UNITED STATES MARINE CORPS
MARINE CORPS RECRUIT DEPOT/EASTERN RECRUITING REGION
PO BOX 19001
PARRIS ISLAND, SOUTH CAROLINA 29905-9001

IN REPLY REFER TO:
DepO 6200.2R
G-3
0 7 JUN 2019

DEPOT ORDER 6200.2R

From: Commanding General
To: Distribution List

Subj: HEAT INJURY PREVENTION PROGRAM

Ref: (a) DepO 1513.6G
(b) DepO 1513.8B
(c) DepO 5100.16F
(d) MCO P5102.1B
(e) MARADMIN 111/15
(f) BUMED Instruction 6220.12C

Encl: (1) Parris Island Automated Heat Stress System (AHSS) Locations
(2) Prevention and First Aid for Heat Casualties
(3) Location, Operation, Maintenance, and Flag Conditions
(4) Arm Immersion Cooling Systems Utilization

1. Situation. Marine Corps Recruit Depot Parris Island (MCRDPI) is susceptible to varying degrees of heat conditions especially during the months of April to October each year. Injuries resulting from various heat conditions can occur frequently during this timeframe. The purpose of this order is to provide mitigation procedures to prevent heat injuries and to discuss the operating and maintenance procedures for the Automated Heat Stress System (AHSS) stations, and the back-up 3M Quest Temp 48N Wet Bulb Globe Temperature Index (WBGTI) Heat Stress Monitors. Reference (a) delineates this time period as "HOT SOP" extending from the third Monday in April to the third Monday in October.

2. Cancellation. DepO 6200.2Q.

3. Mission. Commanders at all levels are responsible for the planning and execution of a command-sponsored Heat Injury Prevention Program in order to prevent/deter injuries from the expected heat conditions during the designated months. Furthermore, all Marines and Sailors are responsible for mitigating the effects of Heat Stress during training events. Consideration for preventing heat injuries will be at the forefront when planning and executing all events aboard MCRDPI.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent

(a) The Depot has averaged 19 heat stress cases per month over the last three HOT SOP periods. Our goal is to reduce the number of heat cases per month by 50 percent and to reduce the severity of the heat cases that do occur. Successful reduction of severity implies that the core body temperature of a heat case injury does not exceed 103.5 degrees Fahrenheit. In order to achieve this

obtainable and realistic goal, I need the help of all of those that interact with recruits. We need to capitalize on the expertise of our seasoned Officers, Staff Noncommissioned Officers, and Noncommissioned Officers to prevent and deter heat injuries. Engaged small unit leadership is vital to this process; small unit leaders have the responsibility and are expected to make modifications to training events to ensure they are executed safely with a keen focus on environmental conditions including the weather. Utilizing the sound judgement you have honed through experience gained both here on the Depot and through your time in the Operating Forces, I expect those leaders closest to the recruits to make modifications, as necessary, to factors such as but not limited to, the intensity of training, the prescribed uniform for training events, and the duration of high risk events. The argument that by doing this we will reduce the quality of the recruit training process is simply not valid. Marines accomplish the mission. We are agile thinkers that rely on input from our junior leaders to remain fluid and lethal in every clime and place. A recruit that cannot train due to a heat stress injury is one that is less prepared to face the immediate challenges they will encounter once they earn the title Marine and report to their first unit.

(b) Leaders have the responsibility and authority to modify the uniform and/or the intensity level of training during high risk activities as needed, keeping within the spirit and intent of reference (a). No one shall be punished for exercising initiative in this regard. If we truly want to reduce heat injuries we must collectively work to change entrenched ways of thinking that are counterproductive to safe and effective training.

(2) Concept of Operations

(a) MCRDPI will prepare for and execute an annual Heat Injury Prevention Program during "HOT SOP" in order to prevent/reduce heat injuries that are potentially precipitated by the effects of the combination of the WBGTI, strenuous outdoor physical activity, and lack of an acclimatization period for both permanent personnel and recruits.

(b) This order is applicable to all commands responsible for the oversight, administration, conduct of operations, or mandated physical training (PT) during the hot weather season and hot weather operational environments. Commanders should ensure the Heat Injury Prevention Program reflects command presence and leadership initiative.

(c) Commanders, Staff, Depot Safety Officer, Officer-In-Charge (OIC), Branch Health Clinic (BHC) and, in particular, the G-3, who has staff cognizance of the Heat Injury Prevention Program will inspect, monitor, and evaluate all hot weather related operations and training activities in order to provide the greatest degree of inherent safety within the installation, minimize heat injuries, and allow for the adequate completion of training.

(d) Marines will use risk management for all scheduled/unscheduled PT sessions and hot weather operations.

b. Subordinate Element Tasks

(1) Assistant Chief of Staff, G-1 (AC/S, G-1)

(a) In coordination with the G-3, conduct monthly Emergency Operations Center (EOC) operations training for the Command Duty Officer (CDO) and the Assistant Command Duty Officer (ACDO) by identifying all duty standers that require training in EOC Operations. All CDO/ACDO duty standers must complete this

training before standing duty. Duty standers are required to complete this training annually. When identified, coordinate with the G-3 for the conduct of a training session. Provide a list of those requiring training one (1) week prior to the end of each month.

