical load was. Their own feeling of effort and exertion is important, not how it compares to other responder's. Have the responder look at the scales and the expressions and then give a number.

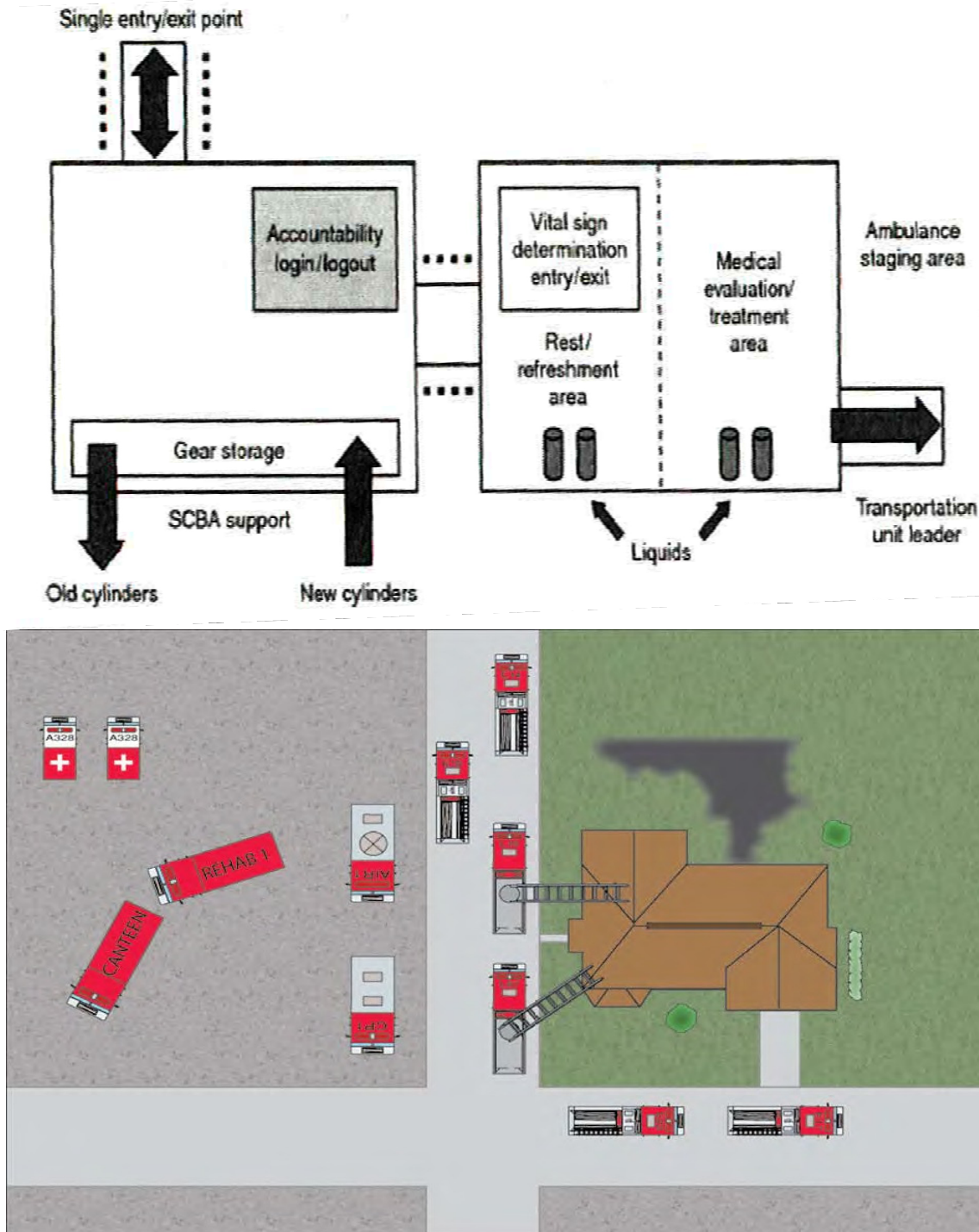
Responder's with a self-Rating of Perceived Exertion (RPE) number of 12 or greater on the 15 Point Scale or, 3 or greater on the 10 point scale are recommended to receive a Medical Rehab Assessment along with rest, hydration and nourishment as appropriate. It is recommended that the 10 Point Scale be utilized over the 15 Point Scale for Incident Rehab Operations.

### 10 Point Scale

- 1 - **Very Light** (Maintains pace comfortably)
  - 2 - **Fairly Light** (Comfortable but breathing a bit harder)
  - 3 - **Moderate** (Beginning to sweat but can converse)
  - 4 - **Somewhat Hard** (Sweating increased, still conversational)
  - 5 - **Hard** (Slightly breathless when speaking)
  - 6 - (Difficulty speaking, sweating more pronounced)
  - 7 - **Very Hard** (Can speak but prefers not to, sweating profusely)
  - 8 - (Grunting replies to questions, cannot sustain pace)
  - 9 - (Greatly fatigued, cannot speak, cannot maintain pace)
  - 10 - **Very, very Hard** (Exhaustion. Unable to function or speak coherently)
- (Modified by the State of New Jersey to include verbal definitions of each point on the scale)



## APPENDIX E – REHAB AREA SETUP



**The Rehabilitation Area:** The Rehabilitation Area should be set up as a two (2) zone unit. It shall have a controlled entrance and exit, with an accountability site at the entrance to check responders in and out of the Rehab Unit. There shall be a vital signs evaluation area prior to the entry into the rest and hydration area. There shall be a medical evaluation/ treatment area, with an exit to the transport area.

**Location:** It shall be the responsibility of the Rehab Group/ Unit Supervisor to choose a suitable location for the Rehabilitation Area. The Incident Commander shall approve this location. The location should have the following characteristics:

- Location(s) should be far enough away from the incident scene for responders to safely remove their SCBA and/ or turn-out gear. (NOTE: equipment & turn-out gear should not be brought into the rehabilitation area; the Rehabilitation Unit Leader must designate an area as the equipment and turn-out gear drop zone.
- Location(s) should provide suitable protection from the prevailing environmental conditions (i.e.: during hot weather; it should be a cool shaded area: during cold weather it should be a warm, dry area.)
- Location(s) should allow for the provision of proper lighting for the duration of a rehabilitation operation.
- Location(s) must be easily accessible for EMS transport units.
- Location(s) must be free from exhaust fumes from apparatus or equipment (including those involved in the rehabilitation unit's operations)
- Location(s) must be large enough to accommodate multiple responders, crews and/ or companies based upon the size of the incident.
- Upon release from the Rehabilitation Unit location(s) should allow for prompt re-entry in to the emergency operations scene.

