

Standard Operating Procedures Manual

City of Poquoson Fire and Rescue



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830 Poquoson Ave.
Poquoson, VA 23662
757-868-3510
F757-868-3514

EMERGENCY OPERATIONS

SOP#: EO 9.00

Title: Emergency Incident
Rehabilitation

Effective Date: 01/01/2009

Revised Date: 01/01/2009



Fire Chief's Signature



City Manager's Signature

EMERGENCY INCIDENT REHABILITATION

I. PURPOSE

To establish uniform procedures for proper Emergency Incident Rehabilitation (REHAB).

This SOP is not all inclusive and cannot encompass all situations which may be encountered.

II. APPLICABILITY

All career and volunteer personnel

III. PROCEDURES

General:

REHAB provides for the health and welfare of PFD members operating at emergency incident scenes or training evolutions. The rehabilitation process shall include:

- Relief from extreme climatic conditions.
- Food and fluid replenishment
- Medical evaluation and treatment

Responsibilities for REHAB**A. Incident Command (IC) shall:**

- Assure adequate steps are taken to provide for each person's health and safety by maintaining an awareness of:
 - The duration of an incident
 - The labor intensities of the various activities being performed.
 - The environmental conditions on the incident scene. (See: Tables 1-1 and 1-2)
- Incident command shall establish a REHAB Division or Group for rest and rehabilitation of members operating at an emergency incident scene or training evolution.
 - REHAB should be considered during the initial planning stages.
 - It shall be the responsibility of Incident Command to rotate members into REHAB as a company/unit.
 - Incident Command will be notified when a company/unit has been released from REHAB.

B. Company Officers and/or the Attendant in Charge (AIC) shall:

- Maintain an awareness of the condition of each person operating within their span of control to ensure adequate steps are taken to provide for each person's health and safety.
- Assure that his/her entire company/unit reports to REHAB as directed by Incident Command.
- Shall In conjunction with the REHAB AIC or Attendant, assure that all members of his/her company complete the

phases of REHAB that are established for the particular emergency incident, or training evolution.

- The Company Officer will be notified by the REHAB AIC of the IC's instructions for his/her company's reassignment, once the company is rested and has been medically cleared.

C. The REHAB AIC and/or Medical Group Supervisor is responsible for providing an appropriate rehabilitation process for members operating at an emergency incident scene or training evolution. This includes relief from extreme climatic conditions, food and fluid replenishment, and medical evaluation and treatment. The REHAB AIC shall :

- Maintain a medical log (use the *REHAB WORKSHEET* form) of all members that rotate through the REHAB process.
- Advise the Accountability Officer of the companies/units that are in REHAB during an Accountability Roll Call.
- Notify the IC when a company is rested and has been medically cleared, and is ready for reassignment.
- Notify the Company Officer of his/her company's reassignment.
- Maintain the responsibility for providing all necessary resources to provide for the members' REHAB process. These resources should include:
 - Fluids - water, activity beverage, oral electrolyte solutions and ice
 - Medical Support - REHAB assessment kit, oxygen delivery equipment, cardiac monitors and intravenous solutions

- Miscellaneous - shelters, fans, blankets, towels, floodlights
- Food & Hygiene facilities for long term operations as needed.

D. Members shall be encouraged to drink water and activity beverages throughout the workday. During any emergency incident or training evolution, all members shall advise their Company Officer when they believe their level of fatigue or exposure to heat or cold is approaching a level that could affect them, their crew or the operation in which they are involved. Members shall also remain aware of the health and safety of other members assigned to their crew.

Location of REHAB

A. REHAB should be in a location that will provide physical rest by allowing the body to recuperate from the environmental demands and hazards of the emergency incident scene or training evolution. REHAB should:

- Be far enough away from the scene that members may safely remove their turnout gear/protective equipment and SCBA, and be afforded mental rest from the stress and pressure of the emergency incident scene or training evolution.
- Provide suitable protection from the prevailing environmental conditions.
 - During hot weather, REHAB should be located in a cool, shaded area.
 - During cold weather, REHAB should be in a warm, dry area.
- Be located in an area free of exhaust fumes and noise from apparatus, vehicles or equipment.

- Be of sufficient size (based on the size of the incident) to accommodate multiple companies/units.
- Be located to facilitate prompt reentry to the emergency incident scene or training evolution, upon completion of the REHAB process.

Phases of REHAB**A. Rest :**

- Members having utilized two (2) full SCBA cylinders, or worked for 45 minutes, should be immediately rotated into REHAB for re-hydration, rest and medical evaluation.
- Members should (when possible) re-hydrate while SCBA cylinders are re-filled or changed.
- In all cases, the objective evaluation of a person's fatigue level by REHAB shall be the criteria for REHAB time.
- Rest shall be no less than ten (10) minutes, and may exceed thirty (30) minutes, based on the medical evaluation of the member's physical survey components.

B. Re-hydration :

- A critical factor in the prevention of heat injury is the maintenance of water and electrolytes.
 - Water must be replaced during exercise periods and at emergency incident scenes or training evolutions.
 - During heat stress conditions, members should consume at least one (1) quart of water per hour.
 - The re-hydration solution should be a mixture of

water and a commercially prepared activity beverage and administered at about 40°F.

- Re-hydration is important during cold weather operations where, despite the ambient air temperature, heat stress may occur during any strenuous activities when turnout gear/protective equipment is worn.

Note: Alcohol, caffeine, and carbonated beverages should be avoided before and during heat stress conditions. These substances interfere with the body's water conservation mechanisms.