(b) In coordination with the G-3 and the Staff Secretary, ensure the ACDO's place of duty is the EOC during "HOT SOP". Specifically, Monday through Friday the ACDO will be posted by the Staff Secretary and will then report to the EOC for duty. Once at the EOC, the ACDO will receive a briefing from the EOC Operations Chief pertaining to the WBGTI readings, use of the Mass Notification System (MNS), notification procedures, and logbook entries. The ACDO will then assume the sole responsibility of monitoring and disseminating the Flag Conditions.

(2) Assistant Chief of Staff, G-3 (AC/S, G-3)

(a) Monitor, inspect, and regulate the Heat Injury Prevention Program.

(b) During the hours 0500-2000, daily, establish and disseminate heat stress flag conditions for MCRDPI. Ensure units' confirm they have disseminated the proper flag condition and their designated locations are in fact displaying the correct flag condition at their locations. [Refer to enclosure (1) for AHSS locations].

(c) Disseminate Flag Conditions Green, Yellow, and Red via phone to Headquarters and Service Battalion (HQSVCBN), Recruit Training Regiment (RTR), Weapons and Field Training Battalion (WFTBN), 6th Marine Corp District (6MCD) and the BHC. When Wet Bulb reading of Black Flag is attained, disseminate the condition via phone and MNS. Ensure notification is made at the conclusion of the Black Flag condition via phone and MNS.

(d) During the hours 0500-2000, daily, maintain WBGTI logbook per enclosure (3).

(e) After hours 1630-0730, on weekends, and on holidays, supervise the CDO and the ACDO, ensuring both know how to establish and disseminate heat stress flag conditions for MCRDPI. This will be accomplished through the training received by the CDO's and ACDO's with periodic spot checks by the EOC Operations Officer.

(f) In conjunction with the Safety Office, develop an annual training package that will be conducted prior to the start of "HOT SOP" for those individuals that have been assigned to monitor the AHSS system (Primary) and the 3M Quest Temp 48N System (Back-Up).

(g) In coordination with the G-1, conduct monthly EOC Operations Training for any CDO/ACDO duty stander that did not receive the training referenced in sub-paragraph 2(f) prior to the start of "HOT SOP". Ensure the EOC Operations Chief conducts a pre-duty brief for the ACDO on how to disseminate the Flag Conditions.

(h) In coordination with the G-1 and the Staff Secretary, ensure the ACDO's place of duty is the EOC during the months of "HOT SOP". The ACDO will have the sole responsibility of monitoring and disseminating the Flag Conditions to the Commands.

(i) Assign responsibility for the operation of heat stress stations per enclosure (3). Ensure these stations are equipped with the 3M Quest Temp 48N Heat Stress Monitor and the personnel assigned to each station understand the operation of both systems and when to implement the use of the 3M Quest Temp 48N.

(j) Ensure personnel assigned to operate heat stations are thoroughly familiar with this order and its references.

(k) Ensure heat injury prevention and treatment training is maintained in the programs of instruction for both Drill Instructor School and Recruit Training.

(l) In coordination with the Parris Island Fire Department (PIFD) and Branch Medical Clinic (BMC), draft and maintain the heat injury and prevention annual training class on the Depot shared files. Ensure the class is reviewed annually to ensure accuracy and relevancy.

(3) Assistant Chief of Staff, G-4 (AC/S, G-4)

(a) Be prepared to provide on-call Garrison Mobile Equipment (GME) transportation support to the RTR in extreme weather conditions when flag conditions prohibit foot movement.

(b) As directed or in accordance with (IAW) reference (b), provide Class I support (Gatorade, fruit, bulk ice and Meals Ready to Eat (MREs)) upon request of the supported unit.

(4) Assistant Chief of Staff, G-6 (AC/S, G-6)

(a) Serve as the local program manager for the installation, operation, and maintenance of the AHSS system.

(b) Establish procedures, per AHSS operations manual, to ensure daily inspection of all heat stress stations during hot weather conditions.

(c) As the local program manager for AHSS units, execute first echelon maintenance for system-related maintenance and coordinate user training.

(d) Provide second echelon and above maintenance support to include the following:

1. Troubleshooting and repair of cables connecting the AHSS to computer monitoring the AHSS readings.

2. Coordinate and provide support for future AHSS modifications and upgrades as required.

3. Ensure AHSS system and stations are properly calibrated per technical manual schedule.

(5) Commanding Officer, Headquarters and Service Battalion (CO, HQSVCBN)

(a) Ensure all personnel receive annual heat injury first aid and heat injury prevention training. All personnel will receive this annual training through the 101 days of Summer Safety Stand-down, the Non-Drill Instructors Supervisors Course, the Series Commander Course, or the Senior Leaders Course.

(b) Coordinate with the CO, RTR, to administer an annual heat injury prevention and first aid re-certification through the Non-Drill Instructor Supervisors Course to all members of your command involved in recruit training.

(c) Ensure the appropriate colored flag is flown in your area when directed by the AC/S, G-3.

(d) Submit heat related mishap reports to the Depot Safety Office within 24 hours of a mishap in accordance with reference (c).

(e) Report and follow the guidelines that pertain to Heat Related Fatalities in accordance with Chapter 6 of reference (d).

(6) Commanding Officer, Recruit Training Regiment (CO, RTR)

(a) Ensure all personnel receive annual heat injury first aid and heat injury prevention refresher training. All personnel will receive this annual training through the 101 days of Summer Safety Stand-down, the Non-Drill Instructors Supervisors Course, the Series Commander Course, or the Senior Leaders Course.