## **APPENDIX F – Rehab Medical Operations**

### **MEDICAL OPERATIONS**

1. The Rehabilitation Unit Leader/ Group Supervisor shall ensure sufficient basic and advanced life support assets (personnel, equipment, supplies and vehicles) are available as needed to provide:
  - a. Rehabilitation Entry Evaluation & Medical Screening
  - b. Staff of the Rehabilitation Treatment Unit for medical monitoring and pre-hospital treatment as appropriate.
  - c. BLS & ALS Transport Units for transport from the Rehabilitation Treatment Unit to designated hospitals.
2. All medical evaluations shall be recorded on a standardized Emergency Incident Rehabilitation Tags and/ or Tactical Rehab Worksheets. All rehabilitation documentation shall be forwarded to the Rehabilitation Group Supervisor for review, with a copy sent to the Incident Commander (IC). Any responder who requires transport to a hospital Emergency Department by EMS, or signs off with a Refusal of Medical Aid (RMA) shall be high-lighted on the rehabilitation form so that the IC can up-date his/ her accountability records. The local EMS agency with jurisdictional responsibility at an incident shall retain all completed Emergency Incident Rehabilitation Tags and retain/ protect them as confidential medical records.
3. Rehabilitation Medical Documentation utilizing a standard Emergency Incident Rehabilitation Tags to include:
  - a. Personnel Name
  - b. Incident Name
  - c. Company Assignment ( Agency & Apparatus )
  - d. Date
  - e. Age
  - f. Entry Vital Signs: Entry Time, BP, HR, RR, Body Temp, CO, Time Taken
  - g. Additional Medical Screening Assessment
    - i. Chest Pain
    - ii. Difficulty Breathing
    - iii. Dizziness
    - iv. Weakness
    - v. Nausea and/or Vomiting
    - vi. Headache
    - vii. Body Cramps/pain
    - viii. Unsteady Gait
    - ix. Deviations in Speech
    - x. Deviations in Behavior
    - xi. Altered Mental Status
    - xii. Any Injuries?
    - xiii. Skin Color (*refer to Heat Exhaustion or Frostbite tables*)
  - h. Hydration Amount & Type

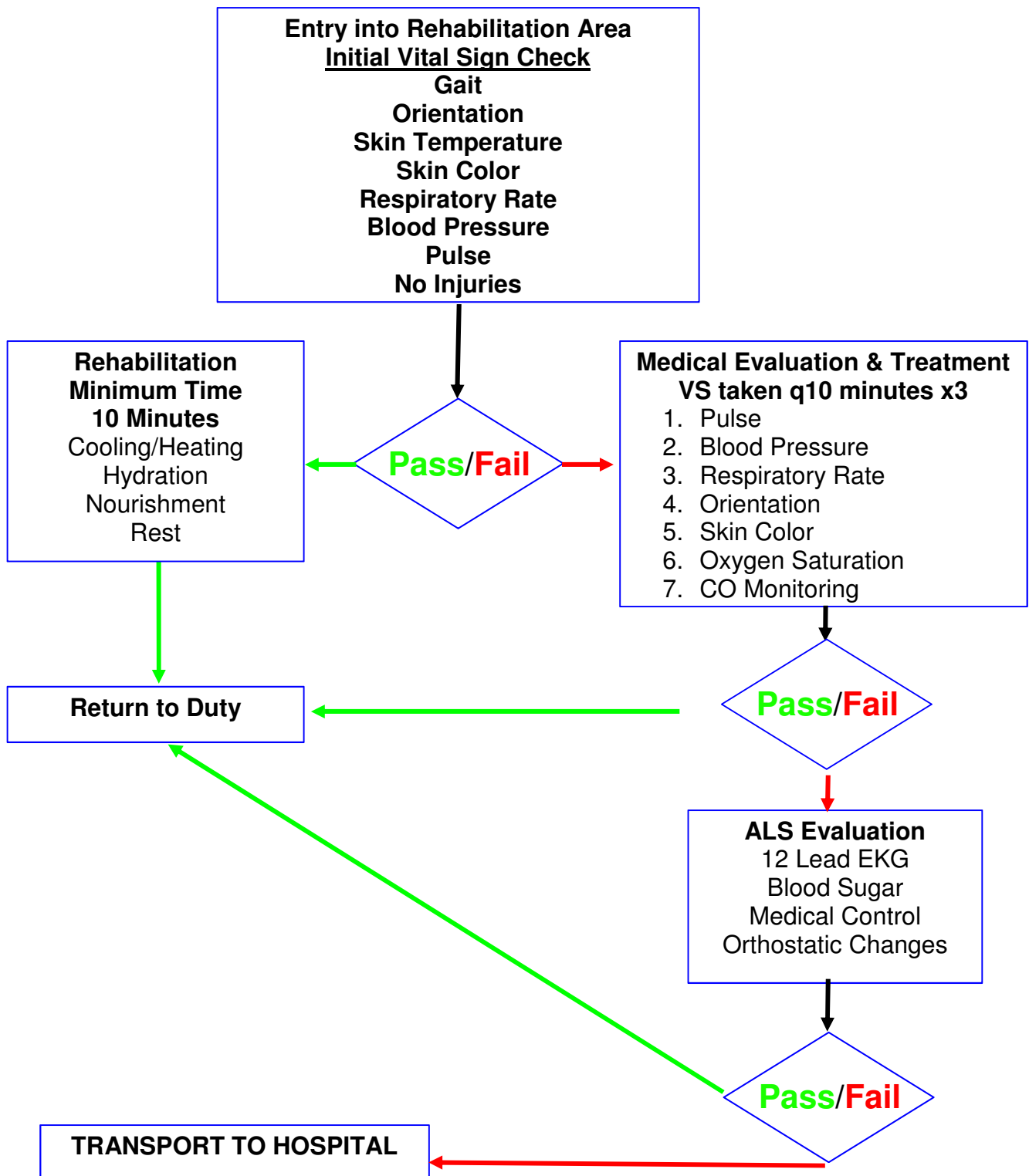
- i. Nutrition: Food Type
  - j. Rehabilitation Treatment Unit Monitoring as appropriate with:
    - i. Repeat Vital Signs for a minimum of every 10 minutes until return to normal values, if transported to a hospital or removal from duty. If the patient is unstable, vital signs should be repeated every 5 minutes as necessary until values fall within normal limits.
    - ii. Miscellaneous Comments completed to document injuries or medical issues
    - iii. Final Disposition
    - iv. Rehabilitation Unit Leader/Group Supervisor & EMS Group Sup/EMS Branch Director notifications of Final Disposition of all personnel sent to Rehabilitation Treatment Unit for additional medical monitoring and/or treatment.
  - k. Rehabilitation Disposition with Dates & Times
  - l. Post-incident all completed Emergency Incident Rehabilitation Tags should either be scanned into a single EMS chart incident as attachments and/ or retained as medical records, in accordance with the local EMS agency procedures for medical records retention.
4. Rehabilitation Personnel shall perform Entry Evaluation Vital Signs and Medical Screening on Rehabilitation Tag to make a proper disposition into one of two categories:
- a. Abnormal Assessment Findings and/ or Injuries send to Rehabilitation Treatment Unit for continued medical monitoring, treatment and transport as needed
  - b. Release from medical rehabilitation for:
    - i. Rest
    - ii. Cooling or warming from the environment
    - iii. Hydration and nourishment
    - iv. Return to Duty after rest. Emergency Incident Personnel assigned to Rehabilitation shall rest for at least 10-20 minutes prior to being releases from rehab to return-to-duty status.
5. Emergency Incident Personnel sent to Rehabilitation Treatment Unit should have continuous medical monitoring, with repeat vital signs every 10 minutes, treatment as appropriate, rest, fluids for re-hydration and should be cooled or re-warmed as appropriate in an environment protecting them from the elements. Emergency Incident Personnel have a final disposition into one of the three following categories:
- a. Released from Rehabilitation Treatment Unit (with return to normal Vital Signs (VS) and/ or received required medical treatment)
  - b. Transported to Hospital ( for injuries, medical problem, abnormal VS and/ or altered assessment)
  - c. Removed from Duty (refused medical treatment (RMA), monitoring and/ or transport as recommended by Rehabilitation Treatment Unit).
    - i. RMA - In the event that a responder refuses to participate in rehabilitation or refuses medical assistance while in the RA, the Rehabilitation Group Supervisor, followed by the EMS Branch Director and the responder's Company Officer and/ or Incident Commander will be notified. RMA will be obtained and witnessed by the responder's Company Officer, in the presence of the Rehabilitation Officer, and when possible, the Medical Unit Leader. Personnel who refuse medical assistance shall not be allowed to return to duty and/ or incident operations.