C. Recovery :

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

D. Nourishment - Food should be provided at the scene of an emergency incident when multiple units are engaged for extended periods of time.

- A cup of soup, broth, or stew is highly recommended because it is digested much faster than sandwiches and fast food products.

- Foods such as apples, oranges, and bananas provide supplemental forms of energy replacement.
- Fatty and/or salty foods should be avoided.

E. Medical Evaluation – when members reports to REHAB, the following physical assessments shall be performed:

- Vital signs:
 - Blood pressure
 - Pulse
 - Respiration
 - Temperature (Tympanic)
- Physical examination of the skin, eyes, lungs, heart and abdomen shall be performed.
- This Medical Evaluation shall be performed when a member enters REHAB, and repeated **twice** in fifteen (15) minute intervals for any member presenting to REHAB with any Physical Survey Criteria beyond Status O.
 - During this re-evaluation period, the member shall stay at rest while recovering and hydrating.
 - If after the re-evaluation period, the member's condition remains unchanged or worsens, the member's status shall be degraded to the next status level.

F. Physical Survey Criteria**A. Blood Pressure**

• Systolic – 100 to 150 mm Hg	Status 0
• Systolic Less Than 100	Status 1
• Systolic Greater Than 150	Status 2
• Diastolic Less Than 90	Status 0
• Diastolic – 90 to 100	Status 1
• Diastolic Greater Than 100	Status 1

B. Pulse

• 55 – 120 beats per minute	Status 0
• Less Than 55	Status 1
• Greater Than 120	Status 1

C. Respirations

• 12 – 28 per minute	Status 0
• Less Than 12	Status 1
• Greater Than 28	Status 1

D. Temperature (Tympanic)

• 97°F - 100.6°F	Status 0
• Less Than 97	Status 2
• Greater Than 100.6	Status 2

**E. Skin – Check appearance for any rash or abnormality.
Document size and location of rashes.**

- Eyes - Check pupils for size and reactivity. Check eyes for appropriate movement. If any abnormalities exist
Status 2

- Lungs - Listen for wheezes, rales, rhonchi and bilateral equal breath sounds. If breath sounds are abnormal, in conjunction with a respiration criteria of **Status 1**
Status 2
- Heart :
 - Any Chest Pain **Status 3**
 - Any Arrhythmia **Status 3**
- Abdomen:
 - Any Abdominal Pain **Status 2**
 - Nausea and/or Vomiting **Status 2**
 - Diarrhea **Status 2**

F. Physical Survey Components (results)

- **Status 0** – No condition exists that prevents the member from performing any task on an emergency incident scene or training evolution.
- **Status 1** – A minor condition exists that will need to be re-evaluated. During the re-evaluation period, the member will stay at rest while recovering and hydrating (if appropriate). A medical evaluation will be repeated **twice** in fifteen (15) minute intervals. Should a member's condition remain unchanged or worsen, then the member will be placed into **Status 2**.
- **Status 2** – A moderate condition exists that will not allow the member to return to physically demanding or stressful assignments. These members will stay at rest while recovering and hydrating (if appropriate) for an additional re-evaluation period, during which a medical evaluation will be repeated **twice** in fifteen (15) minute intervals. Should a member's condition remain unchanged or worsen, then the member will be placed into **Status 3**.

- **Status 3** – A serious condition exists that excludes the member from any further physically demanding or stressful assignments Members placed into **Status 3** will require transportation to an Emergency Department. Any member placed into **Status 3** may only return to duty after evaluation by, and at the direction of a physician.

WIND CHILL INDEX

Table 1-2
TEMPERATURE °F

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

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

HEAT STRESS INDEX

Table 1-1

RELATIVE HUMIDITY

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

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

HUMIDITY °F	DANGER CATEGORY	INJURY THREAT
BELOW 60°	NONE	Little or no danger under normal circumstances
80° to 90°	CAUTION	Fatigue possible if exposure is prolonged and there is physical activity
90° to 105°	EXTREME CAUTION	Heat cramps and heat exhaustion possible if exposure is prolonged and there is physical activity
105° 130°	DANGER	Heat cramps or heat exhaustion likely, heat stroke possible if exposure is prolonged and there is physical activity
ABOVE 130°	EXTREME DANGER	Heat stroke imminent



Emergency Incident Rehabilitation Worksheet

REHAB

This form is to be completed at all emergency incident scenes by the Attendant in Charge of REHAB

Incident Address:

Rate all members according to the status scores as listed on the reverse side.

AIC Signature: _____

Date: _____ / _____ / _____

BLOOD PRESSURE:**PULSE:**

SYSTOLIC		55-100	Status 0		
100-150	Status 0	Less than 55	Status 1		
Less than 100	Status 1	Greater than 120	Status 1		
Greater than 150	Status 1				
DIASTOLIC		RESPIRATIONS:			
Less than 90	Status 0	12-28	Status 0		
90-100	Status 1	Less than 12	Status 1		
Greater than 120	Status 2	Greater than 28	Status 1		
TEMPERATURE	96-100° F	Status 0			
	Less than 96° F	Status 2			
	<i>Greater than 100.6 ° F</i>	Status 2			
SKIN	Check appearance for any rash or abnormality. Document size and location of rashes.				
EYES	Check pupils for size and reactivity. Check eyes for appropriate movement. If any abnormalities exist				
LUNGS	Listen for wheezes, rales, rhonchi and bilateral equal breath sounds. If any abnormalities exist				
HEART	Any chest pain	Status 3			
	Any arrhythmia	Status 3			
ABDOMEN	Any abdominal pain	Status 2			
	Nausea and vomiting	Status 2			
	Diarrhea	Status 2			