(b) Ensure students attending Drill Instructor School courses, including the Senior Leaders Course, Series Commander Course, and Drill Instructor Course, as well as students attending the Non-Drill Instructor Recruit Supervisors Course receive heat injury first aid and heat injury prevention instruction.

(c) During "HOT SOP" ensure all Company Pickup Training includes heat injury prevention and a review of any recent case studies. BHC and PIFD will provide support for this training per paragraph 8.c and 10.g of this order.

(d) Maintain accountability of manual equipment (3M Quest Temp 48N) utilized to take WBGTI.

(e) During the hours 0500-2000, daily, maintain WBGTI logbook per enclosure (3).

(f) Designate personnel to operate the 3M Quest Temp 48N Heat Stress Monitor (Back-Up) and ensure they are thoroughly familiar with its operation, this order, and its references. Ensure the names of those personnel designated to operate the 3M Quest Temp 48N are submitted to the G-3/EOC (ext. 228-2034/3712).

(g) Ensure AC/S, G-6 personnel are granted access to AHSS components in your area.

(h) Ensure the appropriate colored flag is flown in your area when directed by the AC/S, G-3.

(i) Submit heat related mishap reports to the Safety Office within 24 hours of a mishap in accordance with reference (c).

(j) Submit Recruit Incident Reports (RIR) involving all heat casualties that require medical care beyond corpsman aid to the RTR Organization Mailbox at PARR_MCRD PI_RIR within 24 hours of their occurrence in accordance with Chapter 6 of reference (a).

(k) Report heat-related fatalities immediately to the Depot Safety Office and coordinate mishap investigation procedures with the Depot Safety

manager in accordance with chapter 6 of reference (d). Collect and track all recruit heat-related mishaps. Consolidate reports in conjunction with Depot Safety and BHC in order to analyze data and establish mitigation measures to prevent heat related mishaps.

(l) In order to better identify recruits identified as high risk, recruit training units will mark the physical training uniform in accordance with reference (a) and may mark the Marine Corps Combat Utility Uniform (MCCUU) of those recruits by stapling a (2) inch by (2) inch swath of glow belt to the pocket flap on their left arm. Furthermore, if a recruit experiences a bonafide heat injury [one verified by the Branch Health Clinic (BHC)], that recruit's physical training uniform will be marked and MCCUU may be marked for the remainder of their time on the Depot. High risk is defined in reference (a).

(7) Commanding Officer, Weapons and Field Training Battalion (CO, WFTBN)

(a) Ensure all personnel receive annual heat injury first aid and heat injury prevention refresher training. All personnel will receive this annual training through the 101 days of Summer Safety Stand-down, the Non-Drill Instructors Supervisors Course, the Series Commander Course, or the Senior Leaders Course.

(b) Ensure personnel assigned to operate heat stress stations are thoroughly familiar with this order and its references.

(c) Disseminate heat stress flag conditions for Page Field and WFTBN when notified by the EOC.

(d) Ensure the appropriate colored flag is flown within the designated zones of WFTBN and Page Field when notified by the EOC.

(e) During the hours 0500-2000, daily, maintain WBGTI logbook per enclosure (3).

(f) Designate personnel to operate the 3M Quest Temp 48N Heat Stress Monitor (Back-Up) and ensure they are thoroughly familiar with its operation, this order, and its references. Ensure the names of those personnel designated to operate the 3M Quest Temp 48N are submitted to the G-3/EOC (ext. 228-2034/3712).

(g) Maintain accountability of the manual equipment (3M Quest Temp 48N) utilized to take WBGTI.

(h) Submit heat related mishap reports to the Depot Safety Office within 24 hours of the mishap in accordance with reference (c).

(i) Report and follow the guidelines that pertain to Heat Related Fatalities in accordance with Chapter 6 of reference (d).

(8) Officer in Charge, Branch Health Clinic (OIC, BHC)

(a) Notify the EOC at 228-2034/3712 when the cool room has reached its maximum capacity so Administrative Black Flag can be set on MCRD PI/ERR.

(b) Ensure medical personnel that are assigned medical coverage per reference (a), Chapter 4, Figure 4-2 are adequately trained in identifying potential Heat Related Injuries and can apply first aid techniques to deter or prevent further injury of personnel.

(c) Field Cooling Station (i.e. Polar Life Pods shall be used for high risk training events and for patients displaying core temperature of 104.5° F or higher. Field Cooling Systems will only be used by trained Branch Health Clinic MCRDPI medical staff (i.e., Coverage Corpsman) in conjunction with indwelling thermometers. Do not move the Field Cooling System if a patient is being treated inside of one. Do not use the Field Cooling System if patient is unconscious or in an altered state of mind regardless of temperature. If the patient has a core temperature of 104.5° F or higher and is unconscious or in an altered state of mind, use alternate methods to cool (i.e. ice sheets) and call Med One (e911 channel). If the patient is not altered mentally, appears to be oriented clearly, and has a temperature of greater than or equal to 104.5° F, the Field Cooling System may be used first before calling Med One. If the response of decreasing temperature does not occur within three (3) to five (5) minutes, then call Med One immediately.

(d) Ensure that Polar Bags are on hand, serviceable, and properly employed for all events where required. Refer to paragragh 4.b.(8)(c) for more information on Polar Bags.