6. Medical treatment and transport shall be in accordance with state and local protocols.
7. Mental Health Assessment-The Rehabilitation Group Supervisor and EMS Branch Director will make recommendations as appropriate to the Incident Commander on the need for adding mental stress evaluations to the Rehabilitation Group.
8. Vital Signs & Assessment Standards:
  - Physical Observations:
    - i. Personnel complaining of chest pain, dizziness, shortness of breath, weakness, nausea, or headache
    - ii. General complaints such as cramps, aches and pains, rate of perceived exertion (*refer to RPE scale*)
    - iii. Symptoms of heat or cold related stress
    - iv. Changes in gait, speech, or behavior
    - v. Alertness and orientation to person, place and time
    - vi. Skin Color
    - vii. Obvious Injuries
  - b. Heart Rate Values (HRV) - pulse rate in the emergency responder will normally be below 100 at rest, below 120 at a working incident, and at no time safely exceed 180 beats per minute. Values above 140 on arrival at Rehabilitation Area mandate a minimum of 20 minutes in the Rehabilitation Area, with appropriate medical supervision. At no time will an emergency responder be allowed to return to duty until the pulse rate is below 100 beats per minute after 20 minutes of rest. Persons with a persistent heart rate over 100 BPM after 20 minutes of rest will receive ALS evaluation and treatment per standard medical protocol.
  - c. Respiratory Rate (RR) - normal value is a rate between 12-20 breaths per minute. Before personnel are returned to duty they should have a respiratory rate that falls within normal values. Persons with a persistent respiratory rate greater than 20 breaths per minute after 20 minutes of rest shall receive ALS evaluation and treatment per standard medical protocol.
  - d. Blood Pressure (BP) - Blood Pressures that are too high, too low or fail to return to normal levels while in rehabilitation can indicate a medical problem. Upon recovery during rehabilitation a blood pressure should return to, or even be slightly lower than baseline. Personnel with a systolic pressure greater than 160 and /or a diastolic greater than 100 should not be released from rehabilitation. Personnel should continue to be monitored and treated. Persons with a persistent BP greater than 160 systolic and/ or greater than 100 diastolic after 20 minutes of rest shall receive ALS evaluation and treatment per standard medical protocol, and in consideration of a responder's medical history.
  - e. Neurological Assessments- personnel not alert and oriented to person, place or time, and/ or who exhibit changes in gait, speech or behavior, and/ or other persistent abnormal neurological findings shall receive ALS evaluation per standard medical protocol.
  - f. Skin Temperature- The following skin symptoms require additional evaluation.
    - i. Heat Stress-Personnel with skin that feels hot to the touch, dry, red, bumpy rash or is blistering.
    - ii. Cold Stress- When skin is pressed turns red then purple, then white and is cold ,looks waxy, feels numb or has a prickly sensation are experiencing signs of frostbite.

- g. Body Temperature- For personnel with body temperatures greater than 99.5 degrees F or less than 97 degrees F after 20 minutes may be not returned to duty and will be transported to a hospital for further evaluation. *(Note: Oral measurements are approximately 1.0 degree F or 0.55 degree C lower than the normal Core Body Temperature. Oral Temperatures are subject to error with tachypnea / hyperventilation. Tympanic Measurements may be up to 2.0 degrees F or 1.1 degree C lower than core body temperature.)* Cooling and warming measures as appropriate should be implemented.
- h. Pulse Oximetry- Values must be above 92% or personnel will not be allowed to return to operations. Persons with a persistent pulse oximeter value below 92% after 20 minutes of oxygen therapy and rest will receive ALS evaluation and treatment per standard medical protocol. *(Note: High readings may also be indicative of Carbon Monoxide saturation. Refer to section k.)*
- i. Blood Glucose/Sugar (BGS) - will be assessed whenever abnormal neurological findings are observed. Personnel with serum values less than 80 or greater than 250 shall not be returned to duty and shall receive ALS evaluation and treatment per standard medical protocol.
- j. Electro Cardio Gram (EKG) Monitoring and 12 Lead EKGs- Responders with a persistent heart rate over 100 BPM and/ or an irregular pulse after 20 minutes of rest shall receive ALS evaluation and treatment per standard medical protocol.
- k. Carbon Monoxide (CO) - Values for carbon monoxide oximeter readings will normally fall below 5% in nonsmokers, and below 8% in smokers. Upon arrival in the Rehabilitation Area, a reading will be obtained and recorded. Any symptoms will be recorded. A detector reading over 12% indicates moderate carbon monoxide inhalation, and over 25% indicates severe inhalation of carbon monoxide. Emergency workers with CO level over 8% but below 15% will be given the opportunity to breathe ambient air for 5 minutes, and oximeter readings repeated. If the value is still above 8%, oxygen therapy by mask will be administered until readings drop below 5%. Any value over 15% requires oxygen therapy by mask until value drops below 5%. Any value over 25% personnel will be medically evaluated and removed to a hospital. ALS Medical Command should consider consultation with a Burn Center to determine appropriate hospital destination (Hyperbaric Oxygen Chamber). No emergency responder shall leave the Rehabilitation Area until CO levels on the monitor are at or below 5%. Responders with a persistent CO Value of >5% after 20 minutes of rest and oxygen therapy will receive ALS evaluation and treatment per standard medical protocol. *(Note: Administration of high concentration oxygen decreases CO levels by half over 20-30 minutes. CO values should be obtained prior administration of oxygen Tx if possible, or adjusted for the amount of time on oxygen.)*

<b>Level</b>	<b>Signs and Symptoms</b>	<b>Pre-hospital Treatment</b>
0-4	Minor headache	Observe
5-9	Headache	100% oxygen, reassess after 10 minutes on 100% oxygen
10-19	Dyspnea, headache	100% oxygen, transport
20-29	Headache, nausea, dizziness	100% oxygen, transport
30-39	Severe headache, vomiting, altered LOC	100% oxygen, transport
40-49	Confusion, syncope, tachycardia	100% oxygen, transport
50-59	Seizures, shock, apnea, coma	Airway, 100% oxygen, transport
60-up	Coma, death	Airway, 100% oxygen, transport

\*\*\* Above values are based on blood serum levels\*\*\*



## APPENDIX G – Rest and Nourishment

### 1. Hydration

- a. Carbonated beverages, coffee, tea, or alcoholic beverages shall not constitute rehydration fluids.
- b. Provide bottled water throughout the rehab area for re-hydration during the rehab process
- c. For heat stress, each responder should replace at least one quart of water per hour. The re-hydration solution should be a 50/ 50 mixtures of water and a commercially prepared beverage such as a Sports Drink.
- d. Rehydration: fluid intake shall include 16 to 32 oz (0.5L to 1L) over a period of up to 2 hours after the end of an incident.

