



TUCSON FIRE DEPARTMENT

Administrative Manual

“EMERGENCY SCENE REHABILITATION”

POLICY 316	PAGE 1 of 10
EFFECTIVE DATE October 1, 2014	
REVISED DATE June 21, 2018	

I. PURPOSE

To establish guidelines for implementation of an emergency scene rehabilitation group in accordance with NFPA 1584: Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises.

II. SCOPE

Applies to all uniformed members of the Tucson Fire Department (TFD) who are working at an emergency incident where the operating period may be extended or the operation may be physically demanding on fire department personnel.

*The TFD Training Section has established policies and procedures for training related exercises.

III. DEFINITIONS

- a. Carbon Monoxide (CO) Toxicity: Symptoms suggestive of CO toxicity includes headache, nausea, and shortness of breath and is measured by using the CO monitors.
- b. City Physician: The Occupational Medicine practitioner(s) for the Tucson Fire Department that conducts routine annual physicals and medical clearance.
- c. Health and Safety Officer (HSO): The Safety and Wellness Deputy Chief of TFD (DC12).
- d. EC12: The captain assigned to TFD Safety and Wellness Section.
- e. Emergency Incident Rehabilitation Report: The two-page report (distributed by EC12) to be completed by rehab personnel, reviewed by the Incident Safety Officer and submitted to the Incident Commander (IC) or delivered to the TFD Safety and Wellness Captain (EC12) office (via inter-office mail) at the conclusion of the incident.
- f. ePCR: The documentation program for emergency scene EMS encounters.
- g. IDLH: The area at an emergency scene that is Immediately Dangerous to Life Health.
- h. Incident Commander (IC): The officer in charge of emergency scene operations.
- i. Incident Safety Officer (ISO): The company officer assigned to oversee emergency scene safety operations, paying particular attention to scene conditions and personnel safety.
- j. NFPA: The National Fire Protection Association is a fire service organization established to create standards for the fire industry.
- k. Rehab Group: The functional group assigned at an emergency scene to support, assess, and at times, treat emergency personnel by facilitating hydration, rest, and medical evaluation/treatment.
- l. Rehab Personnel: Personnel assigned by the IC to manage the Rehab Group.
- m. SCBA: Self Contained Breathing Apparatus

IV. POLICY

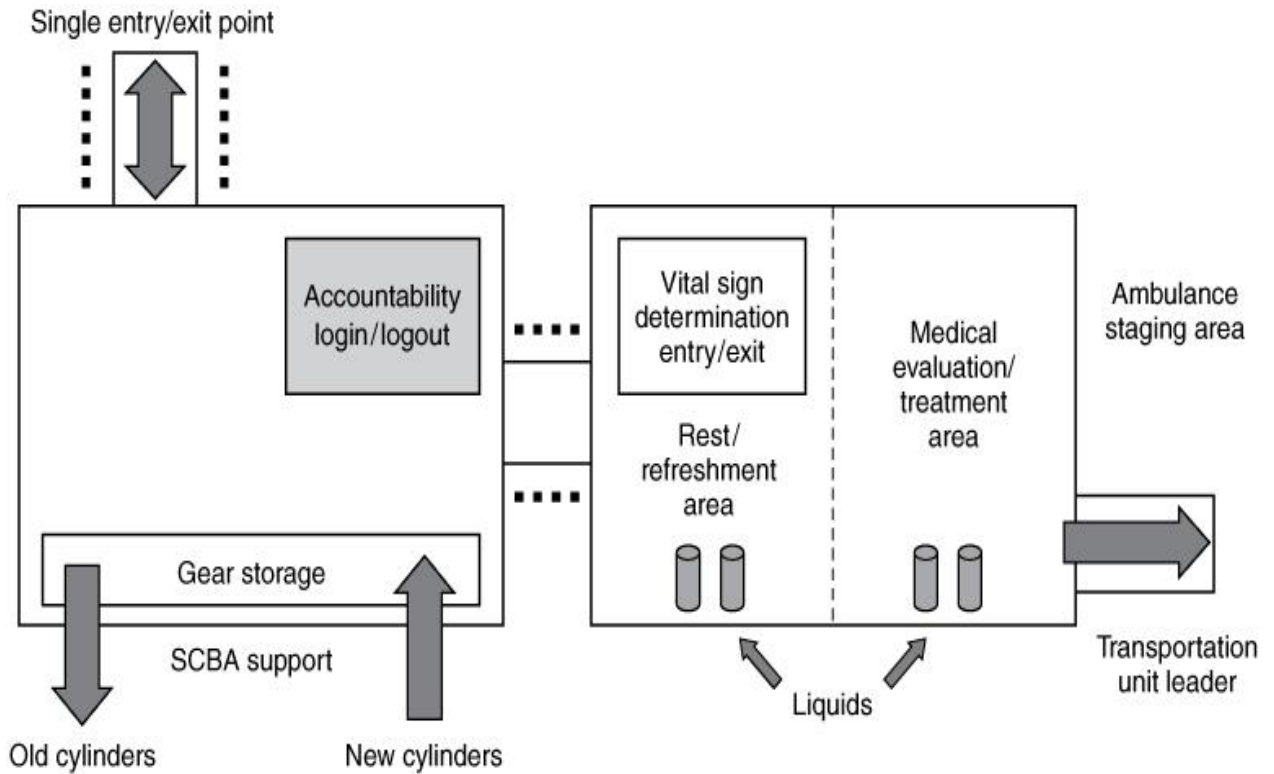
TFD personnel shall report to emergency scene rehabilitation (rehab) when directed by the Incident Commander (IC). A Rehab Group shall be established by the IC and the Rehab personnel will ensure that all emergency personnel are assessed and, at times, treated for conditions resulting from emergency operations. The Rehab personnel and Incident Safety Officer (ISO) shall have sole authority to determine if personnel are capable of continued fire ground activities and clearance from the scene in a state of physical readiness. Documentation of emergency incident rehabilitation shall be done by completing the Emergency Incident Rehabilitation Report.