(e) Ensure that Arm Immersion Cooling systems are being utilized properly at events where they are placed. Refer to enclosure (4) for directions relating to utilization.

(f) Ensure Preventive Medicine provides Heat Illness Prevention Training at the following Courses/Times:

1. Series Commander's Course.

2. Company Pickup Briefs.

3. Drill Instructor Course.

4. Senior Leader's Course and as required by the RTR.

(g) Preventive Medicine Department will submit reports of heat illnesses to the Navy's Disease Reporting System internet (DRSi)in accordance with the Bureau of Medicine and Surgery (BUMED) Instruction 6220.12C [reference (f)].

(9) MCRDPI, Depot Safety Officer

(a) In conjunction with RTR and BHC, consolidate reported heat-related mishaps and develop a tracking system/report that will display the following: date, time of day, location, type of injury, and the activity the casualty was involved in when the heat injury occurred. This system will be used as an analytical tool to enhance the conduct of training at MCRDPI and will be distributed to all commands and staff on a weekly basis. First report will be due one (1) week after the start of "HOT SOP" and each subsequent week thereafter until the completion of the "HOT SOP" period.

(b) Assist Commanders/Division/Department Heads with mishap notification, investigations, and reporting.

(c) Assist all commands when a heat-related fatality occurs.

(d) Purchase, distribute and maintain 3M Quest Temp 48N's as back-ups for all AHSS stations located on MCRDPI. [see enclosure (1)]. Ensure designated personnel understand how to use and maintain the 3M Quest Temp 48N's. Upon completion of "HOT SOP", ensure all 3M Quest Temp 48N's are collected and calibrated per manufacturer's instruction. Once calibrated, ensure they are redistributed prior to the start of "HOT SOP".

(e) In conjunction with the AC/S G-3, develop an annual training package that will be conducted prior to the start of "HOT SOP" for those individuals that have been assigned to monitor the AHSS system (Primary) and the 3M Quest Temp 48N System (Back-Up). Maintain a roster of all trained personnel.

(10) MCRDPI, Fire Department

(a) Notify the EOC at 228-3712/2034 when MEDIC 1 and MEDIC 2 have been deployed and are responding to a call or all are off the Depot. If able, stand up MEDIC 3 prior to call; if staffing does not permit the ability to cross staff MEDIC 3, contact the EOC in order to initiate an Administrative Black Flag condition.

(b) During periods of extreme heat and increased heat related mishaps, Fire and Rescue Department will stand up MEDIC 3 to reduce the occurrence of Administrative Black Flag.

(c) Ensure EMS is on standby at the Day Movement Course in support of RTR.

(d) During the Crucible in high heat humidity, be prepared to stage ambulance and crew at Crucible Aid Station from 1500-2200 to reduce response times. Be prepared to stay longer if needed.

(e) Ensure all ambulances and fire engines are equipped with coolers containing sheets and towels in ice water for patient cooling.

(f) Ensure all ambulance coolers contain two (2) bags of IV solutions during "HOT SOP".

(g) Provide Heat Illness Prevention Training at the following Course/Times:

1. Series Commander's Course.

2. Company Pickup Briefs.

3. Drill Instructor Course.

4. Senior Leader's Course and as required by RTR.

c. Coordinating Instructions

(1) The WBGTI flag conditions for MCRDPI (1st RTBN, Leatherneck Square, 3rd RTBN, 4th RTBN, Page Field and WFTBN will be posted at http://205.110.252.219:35533/.

(2) "HOT SOP" extends from the third Monday in April to the third Monday in October per reference (a).

(3) The MCRDPI WBGTI will be monitored at six (6) separate sites: 1st RTBN, Leatherneck Square, 3rd RTBN, 4th RTBN, WFTBN and Page Field. The highest temperature reading among these six (6) locations will correspond with the Heat Stress Flag to be flown on MCRDPI. For example if there is a Green Flag Reading at 1st RTBN, Red Flag Reading at Leatherneck Square, and Black Flag Reading at Page Field, then Black Flag will be flown across the board at MCRDPI.

(4) Commands will ensure all heat illnesses are reported in accordance with references (a), (c), (d), and (e).

(5) Commands will ensure recruits are neither assigned nor tasked to take heat stress readings.

(6) Monthly EOC training will consist of the following topics: Flag Condition readings and dissemination of readings, use of the MNS, and use of the 3M Quest Temp 48N (Alternate WBGTI).

(7) Commanders will maintain records [either hard copy or within unit training management (UTM) in Marine Corps Training Information Management System (MCTIMS)] of those individuals who have passed the annual heat injury prevention training for a period of three (3) years.

5. Administration and Logistics. Recommendations concerning the contents of this order may be forwarded to the AC/S G-3 via the appropriate chain-of command.