### 2. Cooling/ Re-Warming and Rest

- a. Provide an environment with protection from the elements that promotes rest. Utilize facilities, vehicles, shelters and tents with heating and air conditioning units.
- b. For long duration incidents identify bathroom facilities for incident use and/ or consider use of portable toilets.
- c. Provide chairs for rest.
- d. Provide cooling with fans, mister fans or Core Cooler Chairs, tepid water to bath arms, wet towels and/ or cooling vests as appropriate
- e. Provide re-warming with blankets, warm IV fluids, humidified oxygen administration and environmental heating as appropriate.
- f. Rest shall be provided after the “**Two (2) bottle rule**”. Responders should re-hydrate at least eight (8) ounces during an SCBA Bottle change.
- g. Rest shall be no less than 10 minutes, and may be 20 minutes as to be determined by the Rehabilitation Group Supervisor. After 10-20 minutes of rehabilitation, units/ personnel are to be released and are to report to the Rehabilitation Accountability Officer for Return to Duty processing.
- h. Personnel requiring additional medical monitoring and/ or treatment shall be transferred to the treatment unit of the Rehabilitation Group.
- i. The simplest cooling method for firefighters is removal of turn-out gear including bunker pants and boots. If appropriate an area for dropping and storing turn-out gear and SCBAs should be established for personnel assigned to rehabilitation.

### 3. Provide Nourishment

- a. If nourishment is required due to incident duration a local or regional canteen unit should be requested through the IC.
- b. When available, it is recommended that nourishment consist of low sodium soup or broth, fruits, (bananas, apples, oranges), fruit or energy bars, or other easily digested foods.
- c. Fast-food sandwiches, fatty or salty foods are not recommended

### 4. Return to Duty-

Incident personnel that have been medically cleared and have completed the rehab process will be returned to duty. The Rehab Accountability Officer will update the Incident Commander's Rehab Officer as Incident Personnel have completed the rehab process. The Accountability Officer under the direction of the Operations Section Chief will reassign and/or demobilize incident personnel



## **APPENDIX H – Rehab Resources**

### **Rehab Recommended Supplies & Equipment**

#### **• Medical Equipment**

- Blood Pressure Cuffs (Assorted Sizes)
- Stethoscopes
- Portable Pulse Oximeters
- Transcutaneous Carbon Monoxide Monitor
- Electronic Oral Thermometers and Probe covers
- Ice Packs and Hot Packs
- Oxygen & Oxygen Supplies
- Other ALS & BLS Supplies & Equipment as appropriate

#### **• Fluids & Foods**

- Bottled Water
- Sports Drinks(pre-mixed ready to use bottles and concentrated mixes)
- Ice (including appropriate storage containers and a identified re-supply solution to sustain operations)
- Food - If food is required or provided, it is recommended that it be hot low sodium soups or broths, fruits, (bananas, apples, oranges), Fruit or Energy bars or other easily digested foods. Fast food sandwiches, fatty, salty or high sugar foods are not recommended.
- Canteen Unit(s)

#### **• Rehab Equipment**

- |                        |                              |
|------------------------|------------------------------|
| • Cold Wet Towels      | • Portable Heaters           |
| • Portable Shelters    | • Portable Generators        |
| • Misting Fans         | • Extension Cords            |
| • Portable Fans        | • Portable Seating           |
| • Cooling Vests        | • Portable Tables            |
| • Core Cooler Chairs   | • Coolers                    |
| • Gas Cans             | • Portable Lighting          |
| • Towels               | • Traffic Cones / Barricades |
| • Blankets             | • Barricade Tape             |
| • Tarps                | • Rehab Signage              |
| • Rehab Title Vests    | • Rehab Tactical Worksheets  |
| • Rehab Job Check List | • Buses                      |
| • Tents & Shelters     | • Portable Radios            |

## APPENDIX I – References

1. National Incident Management System (NIMS)
2. New Jersey Department of Community Affairs Fire Service Incident Management System Regulation; 5:75-2.9
3. NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*
4. NFPA 1561, *Standard on Emergency Services Incident Management System*
5. NFPA 1584, *Recommended Practice on the Rehabilitation of Members Operating at Incident Scene Operations and Training Exercises*
6. University of Indiana –Physiological Stress Associated with Structural Firefighting Observed in Professional Firefighters [www.indiana.edu/~firefit/](http://www.indiana.edu/~firefit/)
7. U.S. Fire Administration, FA-114, *Emergency Incident Rehabilitation*

## APPENDIX J- JOB AIDS

### Rehab Group Supervisor

Minimum Training Level: ☐ EMT-P ☒ EMT-B ☐ Non-EMT

Rehab Group Supervisor: \_\_\_\_\_ County Incident # \_\_\_\_\_

Date:     /     /                      Start Time: \_\_\_\_:\_\_\_\_ Hours              End Time: \_\_\_\_:\_\_\_\_ Hours

Rehab Area Location: \_\_\_\_\_ Rehab Radio Frequency \_\_\_\_\_

Reports to EMS Branch Director

Rehab EMS Branch Frequency: \_\_\_\_\_ EMS Branch Cell #: \_\_\_\_\_

**Activation Protocol:** The Incident Commander and / or their designate assigns units to rehabilitation.

**Responsibility:** To provide guidance on the implementation and use of a rehabilitation process as a tactical requirement of the incident management system (IMS) at the scene of a fire, other emergency, or training exercise. It will ensure that personnel who might be suffering the effects of metabolic heat buildup, dehydration, physical exertion, and / or extreme weather receive evaluation and rehabilitation during emergency operations

#### **Tasks:**

Don the Rehabilitation Group Supervisor vest.

Whenever possible, select a location for rehabilitation with the following site characteristics;

- Large enough to accommodate the number of personnel expected (including EMS personnel for medical monitoring)
- Have a separate area for members to remove PPE
- Be accessible for an ambulance and EMS personnel should medical treatment be required
- Be removed from hazardous atmospheres including apparatus exhaust fumes, smoke, and other toxins.
- Provide shade in summer and protection from inclement weather at other times.
- Have access to a water supply (Bottled or running) to provide for hydration and active cooling.
- Be away from spectators and media.