V. PROCEDURES

- a. Group Establishment
 - i. The IC will call for the establishment of the Rehabilitation Group, depending upon the size, circumstances or complexity of the emergency.

- b. Location
 - i. May be determined by the Incident Commander or Rehab personnel, depending upon the scope of the operation.
 - ii. Complete the site criteria checklist on the back of the Emergency Incident Rehabilitation Report.
 - iii. Site Characteristics include:
 - 1. Consideration shall be given to a location that will enable personnel to receive physical relief and recuperation from incident stress, hazards, and environmental exposure. Utilize the checklist for NFPA site criteria located on the back of the Emergency Incident Rehabilitation Report.
 - 2. The site should be outside of the IDLH; far enough away from the incident to allow for turnout and SCBA removal but near enough to allow for reassignment, as necessary.
 - 3. The area should be large enough to support several crews simultaneously.
 - 4. The area should allow for easy EMS ingress/egress.
 - 5. Depending upon the size of the operation, this group may be combined with the Medical and/or Evacuation Group

Sample Emergency Scene Rehabilitation lay out below:



c. Resources

i. The Rehab personnel shall secure all necessary resources required to staff and supply the Rehabilitation Area. Supplies may include the following:

1. Fluids: Water is the fluid of choice for up to the first hour, activity beverages and oral electrolyte solutions should also be provided. Carbonated and caffeine beverages should be avoided.
2. Food: Soup, broth, stew in hot/cold cups and fresh fruit are preferable. Avoid fast foods, fatty foods, and foods high in sodium.
3. Medical: If a Medical Group is established, a fully staffed paramedic truck and related equipment shall be available throughout the incident. Additional units should be assigned as needed to assist. Consider adding an engine or ladder crew for Captain oversight.
4. Recovery Bus and/or Command Van.
5. EC Vehicles: Additional fluids, awnings, chairs, tarps, (25) CLEAN SCBA hoods for hood exchange, and wet wipes for firefighter decontamination.

ii. Emergency Purchase of Food and Drink

1. For extended emergency operations department personnel will purchase food, drinks or other identified items using a department P-Card.
2. When the need for food and drink is identified during extended operations, a Chief Officer, Captain, or designate shall notify Fire Alarm (Communications) of the need. Fire Alarm will notify Supply Deputy Chief who will coordinate the purchasing of items requested.