6. Command and Signal

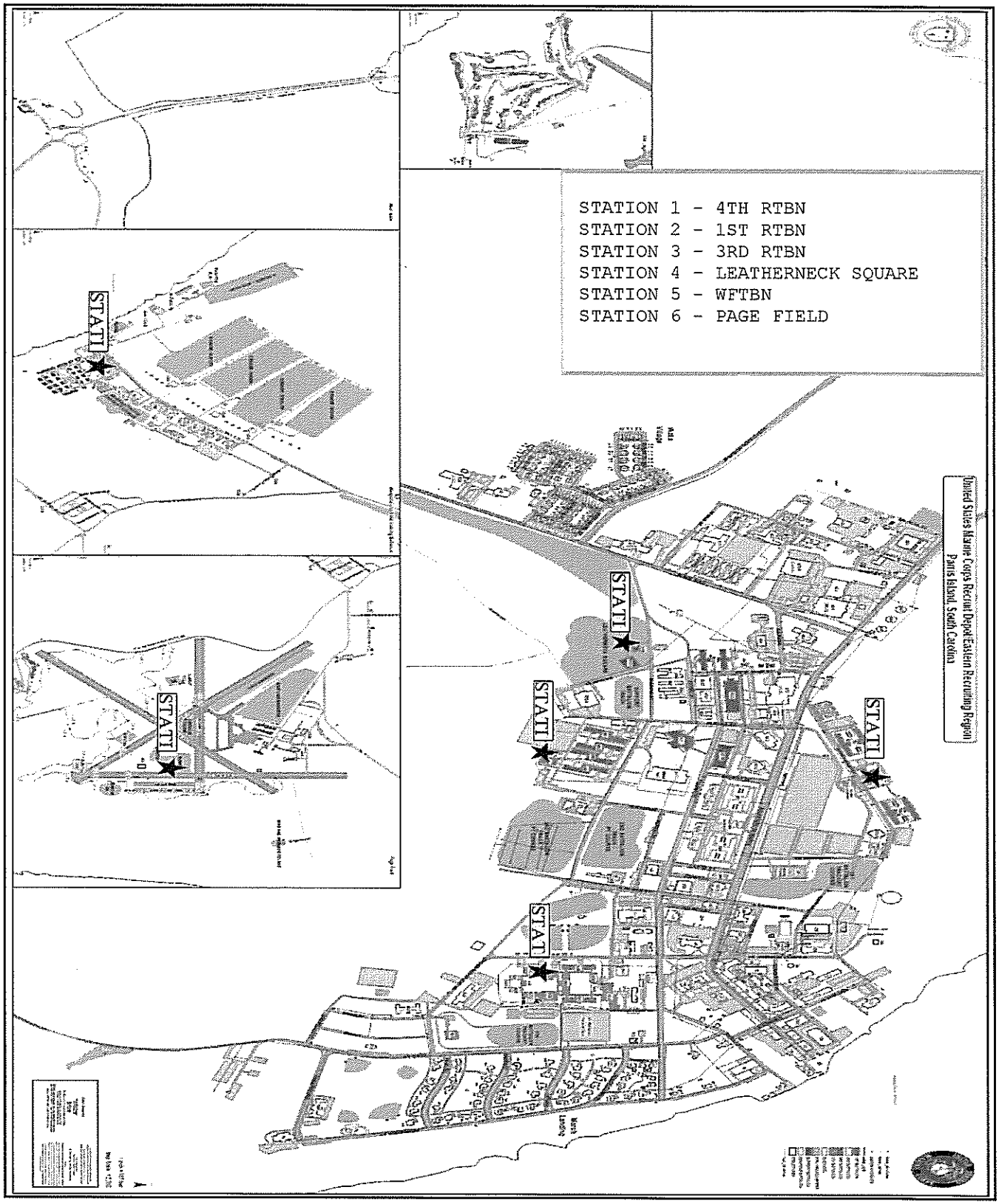
a. Command. This order is applicable to all Marines, Sailors, and civilians aboard MCRDPI.

b. Signal. This order is effective the date signed.

J. B. STONE IV
Chief of Staff

DISTRIBUTION: A

PARRIS ISLAND AHSS STATION LOCATIONS



PREVENTION AND FIRST AID FOR HEAT CASUALTIES

1. Background

a. Heat injuries occur when the body cannot adequately dissipate heat. The body can only tolerate small elevations in temperature, and maintains a normal core body temperature within a narrow range by balancing heat gain with heat loss. Body heat is generated through exercise and can also be absorbed by the environment. Evaporation is the primary means of heat loss, however this process becomes ineffective during "HOT SOP" conditions.

b. As body temperature increases, increased water and salt are lost due to heavier sweating (up to two (2) liters per hour with heavy exertion). This loss upsets the heat regulating mechanisms of the body which can lead to heat injuries.

2. Risk Factors

a. Weather. At MCRDPI, most heat casualties occur either when strenuous exercise is conducted when the heat index is higher than 80° F, or during physical training between 0700 and 0900, when the prior day's heat index was over 75° F. It is important to understand that a heat injury is a cumulative process that occurs over time.

b. Acclimatization. The body's ability to tolerate heat can be improved over time through acclimatization. Two (2) to three (3) weeks with progressive degrees of physical exertion and heat exposure will achieve acclimatization. During this period, the work load should be increased gradually but not to the point of exhaustion or where personnel would be fatigued the next day. Until acclimatized, personnel will lose greater than normal quantities of water and salt which must be replaced. Acclimatization will increase tolerance for heat but not make an individual immune to becoming a heat casualty.

c. Physical Fitness. Physical conditioning and body types are important risk factors. Individuals 10 pounds or more overweight, or who have a circulatory or sweating deficiency are more susceptible to heat injuries. Infections, medications, previous heat injuries, and supplements can increase the risk of heat injury. Caucasians, females, and recruits from northern states can also be a higher risk for heat injury.