The Incident Commander will notify the Rehabilitation Group Supervisor via radio of Units being assigned to Rehabilitation.

The Rehabilitation Group Supervisor notifies the Incident Commander of the arrival of units assigned to rehabilitation.

Ensure personnel in rehabilitation doff their bunker coats, helmets, hoods, and open their bunker pants to promote cooling when appropriate.

**Rehab Group Supervisor (con't)**

Provide the required resources for rehabilitation including the following;

- Potable drinking water for hydration
- Sports drinks (to replace electrolytes and calories) for long duration incidents (working more than one hour).
- Water supply for active cooling through forearm immersion.
- Medical monitoring equipment (pulse oximeters, CO monitors, chairs to rest on, blood pressure cuffs, stethoscopes, first aid supplies, check-sheets, etc.)
- Food where required and a means to wash or clean hands and face prior to eating.-
- Blankets and warm dry clothing for winter months.
- Washrooms facilities where required

Time personnel in rehabilitation to ensure they receive at least 10 to 20 minutes of rest

Ensure personnel re-hydrate themselves.

Ensure personnel are provided with a means to be actively cooled or re-warmed where required.

Maintain accountability and remain within rehabilitation at all times

Document members entering or leaving rehabilitation

Inform the incident commander, accountability officer (resource status unit) and EMS personnel if a member requires transportation to and treatment at a medical facility

Serve as a liaison with EMS personnel.

**Supervises:**

Rehabilitation Accountability Officer (Entry/Exit Point)

Initial Assessment Unit Leader

Rest & Nourishment Unit Leader

Treatment Unit Leader

Transportation Unit Leader

Rehabilitation Logistics Officer

**Rehabilitation Accountability Officer**

**Entry / Exit Point**

**Minimum Training Level:**    ☐ EMT-P        ☐ EMT-B        ☒ Non-EMT

**Rehab Accountability Officer:** \_\_\_\_\_ **County Incident #** \_\_\_\_\_

**Date:**    /    /        **Start Time:** \_\_\_\_:\_\_\_\_ **Hours**        **End Time:** \_\_\_\_:\_\_\_\_ **Hours**

**Rehab Area Location:** \_\_\_\_\_ **Rehab Radio Frequency** \_\_\_\_\_

**Reports to Rehab Group Supervisor**

**Rehab Group Supv. Frequency:** \_\_\_\_\_ **Rehab Group Supv. Cell #:** \_\_\_\_\_

**Responsibility:** To account for units / personnel assigned to rehabilitation at the entry / exit point of the Rehabilitation Area.

**Tasks:**

The Rehabilitation Accountability Officer will perform the check in of every unit / personnel assigned to rehabilitation.

The Rehabilitation Accountability Officer will complete the Log Sheet by logging in and out all personnel entering and exiting the incident rehabilitation area.

The Rehabilitation Accountability Officer will take possession of the Accountability Tag from each person assigned to Rehabilitation.

Rehabilitation Accountability Officers will direct personnel assigned to Rehabilitation to the Initial Assessment Area once check-in has been completed.

The Rehabilitation Accountability Officer will collect and completed the Rehabilitation Tag for all units / personnel. Fields on the Rehabilitation Tag to be completed are:

- Hydration Amount
- Fluid Type
- Nutrition Type
- Return To Duty Time & Date

Once Rehabilitation has been performed and documented, the Rehabilitation Accountability Officer will return the Accountability Tags to all units / personnel ready for return to duty.

The Rehabilitation Accountability Officer will notify the Rehabilitation Group Supervisor of the number of units and / or personnel with a return to duty status

The Rehabilitation Accountability Officer shall be in coordinate with the Incident Accountability Officer.

**Supervises:**

Supervises Assistant Rehabilitation Accountability Officers as needed.

**Initial Assessment Unit Leader**

Minimum Training Level: ☐ EMT-P ☒ EMT-B ☐ Non-EMT

Initial Assessment Unit Leader: \_\_\_\_\_

Date:     /     /                      Start Time: \_\_\_\_:\_\_\_\_ Hours              End Time: \_\_\_\_:\_\_\_\_ Hours

Initial Assessment Area Location: \_\_\_\_\_ Rehab Radio Frequency \_\_\_\_\_

Reports to Rehab Group Supervisor

Rehab Group Supv. Frequency: \_\_\_\_\_ Rehab Group Supv. Cell #: \_\_\_\_\_

**Responsibility:** To perform initial medical assessment of all incident personnel assigned to rehabilitation.

**Tasks:**

Request and assign an adequate number of EMS providers to perform Initial Assessments.

Ensure that EMS providers have adequate equipment and supplies to perform Initial Assessments.

Issue a Rehabilitation Tag to all individuals.

Ensure that all incident personnel are properly assessed and have the following medical assessment items documented on the Rehabilitation Tag:

- Blood Pressure
- Pulse Rate
- Respiratory Rate
- Oral Temperature
- Carbon Monoxide (CO) Level

Make a determination if baseline vital signs for a specific responder are needed for comparison.

If assessment does not meet county-wide standards, responder must report to Treatment Unit for additional assessment.

If standards are met, responder may report to Rest & Nourishment for further rehabilitation.

**Supervises:**

All EMS Personnel performing initial assessments.

**Rest & Nourishment Unit Leader**

Minimum Training Level: ☐ EMT-P ☐ EMT-B ☒ Non-EMT

Rest & Nourishment Unit Leader: \_\_\_\_\_

Date:     /     /                      Start Time: \_\_\_\_:\_\_\_\_ Hours              End Time: \_\_\_\_:\_\_\_\_ Hours

Rest & Nourishment Area Location: \_\_\_\_\_ Rehab Radio Frequency \_\_\_\_\_

Reports to Rehab Group Supervisor

Rehab Group Supv. Frequency: \_\_\_\_\_ Rehab Group Supv. Cell #: \_\_\_\_\_

**Responsibility:** To provide protection from the environment where incident personnel can receive hydration, rest and nourishment.

**Tasks:**

Request and assign personnel as needed.

Request and assign equipment and supplies as needed.

Provide Hydration

- During heat stress, each responder should replace at least one quart of water per hour. The re-hydration solution should be a 50/50 mixture of water and a commercially prepared beverage such as Gatorade.
- Carbonated beverages, coffee, tea, or alcoholic beverages shall not be allowed.
- Re- hydration: fluid intake shall include 16 to 32 oz (0.5L to 1L) over a period of up to 2 hours after the end of an incident.

Provide Cooling/Re-Warming and Rest

- Provide an environment with protection from the elements that promotes rest.
- Provide chairs for rest.
- Provide re-hydration.
- Rest shall be no less than 10 minutes, and may exceed thirty (30) minutes as to be determined by the Rehabilitation Group Supervisor.
- Personnel requiring additional medical monitoring and / or treatment shall be transferred to the treatment unit of the Rehabilitation Group.

Provide Nourishment

- If nourishment is required or available, it is recommended that it be soup, broth, fruits, (bananas, apples, oranges) or other easily digested foods.
- Fast food sandwiches, fatty or salty foods are not recommended
- After 20 minutes of rehabilitation, units / personnel are to be released and are to report to the Rehabilitation Accountability Officer for Return to Duty processing.