- iii. Items to be avoided:
 - 1. Fluids with high fat or protein content
 - 2. Alcohol within 8 hours of report to duty
 - 3. Excessive fluids
 - 4. Tobacco
 - 5. Creatine and other similar supplements
 - 6. Ephedrine
 - 7. Energy drinks

d. Assessment and Treatment

i. Hydration

- 1. Recommended fluid replacement is at least one quart of water per hour and/or a 50/50 solution of water and activity beverage or electrolytes administered at about 40 degrees F. Members should rehydrate at least eight (8) ounces while changing SCBA cylinders.
- 2. Rest

ii. Workload

- 1. A maximum of 30 minutes is recommended as the acceptable level of work time prior to mandatory rehabilitation.

iii. Air Usage

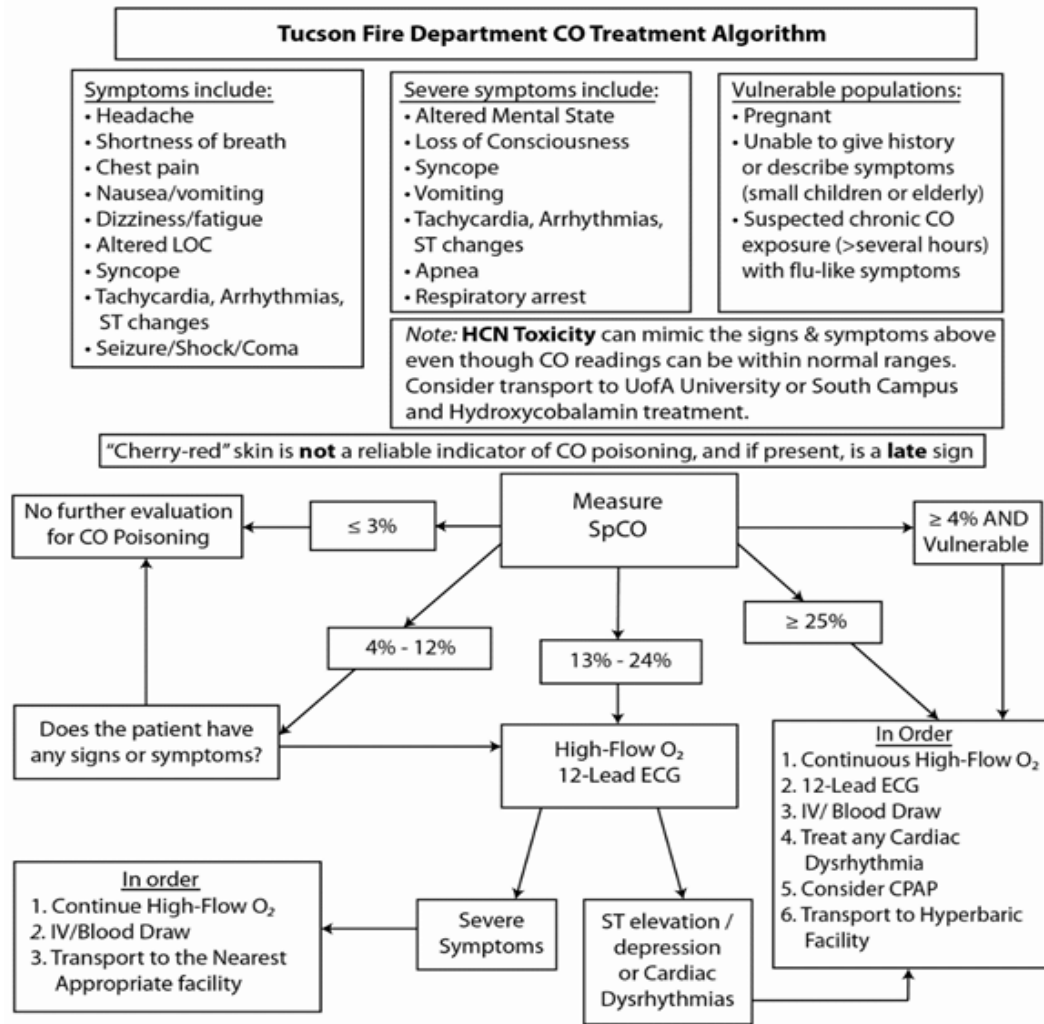
- 1. As a guideline, personnel having worked through a single 60-min cylinder should be sent to the Rehabilitation Area for rest and evaluation. Rest shall be a minimum of 20 minutes. In all cases, the objective evaluation by medical personnel, including vital signs, shall be the determining factors for rehabilitation time. Crews released from Rehab shall return to duty through the Rehab personnel, ISO or the IC.
- 2. Personnel working inside the IDLH (Hot Zone) for any duration (e.g., less time than it takes to deplete a 60-min cylinder) shall be evaluated in Rehab and released once vital signs return to approved levels and the Rehab personnel clears their return to duty.

iv. Hood exchange and decontamination

- 1. During Rehab ALL personnel shall replace soiled SCBA hoods with a clean and dry replacement provided by Rehab Group personnel. ALL EC trucks are supplied with 25 clean SCBA hoods. **This is a ONE for ONE exchange.
- 2. Rehab Group personnel will also provide wet wipes for personnel to decontaminate vulnerable areas like face, neck, hands and arms during rehab.