3. Heat Injury Classification, Symptoms, and First Aid

a. There are three (3) types of heat injuries: heat cramps, heat exhaustion, and heat stroke. Heat stroke is a MEDICAL EMERGENCY and the most serious heat injury and may result in death or permanent brain damage unless promptly treated.

b. Symptom progression. Heat injury symptoms develop progressively and in their early stages may be difficult to identify. Early heat illness symptoms are fatigue, thirst, nausea/vomiting, and muscle cramps. As the injury worsens, altered mental status, confusion, feelings of faintness, uncoordinated gait and blurred vision may be identified.

c. The BHC is the Heat Casualty Treatment Center for the Depot. All heat casualties or suspected heat casualties will be taken directly to the

COOL ROOM at the Heat Casualty Treatment Center by the most expeditious means possible. During the Crucible, heat casualties will be handled in accordance with reference (b).

d. Heat Cramps. A mild heat injury caused by excessive salt and water loss. They often appear in well-trained individuals at the conclusion of the training day or as muscles cool down.

(1) Signs and Symptoms. Signs and symptoms of heat cramps are muscle spasms in the arms, legs, or abdomen, accompanied by weakness, dizziness, and nausea/vomiting. Victims usually exhibit normal temperature.

(2) First Aid. Rest, re-hydration with a sports drink containing sodium, cooling, stretching, and gentle massage.

e. Heat Exhaustion. A serious heat injury usually, but not necessarily, involving dehydration from excessive water and salt loss, and unlike heat stroke, it can be recovered from with removal from the heat source and rehydration.

(1) Signs and Symptoms. Difficulty continuing exercise, elevated core body temperature (<104° F), tachycardia, nausea and vomiting, decreased appetite, irritability, headache, profuse sweating, weakness, flushed skin, and mental confusion are all signs and symptoms of heat exhaustion.

(2) First Aid. The following actions that can be taken if heat exhaustion occurs:

(a) Send for medical aid by calling for the Corpsman on the Coverage or by calling 911 if no corpsmen are present.

(b) Place casualty in a cool, shaded area with circulating air.

(c) Lay casualty down and elevate feet with the head level or slightly lower than feet.

(d) Loosen clothing and equipment. Remove clothing down to PT clothing or undergarments.

(e) If casualty is conscious, give liberal quantities of water in small sips. Use ice or water to cool the casualty externally.

(f) If unconscious, check ABC's (Airway, Breathing, and Circulation).

f. Heat Stroke. A severe injury that develops when the cooling mechanisms of the body are overcome and the core temperature rises dangerously high. The result is serious damage to the brain and other organs. Damage may be permanent if rapid cooling is not initiated and accomplished quickly. Heat stroke can cause a variety of complications, including seizure, liver failure, and kidney failure. The hallmark of heat stroke is the severity of neurologic impairment, typically beyond that of lightheadedness and mild confusion.

(1) Signs and Symptoms. Skin may be wet, hot to the touch, and accompanied by weakness, headache, blurry vision, altered mental status, confusion, combativeness, delirious, unconsciousness, and collapse are all

signs and symptoms of heat stroke. DEATH/BRAIN DAMAGE MAY OCCUR IF BODY TEMPERATURE IS NOT LOWERED IMMEDIATELY.

(2) First Aid. In the event of a heat stroke victim, the following action should be taken:

(a) Send for immediate medical aid by calling for the Corpsman on the Coverage or by calling 911 in no corpsmen are present.

(b) If unconscious, then check ABC's (Airway, Breathing, and Circulation).

(c) Lower body temperature as quickly as possible and apply cool water or ice to entire body, carefully avoiding the nose and mouth.

(d) Move casualty to a cool, shaded area with circulating air. DO NOT attempt to make the casualty drink.

(e) Evacuate as rapidly as possible to the Depot BHC or Crucible Aid Station. If after hours (after 1700 Monday-Friday, after 1600 Saturday, or all day on Sunday), evacuate the patient to the Beaufort Memorial Hospital via 911.

g. Hyponatremia. Hyponatremia occurs when the concentration of sodium in the blood is abnormally low. Sodium is an electrolyte, and it helps regulate the amount of water that is in and around cells. In hyponatremia, one or more factors – ranging from an underlying medical condition to drinking too much water – cause the sodium in the body to become diluted. When this happens, the body's water levels rise, and cells begin to swell. This swelling can cause many health problems, from mild to life-threatening.

(1) Signs and Symptoms. Nausea, vomiting, headache, confusion, loss of energy, drowsiness, fatigue, restlessness, irritability, muscle spasms or cramps, seizures, and coma can be associated with hyponatremia.

(2) First Aid. If suspected immediately SEND FOR MEDICAL AID. Intravenous fluids may be required to slowly raise the sodium levels in the blood. This will require hospitalization as frequent monitoring of sodium levels are required as too rapid of a correction is dangerous.

h. Exercise Associated Syncope (EAS). EAS is described as a loss of consciousness due to inadequate blood flow return to the heart and brain. This heat-related condition is common in recruits. If EAS occurs during or after exertion, then heat exhaustion may be present. Recruits may faint and strike their heads on the ground. SEND FOR MEDICAL AID, and treat similar to heat exhaustion see paragraph 3e of enclosure (2).