**Supervises:**

All EMS and Non-EMS personnel assigned to operate in the Rest & Nourishment

**Treatment Unit Leader**

Minimum Training Level: ☐ EMT-P ☒ EMT-B ☐ Non-EMT

Treatment Unit Leader: \_\_\_\_\_

Date:     /     /                      Start Time: \_\_\_\_:\_\_\_\_ Hours              End Time: \_\_\_\_:\_\_\_\_ Hours

Treatment Unit Area Location: \_\_\_\_\_ Rehab Radio Frequency \_\_\_\_\_

Reports to Rehab Group Supervisor

Rehab Group Supv. Frequency: \_\_\_\_\_ Rehab Group Supv. Cell #: \_\_\_\_\_

**Responsibility:** Provide medical monitoring and treatment for incident personnel.

**Tasks:**

Don Rehabilitation Treatment Unit Leader vest.

Request and assign EMS providers as required.

Request medical supplies and equipment as needed.

Ensure that all medical and rehabilitation protocols and procedures are followed.

Treatment personnel shall evaluate vital signs, perform assessments and complete the entry vital signs and comments sections on the back of the Rehabilitation Tag. Responder disposition shall be into one of three categories:

- Immediate transport to the appropriate hospital emergency department.
- Continued monitoring and treatment in rehabilitation.
- Release from rehabilitation / return to duty.

Continued rehabilitation should consist of additional monitoring of vital signs every 5 to 10 minutes, providing rest and fluids for rehydration.

If vital signs return to established medical standards at any time prior to the third set, the responder may be released from the Treatment Unit to the Rest & Nourishment Unit.

After three sets of vital signs have been measured, responders with vital signs outside of established rehabilitation protocols shall be:

Transported to closest appropriate medical facility.

Removed from duty if responder refuses medical assistance.

The Treatment Unit Leader shall refer units / personnel for ALS assessment as needed.

Work with Transportation for all incident responders requiring ground or air transport to an appropriate medical facility.



**Treatment Unit Leader (con't)**

Determine appropriate medical facility / specialty care center(s) for each incident provider requiring transportation.

**Supervises:**

Personnel assigned to the Treatment Unit.

Blood Pressure

Neuro Assessments

Skin Temperature-

**Transportation Unit Leader**

Minimum Training Level: ☐ EMT-P ☒ EMT-B ☐ Non-EMT

Transportation Unit Leader: \_\_\_\_\_

Date:     /     /                      Start Time: \_\_\_\_:\_\_\_\_ Hours                      End Time: \_\_\_\_:\_\_\_\_ Hours

Transportation Loading Area Location: \_\_\_\_\_ Rehab Radio Frequency \_\_\_\_\_

Reports to Rehab Group Supervisor

Rehab Group Supv. Frequency: \_\_\_\_\_ Rehab Group Supv. Cell #: \_\_\_\_\_

**Responsibility:** Request, assign and manage ground and air resources for transportation of incident providers from Rehabilitation Treatment Area to medical facilities.

**Tasks:**

Don Transportation Unit Leader vest.

Consider utilizing Loading and Departure Officers if needed.

Pre-determine Landing Zones/ Helispots as needed.

Establish a safe patient loading and departure area.

Arrange appropriate vehicles and methods of transportation.

Maintain a log of vehicle and patient destination.

Coordinate responder allocation and transportation priority with the Medical Unit and Staging.

Determine hospital and specialty care facility capabilities.

Assign responders to be transported to each medical facility.

Communicate with receiving medical facilities regarding patient reports and ETAs.

Provide progress reports to the Rehab Group Supervisor as necessary.

**Supervises:**

All personnel assigned to the Transportation Unit.

**Rehabilitation Logistics Officer**

**Minimum Training Level:**    ☐ EMT-P       ☐ EMT-B       ☒ Non-EMT

**Rehabilitation Logistics Officer:** \_\_\_\_\_

**Date:**    /    /                      **Start Time:** \_\_\_\_:\_\_\_\_ **Hours**                      **End Time:** \_\_\_\_:\_\_\_\_ **Hours**

**Rehabilitation Vehicle Identifier:** \_\_\_\_\_ **Rehab Radio Frequency** \_\_\_\_\_

**Reports to Rehab Group Supervisor**

**Rehab Group Supv. Frequency:** \_\_\_\_\_ **Rehab Group Supv. Cell #:** \_\_\_\_\_

**Responsibility:**    Manage transport, setup and maintenance of vehicle, equipment and various resources to be used in during incident rehabilitation.

**Tasks:**

Don Rehabilitation Logistics Officer vest.

Support any and all logistical needs of rehabilitation efforts.

Transport Rehabilitation vehicle, equipment and resources to Incident Rehabilitation area determined by Rehabilitation Group Supervisor.

Direct the expedient setup of all equipment and resources used to support Rehabilitation efforts.

Maintain all equipment in a ready status for deployment to Rehabilitation Operations.

Manage inventory levels of supplies at acceptable levels and notify appropriate personnel when additional supplies are required.

Direct the breakdown and demobilization activities once rehabilitation operations cease.

Ensure recovery of all rehabilitation equipment during demobilization.

Provide progress reports to the Rehab Group Supervisor as necessary.

**Supervises:**

All personnel assigned to support the logistical needs of Incident Rehabilitation

**APPENDIX K**  
**NJ Division of Fire Safety Sample SOP/G**

Standard Operating Procedure/Guideline

Incident Rehabilitation

Purpose:

The intent of this policy is to establish a procedure to lessen the risk of injury to firefighters and all first responders operating at emergency incidents, drills, training exercises and any other event that would require rehabilitation. This policy /guideline will utilize the Statewide Incident Rehabilitation Guidelines for Emergency Responders, as the framework for this document meet the requirements of the NJ Department of Community Affairs, Division of Fire Safety regulation (5:75-2.9) requiring the rehabilitation of firefighters to meet the goals of NFPA 1561

Scope:

All fire service operational personnel and other first responders

Responsibility:

All fire department officers, supervisors and command staff personnel

Procedure

(a) Incident commanders shall ensure that the physical and mental condition of emergency responders operating at the scene of an emergency does not deteriorate to a point where it affects the safety of each member or it jeopardizes the safety and integrity of the operation. (Strong consideration should be given to develop dispatch of rehabilitation resources in box alarm system.)

(b) Responder rehabilitation (rehab) shall be used to evaluate and assist personnel who may be suffering from the effects or sustained physical exertion during emergency operations.

(c) Command officers should consider the need for rehab during the initial planning stages of an emergency response. Climatic or environmental conditions (for example, high or low temperatures) shall not be the sole justification for establishing rehab. Any activity or incident that is large in size, long in duration, and/or labor intensive will rapidly deplete the energy and strength of personnel and therefore merits the establishment of rehab.

(d) All supervisors shall maintain an awareness of the condition of each member operating within their immediate span of control and ensure that adequate steps are taken to provide for each member's safety and health. The command structure shall be used to request relief and the reassignment of fatigued crews.