- v. Medical Evaluation: NFPA and City Physician approved vital signs shall be completed for each member who enters the Rehab Area. Objective parameters for recovery will include the following:

1. Rehab Personnel Impression: The medical staff assigned to conduct firefighter rehab must evaluate all personnel to form an impression of “recovering” or “not recovering” from the exertion of firefighting activities.
2. Heart Rate: Firefighter heart rate(s) will be documented on the Emergency Incident Rehabilitation Report and must maintain a heart rate of 110 bpm or lower, prior to release. If still above 110 bpm after 20 min of rehab, the member shall be placed on a cardiac monitor. See “optional intervention” section for IV bolus for tachycardia without hypertension for unresolved heart rate above 110 bpm. Serial vitals are necessary if a member’s vital signs of any kind are not within the standard set by NFPA 1584 and the City Physician.
3. Temperature: When in Rehab it is important for firefighters to remove all turnout clothing, including feet from boots. The tympanic temperature shall not exceed 100.6 degrees F prior to release from rehab. If tympanic temperature exceeds 100.6 degrees F for more than 10 minutes, active cooling measures shall be employed along with continued rehydration.
4. Blood Pressure: Systolic B/P must be a minimum of 100mmHg and a maximum of 160mmHg prior to release from Rehab. Diastolic blood pressure must not be higher than 100mmHg prior to release from rehab. If these parameters are not met after 20 minutes of rehab, the individual shall be placed on a cardiac monitor.
5. Respiratory Rate: Respiratory rate shall be between 12 and 24 breaths per minute prior to release from rehab with no other accompanying signs and symptoms. SPO2 shall not be lower than 90% without O2 administration.
6. Carbon Monoxide Monitoring: CO monitoring shall be accomplished for any firefighter potentially exposed to CO, in the IDLH (i.e., Hot Zone), or who shows symptoms suggestive of CO toxicity including headache, nausea, and shortness of breath. This will be accomplished by using the CO monitors carried on each EC vehicle.
7. CO Treatment Algorithm:



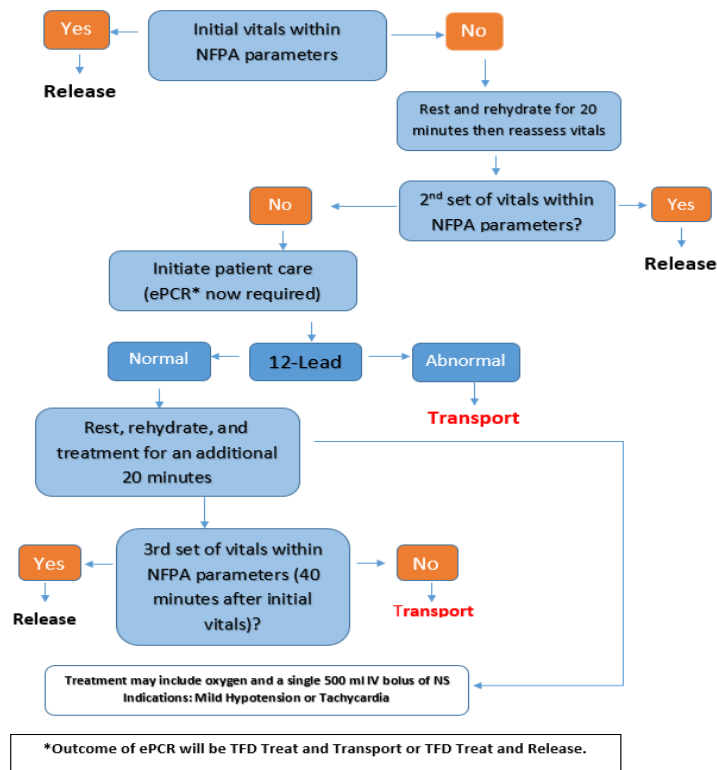
8. Cyanide Toxicity: Any member who has a high CO level with or without signs of shock, and/or altered mental status, Cyanide Toxicity should be suspected. Transport immediately to Banner University Main Campus or Banner South Campus for treatment by a toxicologist.
9. Heavy Metals: If any firefighter is exposed to heavy metals during firefighting operations; if stable, MUST be seen by the City Physician; if unstable, be transported to either Banner University Main Campus or Banner University South Campus and evaluated by a toxicologist. Proper Heavy Metal exposures follow up and heavy metal exposure reporting shall take place via City Physician.