4. Heat Injury Prevention

a. Proper Hydration. Baseline water needs are six quarts per day. Drink an additional one (1) canteen per day for each hour of hard physical exercise. Intake will not exceed one (1) canteen per hour, as any more than that will lead to hyponatremia, stomach distention, vomiting, or cardiac problems. Target fluid intake during "HOT SOP" is 12-14 canteens per day. Sports drinks should be incorporated after eight canteens are consumed during a training day. Cold weather condition target is 10-12 canteens per day. Thirst may not be a reliable guide to water needs since it lags behind water

deficits by at least one (1) quart. Ideally, personnel should drink until their urine is clear to light yellow.

b. Salt Replacement. Adequate food intake (i.e. at least three (3) meals per day) is sufficient to maintain adequate body salt levels. Food may be salted to taste, but supplemental salt tablets will only be used at a Medical Officer's direction.

c. Rest, Sleep, and Recreation. Training schedules should provide a 10 minute break every hour. The hour immediately following meals must involve only non-strenuous training and/or relaxation. Personnel need seven (7) hours of sleep a day for general recovery. A heat index over 80° F during sleep requires artificial cooling, if possible, for true rest. During execution of the Crucible or Basic Warrior Training, extra rest time will be provided per reference (b). Remember recruits with active or healing infections are at a higher risk of heat injury.

d. Clothing. The wearing of Kevlar headgear will increase body heat but will reduce direct sun exposure. Usage of Kevlar headgear during prolonged movements in high heat environments should be discouraged. Light, loose-fitting clothing will deflect the sun's heat and loosening sleeve cuffs can increase air circulation and cooling. Wearing of body armor or chemical protective over-garment adds ten (10) degrees to the heat index.

LOCATION, OPERATION, MAINTENANCE, AND FLAG CONDITIONS

1. Heat Stress Station. The method the Depot will utilize to determine the heat stress is WBGTI. Currently, the Depot has six fixed Automated Heat Stress System (AHSS) stations that provide continuous, on-line measurement of Dry Bulb (DB) Temperature, Wet Bulb (WB) Temperature, Globe Temperature (GT), and Relative Humidity (RH). These values are used to determine WBGTI that is used to determine Flag Condition. Responsibility for each station is denoted in parenthesis:

a. Station #1. 4th Bn, (G-6)

b. Station #2. 1st Bn, (G-6)

c. Station #3. 3rd Bn, (G-6)

d. Station #4. Leatherneck Square, (G-6)

e. Station #5. Bldg 700, (G-6)

f. Station #6. Page Field, (G-6)

2. Operating Heat Stress Stations

a. Dates of Operation. From the third Monday in April to the third Monday in October (Hot Weather Condition), and whenever outside temperatures exceed 75.0° F.

b. Hours of Operation. Stations will start taking readings one hour prior to commencement of planned training and will keep taking readings until training is completed.

c. WBGTI Readings. Per reference (a), the primary method for obtaining the heat stress will be the Automated Heat Stress System and as required the backup method will be the 3M Quest Temp 48N Heat Stress Monitor.

d. Frequency of WBGTI Readings. WBGTI readings will be taken hourly from 0500-0800 and every 30 minutes from 0800-2000.

e. WBGTI Logs. MCRDPI will maintain four WBGTI logbooks; EOC, RTR, Page Field, and WFTBN. AC/S, G-3 and CDO are responsible for maintaining the EOC WBGTI logbook. AC/S, G-3 and CDO will monitor the AHSS and will utilize the highest reading of the WBGTI of the six AHSS monitors (4th RTBN, 1st RTBN, 3d RTBN, Leatherneck Square, Bldg 700, WFTBN and Page Field) located on Parris Island to designate the appropriate Flag Condition for MCRDPI. WFTBN is responsible for maintaining the Page Field and WFTBN logbook. WFTBN will utilize the 3M Quest Temp 48N Heat Stress Monitor at Page Field & WFTBN for obtaining WBGTI if notified by the EOC that the AHSS system is not operational.

f. WBGTI Logbook Data

(1) WBGTI readings shall be maintained in a logbook that contains the following minimum information:

(a) Location of WBGTI Station.

(b) Subordinate commands affected by WBGTI readings at that station and their phone numbers.

(c) Instructions for flag warning system.

(d) WBGTI computation formula.

(2) Logbooks shall contain the following information:

DATE	TIME	DB	GT	WB	WBGTI	FLAG	Signature

(3) Heat Stress Logbooks will be inspected during regularly scheduled site visits, command inspections, and during Commanding General's Readiness Inspection (CGRI).

3. Maintenance. The G-6 will conduct daily and weekly first echelon maintenance on the AHSS per AHSS operations manual. Commanders will coordinate with AC/S, G-6 for all maintenance, first, second and above to include annual and semi-calibration on the AHSS.