(e) When the circumstances dictate it, responder rehabilitation shall be the responsibility of a medical unit under the logistics section.

(f) A medical unit shall provide a specific area where personnel will assemble to receive:

1. A medical assessment;
2. Nourishment and re-hydration;
3. Treatment for injuries;
4. Monitoring of physical condition;
5. Transportation for those requiring treatment at medical facilities; and
6. Initial critical incident stress debriefing.

(g) Critical components of a rehab operation shall include:

1. Nourishment and re-hydration;
2. Rest;
3. Recovery;
4. Medical evaluation and treatment; and
5. Accountability.

Rehab shall be responsible to identify resources that have been cleared from rehab and ready for reassignment through staging or released from the incident.

## FIRE SERVICE REFERENCE BOOKLET 11 – NJ INCIDENT REHABILITATION

## APPENDIX L- Sample Tactical Worksheets-Union County

<u>UNION COUNTY OEM-EMS REHABILITATION RECORD</u>								Time	Page	of
INCIDENT LOCATION		DATE								
NAME / UNIT #	TIMES	BP	PULSE	RESP	TEMP	SKIN	TAKEN BY	COMPLAINTS	TRANS	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
	ENT								Y N	
	EXT								HOSP.	
Remarks										

OEM MEDICAL PERSONEL : \_\_\_\_\_

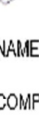
DW V1.2  
10.5.01

Union County Office Of Emergency Management  
EMS Mutual Aid  
Incident Rehabilitation Log Sheet

[illegible]


Revised 03/05/09

## EMS Special Ops Task Force



**SOMERVILLE/HILLSBOROUGH  
EMS SPECIAL OPS TASK FORCE**

**EMERGENCY INCIDENT  
REHABILITATION TAG**



NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

MED CODE:      CCB                      BB

AGE: \_\_\_\_\_      DATE: \_\_\_\_\_

**ENTRY EVALUATION:**

Time	R/P*	Pulse*	Resp	Temp	CO
To Remain in Rehab* <td>Systolic &lt; 100 Systolic &gt; 160 Diastolic &gt; 100</td> <td>&gt; 20 &gt; 100</td> <td>&gt; 20 &lt; 89.4 &lt; 97.0</td> <td>&gt; 7</td> <td></td>	Systolic < 100 Systolic > 160 Diastolic > 100	> 20 > 100	> 20 < 89.4 < 97.0	> 7	

\* Unseen & known & documented baseline value.

\*\* All workers with symptoms need to be triaged to the Treatment Sector for immediate evaluation by the Treatment Officer.

**MEDICAL SCREENING:**

Assess each of the following parameters.

	Y	N
1) Chest pain	<input type="checkbox"/>	<input type="checkbox"/>
2) Difficulty breathing	<input type="checkbox"/>	<input type="checkbox"/>
3) Dizziness	<input type="checkbox"/>	<input type="checkbox"/>
4) Weakness	<input type="checkbox"/>	<input type="checkbox"/>
5) Nausea/vomiting	<input type="checkbox"/>	<input type="checkbox"/>
6) Headache	<input type="checkbox"/>	<input type="checkbox"/>
7) Body cramps/pain	<input type="checkbox"/>	<input type="checkbox"/>
8) Unsteady gait	<input type="checkbox"/>	<input type="checkbox"/>
9) Deviations in speech	<input type="checkbox"/>	<input type="checkbox"/>
10) Deviations in behavior	<input type="checkbox"/>	<input type="checkbox"/>
11) Altered mental status: (< A&Ox3)	<input type="checkbox"/>	<input type="checkbox"/>
12) GCS: F ____ V ____ M ____ = ____		

**REHAB CHECK OUT:**

Time out

**Figure 1**

**Figure 1a: Relative Risk of Infection**

**Figure 1b: Relative Risk of Infection**

## Somerville/Hillsborough Special Operations Task Force Rehabilitation Accountability Log

Name / Department	Times	Disposition
First	Time Entered	<input type="checkbox"/> Released from Rehab with no restrictions (collect Rehab tag)
Last		<input type="checkbox"/> Left Rehab other _____
Dept	Time Left Rehab	<input type="checkbox"/> Transported to _____ by _____
		Check if PCR <input type="checkbox"/> Check if RMA <input type="checkbox"/> Check if notes on back <input type="checkbox"/>
Name / Department	Times	Disposition
First	Time Entered	<input type="checkbox"/> Released from Rehab with no restrictions (collect Rehab tag)
Last		<input type="checkbox"/> Left Rehab other _____
Dept	Time Left Rehab	<input type="checkbox"/> Transported to _____ by _____
		Check if PCR <input type="checkbox"/> Check if RMA <input type="checkbox"/> Check if notes on back <input type="checkbox"/>
Name / Department	Times	Disposition
First	Time Entered	<input type="checkbox"/> Released from Rehab with no restrictions (collect Rehab tag)
Last		<input type="checkbox"/> Left Rehab other _____
Dept	Time Left Rehab	<input type="checkbox"/> Transported to _____ by _____
		Check if PCR <input type="checkbox"/> Check if RMA <input type="checkbox"/> Check if notes on back <input type="checkbox"/>
Name / Department	Times	Disposition
First	Time Entered	<input type="checkbox"/> Released from Rehab with no restrictions (collect Rehab tag)
Last		<input type="checkbox"/> Left Rehab other _____
Dept	Time Left Rehab	<input type="checkbox"/> Transported to _____ by _____
		Check if PCR <input type="checkbox"/> Check if RMA <input type="checkbox"/> Check if notes on back <input type="checkbox"/>
Name / Department	Times	Disposition
First	Time Entered	<input type="checkbox"/> Released from Rehab with no restrictions (collect Rehab tag)
Last		<input type="checkbox"/> Left Rehab other _____
Dept	Time Left Rehab	<input type="checkbox"/> Transported to _____ by _____
		Check if PCR <input type="checkbox"/> Check if RMA <input type="checkbox"/> Check if notes on back <input type="checkbox"/>
Name / Department	Times	Disposition
First	Time Entered	<input type="checkbox"/> Released from Rehab with no restrictions (collect Rehab tag)
Last		<input type="checkbox"/> Left Rehab other _____
Dept	Time Left Rehab	<input type="checkbox"/> Transported to _____ by _____
		Check if PCR <input type="checkbox"/> Check if RMA <input type="checkbox"/> Check if notes on back <input type="checkbox"/>

Date: \_\_\_\_\_ Incident Location: \_\_\_\_\_

Revised 01/07/2009



## APPENDIX L- Sample Tactical Worksheets- Burlington County

**Note: Rehab Tags are designed to be affixed to responders with a standard Reusable ID Card Clip or safety pin through the hole supplied in the top of each tag. Completed Rehab Tags must be treated and retained as medical records in accordance with local procedures.**

<u>Rehab Treatment Unit Monitoring</u>				
Repeat Abnormal VS every 10 minutes				
<i>Time</i>				
<i>EMT Initials</i>				<i>Retain If:</i>
<i>B/P</i>				<i>SBP &gt; 160</i> <i>DBP &gt; 100</i>
<i>Pulse</i>				<i>&gt; 100 or</i> <i>&lt; 60</i>
<i>Resp</i>				<i>&gt; 20</i>
<i>Temp</i>				<i>&gt; 99.5</i> <i>&lt; 97.0</i>
<i>CO</i>				<i>&gt; 7</i> <i>&gt; 25</i> <i>transport</i>
<i>Pulse Ox.</i>				<i>&lt; 92%</i>
<i>PRN Blood Sugar/ 12 Lead EKG</i>				<i>BS &lt; 80</i> <i>Or &gt; 250/</i> <i>Abnormal EKG</i>

\*If v/s are abnormal after 3 sets transport.