vi. Rehab Operations and Algorithm

1. As personnel arrive in the designated Rehab area for rest and hydration, an initial set of vital signs shall be done. If after the initial set, ALL vital signs are within normal limits per this policy, the individual may leave the rehab area when ready.

2. If after 20 minutes, the firefighters’ vital signs are NOT within normal limits per this policy, the firefighter shall have a 12 lead ECG done.
3. 12 lead ECG Normal → The firefighter shall remain in rehab for an additional 20 minutes for rest and hydration.
4. 12 lead ECG Abnormal → The firefighter shall be transported by TFD ALS.
5. If at any time, a firefighter experiences chest pain, shortness of breath or weakness, regardless of vital signs, the firefighter shall be transported by TFD ALS.
6. *Optional interventions include:*
 - a. Oxygen, if indicated
 - b. After the second set of vitals (at least 20 minutes), a firefighter who is hypotensive or tachycardic (without hypertension), an IV with a MAX 500cc bolus of NS or LR may be administered.
 - c. After IV administration, vital signs are NORMAL per policy → firefighter may be released and documented in ePCR as a TFD Treat and Release.
 - d. After IV administration, vital signs are ABNORMAL per policy → firefighter will be transported by TFD ALS and documented in ePCR as TFD Treat & Transport.
7. TFD Rehab Algorithm:

TFD Rehab Assessment and Treatment Flowchart

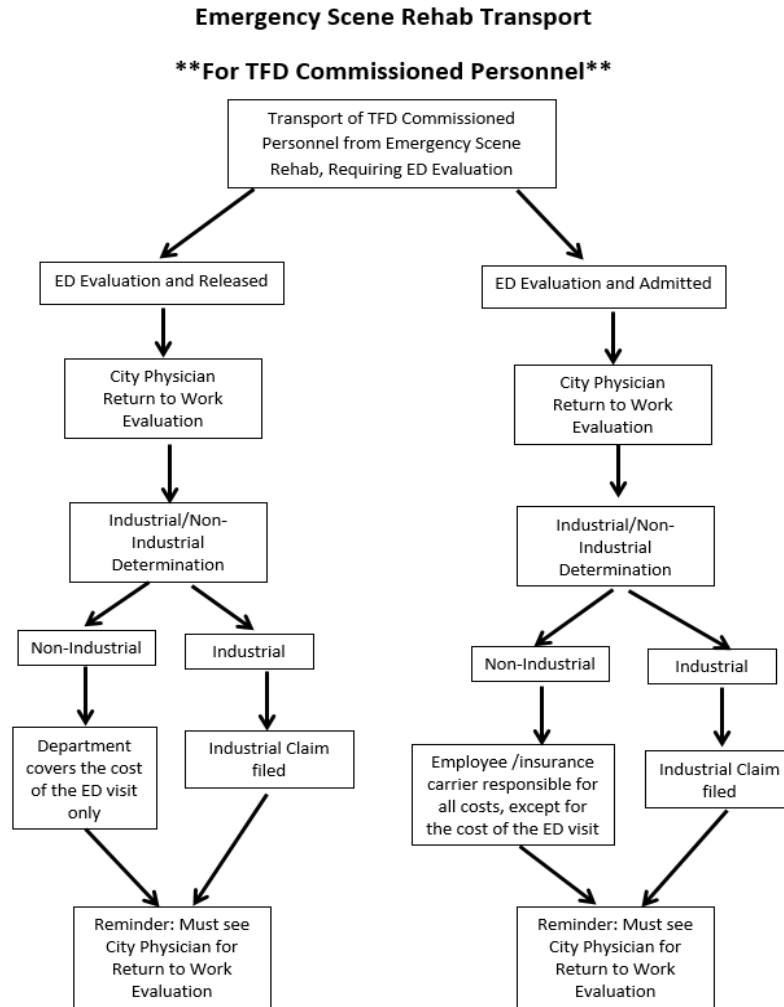


vii. Documentation

1. The Emergency Incident Rehabilitation Report is the two-page form distributed by EC12 that is to be completed for all personnel sent to Rehab. It shall be completed by Rehab personnel assigned to the Rehab Group, reviewed by the ISO and Incident Commander (IC). The completed report shall be delivered to the TFD Safety and Wellness Captain (EC12) via inter-office mail by the end of the work tour.
2. ePCR shall be completed whenever assessment and treatment is rendered beyond routine assessment.
3. For any firefighter receiving interventions in rehab or transport to an Emergency Department, a “firefighter casualty” will be documented in FireRMS.
4. Industrial Injury/Risk Management Forms (Supervisor Report of Injury 100A and 100B) will be completed by the company officer as per department requirements. Refer to the Industrial Injury policy for further instructions.

viii. Transport of TFD commissioned personnel from Emergency Scene Rehab

1. TFD commissioned personnel who fail to meet the criteria of this policy are required to be transported by TFD Paramedic unit and evaluated by an emergency department physician.
2. A Workers Compensation claim will be filed on behalf of the employee for the transport and evaluation at an Emergency Department (ED) from emergency scene rehab.
3. Documentation via ePCR, FireRMS, SRI (100A and 100B) and associated memos shall reflect the connection between fire ground operations and the TFD employee physical signs and symptoms.
4. If the Workers Compensation claim is denied, TFD will cover the out of pocket costs for the ED visit only.
5. In the event that the employee is admitted to a hospital for inpatient services or observation and the Worker Compensation claim is denied, these additional treatments will be the responsibility of the employee and their insurance carrier.
6. After the employee is released from the ED/hospital, the employee shall be evaluated by the City Physician **before** returning to work.
7. See the attached algorithm for details pertaining to Emergency Scene Rehabilitation and the transport of TFD Commissioned Personnel.



ix. Accountability

1. Members shall enter and exit the Rehab area as a crew. No turnouts, jackets or pants shall be worn into the rehab area.
2. Crew designation, number of crew members and time in and out shall be documented by the Rehab personnel utilizing the Emergency Incident Rehabilitation Report (two-page copy on S-drive/Forms). Fire ground or other incident positions held by crew will also be documented.
3. Crews shall not leave the Rehab area until authorized by the Rehab personnel or ISO. There are no exceptions to this policy unless the rehab area becomes an immediate danger zone.
4. Decisions regarding the fitness of personnel to return to work made by the Rehab personnel or ISO cannot be overturned by any other officer including the Incident Commander.

- e. Responsibility
 - i. Incident Commander (IC)
 - 1. Will establish Rehab Group and ensure appropriate levels of resources are committed to Rehab. Consider asking for additional units and/or resources, i.e.: Rehab Unit if atmospheric conditions warrant.
 - ii. Company Officers
 - 1. All company officers shall be aware of the physical condition of each member operating within their span of control and ensure that health and safety needs are given proper consideration.
 - iii. Personnel
 - 1. All members shall advise their company officer whenever they believe their level of fatigue or exposure begins to affect performance or safety for themselves or other crew members.
 - iv. Rehab Personnel
 - 1. Assure that all personnel directed by the IC report to Rehab.
 - 2. Maintain communication with the IC regarding personnel availability.
 - 3. Facilitate hydration, perform assessments, initiate treatments, when needed, and manage the operations in the Rehab Group.
 - 4. Assure the Emergency Incident Rehabilitation Report is complete and sent to EC12 via inter-office mail by the end of the work tour.
 - v. Incident Safety Officer (ISO)
 - 1. The Incident Safety Officer (ISO) may observe rehabilitation operations and report directly to the Incident Commander on any issue related to health and safety during emergency operations.
 - 2. The ISO shall support the Rehab personnel in the Rehab Group operations.
 - 3. The ISO shall work together with the Rehab personnel to ensure that adequate measures are taken to mitigate problems.
 - vi. Department Health and Safety Officer (HSO)
 - 1. Will ensure periodic review is conducted on rehabilitation procedures, current NFPA standards are followed, and City Physician guidelines are used.

VI. REFERENCES

- a. NFPA 1584: *Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises*, Current Edition: 2015
- b. City of Tucson Industrial Injury/Risk Management Forms, Supervisor Report of Injury Forms 100A and 100B.