4. Flag Conditions. When the WBGTI reaches certain levels, commanders will curtail training to reduce the likelihood of heat injury.

a. Green Flag (WBGTI of 75° F to 84.9° F). No effect. Heavy exercises, for un-acclimatized personnel (those with less than 18 days aboard Parris Island), will be conducted with caution.

b. Yellow Flag (WBGTI of 85° F to 87.9° F). Strenuous activity for un-acclimated personnel will be suspended. Outdoor instruction and inspection will be conducted in the shade.

c. Red Flag (WBGTI of 88° F to 89.9° F). All PT will be suspended for un-acclimated personnel. Outdoor instruction and inspections will be conducted standing or sitting in the shade.

d. Black Flag (WBGTI of 90° F and above). All strenuous, non-essential outdoor physical activity will be suspended. Essential outdoor physical activity will be conducted at a level commensurate with personnel acclimatization. For activities permitted under Black Flag conditions, see paragraph 4f.

e. Administrative Black Flag Condition (ABFC). A Depot-wide Administrative Black Flag Condition will occur if one (1) of two (2) conditions exists: when the BHC reaches its maximum treatment capacity for heat injuries, regardless of flag condition, or when MEDIC 1, MEDIC 2, and MEDIC 3 are deployed/responding to an Emergency Call or are completely off the Depot regardless of flag condition.

(1) ABFC Notification Procedures

(a) If the BHC determines that an ABFC exists, they are required to immediately contact the EOC at (843) 228-3712/2034. EOC personnel will activate the mass notification system and then contact the following organizations: RTR (843) 228-3539 (OOD), WFTBN (843) 228-3183/2192 (OOD), 6th Marine Corps District (843) 228-3662, and the Depot Consolidated Dispatch Center (843) 228-3444/3445. When ABFC is no longer required, BHC will

contact the EOC who will then contact the commands listed above and inform them ABFC has been lifted.

(b) If PIFD determines that an ABFC exists, they are required to immediately contact the EOC at (843) 228-3712/2034. EOC personnel will activate the mass notification system and then contact the following commands: RTR (843) 228-3656/3273 (OOD), WFTBN (843) 228-3183/3170 (OOD), BHC Acute Care Department (843) 228-2562/3346, and 6th Marine Corps District (843) 228-3662. When ABFC is no longer required, PIFD Dispatcher will contact the EOC who will then contact the commands listed above and inform them ABFC has been lifted.

(2) ABFC requires all physical training, field training, and weapons firing to be suspended. All personnel are required to use extreme caution to ensure no additional injuries occur.

(3) To visually signal an Administrative Black Flag, a Black Flag will be flown immediately below the appropriate condition flag. If no WBGTI flag condition is in effect, a Black Flag will be flown under a Green Flag to avoid confusion with normal Black Flag conditions. Additionally, the G-3 will activate the mass notification system.

f. Essential Activities Permitted Under all Flag Conditions. The following activities are permitted under all flag conditions; however, paragraphs (3) through (5) are not permitted under ABFC.

(1) Administrative appointments.

(2) Indoor classes (actual instruction or examinations).

(3) Marksmanship Training/Firing at WFTBN.

(4) Execution of the Crucible and Basic Warrior Training at WFTBN.

(5) Execution of the confidence course (no PT in between obstacles) and MCMAP in the shade as long as WBGTI in the shade is not > 90 degrees.

(6) Individual permanent personnel who have acclimatized may continue individual PT.

(7) Religious Services/Instruction.

ARM IMMERSION COOLING SYSTEMS UTILIZATION

1. Arm Immersion Cooling Systems (AICS) will be placed at training events susceptible to high risk of overheating as determined by RTR.

2. It is imperative that water temperature is continually monitored as the temperature of the water is what dictates how long a person's arms must be submerged in order to produce the desired effect of a reduction in core body temperature (following guidelines will result in a 1.5°F reduction).

3. Set-up Procedures

a. Ice will be placed in cooler the night before the training event in order to ensure that we do not exceed the Depot's capacity to produce ice.

b. Ice will be filled to a line marked on the inside of the cooler, approximately 30lbs of ice per cooler.

c. Make sure lid is fully closed to increase insulation and reduce temperature rise.

e. Before execution of training, move the coolers into place and set on level ground.

f. Add water to coolers until the cooler is 3/4s full, approximately two (2) five (5)-gallon cans of water per cooler.

g. Add one cap full of bleach to the water/ice slurry.

h. Keep lid closed when not in use to slow melt rate.

i. Check temperature of slurry mix every thirty (30) minutes.

j. If temperature rises above 54° F add ice.

4. Utilization Procedures

a. Remove equipment and blouse in order to fully submerge forearms past elbows.

b. Fully submerge both forearms past elbows. Coolers allow for two (2) to four (4) people to utilize the system at the same time.

c. The amount of time needed to reduce core body temperature by 1.5°F is based on the temperature of the slurry and the length of time the forearms are submerged. Times and temperature ranges can be can be found in Figure 1. To avoid excessively long submersion times the slurry should be kept between 35° and 54°F. At this temperature range, forearms should remained fully submerged for five (5) minutes.

d. As temperature of the slurry rises, the length of time required to lower core body temperature increases as well (see Figure 1).

5. Maintenance

a. In the event that blood contaminates the water or water becomes dirty, dump out cooler and refill. A means for recruits to rinse excessive dirt from arms should be made available so that recruits' arms are as clean as possible prior to inserting arms in AICS.

b. After the conclusion of training, empty coolers and spray down with bleach solution.

c. Keep lid off cooler until the inside is fully dry. Do not store cooler with a wet interior and a closed lid; that will result in mildew and mold growth.

Temperature of Slurry (degrees)	Cooling Time (minutes)
>80°F	Replace Slurry
71 - 80°F	12 - 15
55 - 70°F	8 - 12
45 - 54°F	5 - 8
35 - 44°F	3 - 5

Figure 1