\*\*If CO is &gt;5 for non-smoker or &gt;7 for smoker transport



\*\*\* If Pulse Ox &gt;90 transport

Misc. Comments:


Date & Time	<u>DISPOSITION</u>	Tx. EMT Initials
	<i>Released From Treatment</i>	
	<i>Transported To Hospital:</i>	
	<i>Removed From Duty</i>	

Rehab Unit Leader/Group Sup: \_\_\_\_\_

MS Group Sup/Branch Dir.: \_\_\_\_\_

 <b>Burlington County</b> <b>Emergency Incident</b> <b>Rehabilitation Tag</b>					
Name: _____					
Incident: _____					
Agency: _____		Apparatus: _____			
Date: _____		Age: _____			
<u>Entry Evaluation</u>					
Time	B/P *	Pulse *	Resp.	Temp	CO
To Retain in Rehab	Systolic < 100 Systolic > 160 Diastolic > 100	> 100	> 20	> 99.5 < 97.8	> 7 smokers > 5 Non-smokers
* Unless a known & documented baseline value ** All workers with symptoms need to be triaged to the Rehab Treatment Unit					
<u>Medical Screening</u>					
Assess each of the following parameters				Yes	No
1	Chest pain			<input type="checkbox"/>	<input type="checkbox"/>
2	Difficulty Breathing			<input type="checkbox"/>	<input type="checkbox"/>
3	Dizziness			<input type="checkbox"/>	<input type="checkbox"/>
4	Weakness			<input type="checkbox"/>	<input type="checkbox"/>
5	Nausea / vomiting			<input type="checkbox"/>	<input type="checkbox"/>
6	Headache			<input type="checkbox"/>	<input type="checkbox"/>
7	Body cramps / pain			<input type="checkbox"/>	<input type="checkbox"/>
8	Unsteady gait			<input type="checkbox"/>	<input type="checkbox"/>
9	Deviations in speech			<input type="checkbox"/>	<input type="checkbox"/>
10	Deviations in behavior			<input type="checkbox"/>	<input type="checkbox"/>
11	Altered mental status (<A&OX3)			<input type="checkbox"/>	<input type="checkbox"/>
12	Any Injuries?			<input type="checkbox"/>	<input type="checkbox"/>
13	Skin Color: red, hot, cold, or pale / waxy			<input type="checkbox"/>	<input type="checkbox"/>
Hydration: Amount (oz.): _____ Fluid Type: _____					
Nutrition: Food Type: _____					
Rehab Check Out Return to Duty Time & Date: _____					

## REHAB RESOURCE SUMMARY

[illegible]

[illegible]

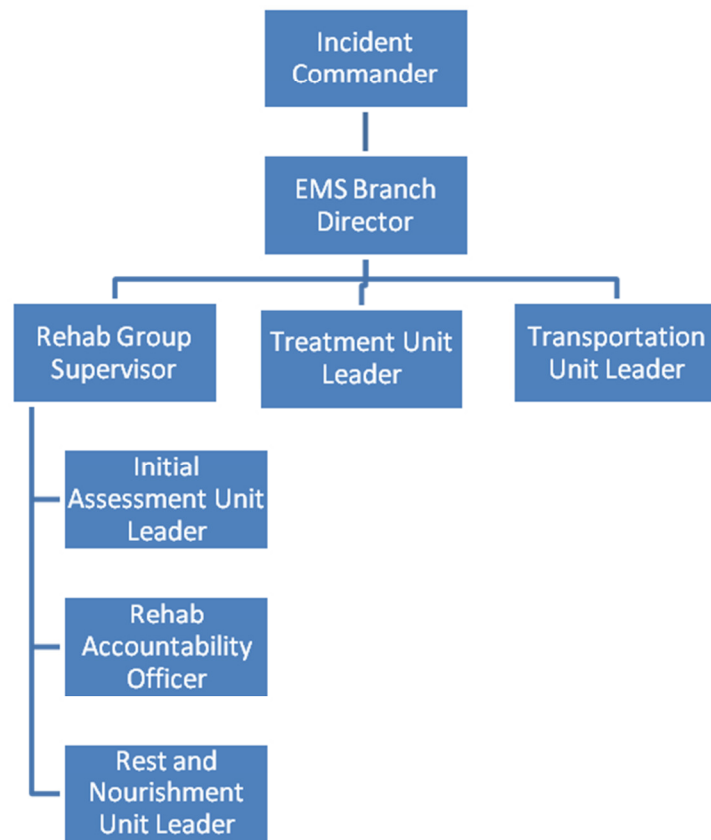
**Date:** \_\_\_\_\_ **Incident #:** \_\_\_\_\_ **Location:** \_\_\_\_\_

**Incident Commander:** \_\_\_\_\_ **EMS Branch Director:** \_\_\_\_\_

Rehab Group Supervisor: \_\_\_\_\_

[illegible]

## **Organization Structure of Rehab Area**



[illegible][illegible]

EMERGENCY INCIDENT  
PERSONNEL REHABILITATION LOG

Date: \_\_\_\_\_ Location: \_\_\_\_\_ Page \_\_\_\_\_ Of \_\_\_\_\_  
 Incident or Incident Type: \_\_\_\_\_ Weather Conditions: \_\_\_\_\_  
 Incident Commander: \_\_\_\_\_ Rehab Sector Officer: \_\_\_\_\_

[illegible]

\* Note Number Of SCBA Air Bottles Used Or Length Of Time Firefighter Has Been Performing Fireground Activities Prior To Entering Rehab.

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## **Promulgation Statement**

### **Endorsing Signatures**

We, the undersigned, have reviewed and approved these Guidelines for Incident Rehabilitation for use in local and county plan development.

#### **Atlantic County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

#### **Bergen County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

#### **Burlington County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

#### **Camden County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

#### **Cape May County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

#### **Cumberland County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

#### **Essex County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

#### **Gloucester County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

#### **Hudson County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------



**Hunterdon County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

**Mercer County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

**Middlesex County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

**Monmouth County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

**Morris County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
--------------------------	---------------	---------------------------	---------------

**Passaic County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
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**Salem County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
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**Somerset County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
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**Sussex County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
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**Union County**

_____ EMS Coordinator	_____ Date	_____ Fire Coordinator	_____ Date
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**Warren County**

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EMS Coordinator	Date	Fire Coordinator	Date