SC DEPARTMENT of ENVIRONMENTAL SERVICES

Safety Measures While Working Outside in High Temperature Conditions

Your safety is of utmost importance. Working outside in the heat puts you at risk for heat-related injuries and illnesses, so taking precautions is key to staying safe and healthy.

SCDES encourages all Staff to adhere to the following practices to safeguard against heat-related stress. These practices are based on recommendations from the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH) and the Centers for Disease Control and Prevention (CDC), and they **should be implemented whenever the daily heat index is greater than 90°F.**

Know the Heat Index. Supervisors and field staff shall be aware of the predicted high temperatures and heat index in the area each day. Determine the heat index for the area you or your staff are working in via the National Ocean and Atmospheric Administration (NOAA) website or via a free CDC smartphone application. Simply type the area's zip code into the appropriate box to get a local forecast and take note of hourly forecasts, as well.

Schedule frequent rest breaks in cool, shaded areas or in an air-conditioned vehicle.

- A rule of thumb for working in temperatures greater than 90°F (with high humidity) is to take a 15-minute water/rest break in the shade (or air-conditioned vehicle/area) for every 1 hour spent working in the heat. The higher the outside temperature, the longer the break. Refer to the CDC's Heat Stress Work/Rest Schedule publication for additional guidance.
- Set reminders on mobile devices for cooling and water breaks, if necessary.
- When you return to a vehicle which has been parked for longer than 30 minutes, roll down windows and run A/C on high using outside air (don't re-circulate hot interior air) for at least five minutes before driving the vehicle to your next inspection or worksite.
- Ensure you have enough fuel to run the A/C as needed and a charged phone (or a phone charger in the vehicle) in case of emergency.
- Ensure your supervisor is aware of your activities and general location(s) for the day and check in with one another frequently. Implement a schedule or set reminders for texting periodic updates, if necessary.

Heat Acclimatization: It is unsafe for new hires to work at full intensity in hot conditions for a full workday, and especially so if they are working alone in the field. Rather, it is important that all staff – both new and experienced – gradually build a tolerance for working in hot conditions, known as heat acclimatization. Supervisors should consider developing an acclimatization plan which gradually increases the workload and allows more frequent breaks to help all workers build a tolerance over a period of several weeks**.** As the heat index increases, allow for more frequent breaks of longer duration. Refer to the CDC's Heat Stress Acclimatization publication for sample acclimatization schedules for both new and returning workers.

Use Personal Protective Equipment (PPE). Some Bureaus have acquired items like cooling towels, sunscreen, and water coolers for field staff to use. Check with your supervisor to see what PPE and accessories are available for use in your Program Area. Ensure your supplies are loaded and ready for use before departing the office each day. SCDES encourages all staff to take precautions to minimize the adverse effects of exposure to direct sunlight. Keep yourself in shady areas as much as possible. Utilize sunscreen and wear a cap to keep the Sun off your face. Sunburn reduces the skin's ability to release excess heat, thereby making the body more susceptible to heat-related illnesses.

Stay Hydrated. If you have access to a water cooler, ensure you fill the cooler with ice and water before departing the office.

- Set reminders on your mobile devices for water breaks, if necessary.
- Drink small amounts of water often (before you become thirsty). A good rule of thumb for outdoor workers is to drink about 4 cups of water every hour when the heat index forecasts daily temperatures greater than 103°F.
- Drinking water temperature should be 50°F to 60°F, if possible.
- Other Drinks **–** Staff are encouraged to choose water over soda and other drinks containing caffeine and high sugar content. These drinks may lead to dehydration.
- Medications – be aware of the side-effects of any medications you may be taking, as some medications can contribute to dehydration.

Adjust work schedules or job duties, if possible. Discuss with your supervisor the option to reschedule job duties or adjust daily work schedules to cooler times of the day on those days that the heat index is forecasted to be greater than 103°F. Be vigilant during heat waves when air temperatures rise above normal. This memo and the mobile CDC app list the common signs and symptoms of heat-related illnesses, as well as first aid actions that all staff should implement when warranted.

Know the signs of heat-related illnesses. The chart on the following page lists symptoms associated with heat-related illness. Be aware of your own body's reaction to heat and monitor that throughout the day. Watch your field partner(s) for these symptoms as well. Supervisors, be aware of these symptoms; monitor your staff on these high heat index days. Call 911 if needed.

Staff are encouraged to visit the Safety Committee SharePoint page for additional heat-illness prevention information and resources.

OSHA Reference – https://www.osha.gov/heat/heat-index

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Remember, if you are not a medical professional, use this information as a guide only to help yourself or workers in need. All symptoms may not necessarily be present, and symptoms may also progress rapidly from one to the next. For example, heavy sweating as a sign of heat exhaustion may rapidly progress to hot, dry skin, indicating a heat stroke.

Illness	Symptoms	First Aid*	First Aid* if alone in the field
Heat stroke	▪ Confusion ▪ Fainting ▪ Seizures ▪ Excessive sweating or red, hot, dry skin ▪ Very high body temperature	▪ Call 911 While waiting for help: ▪ Place worker in shady, cool area ▪ Loosen clothing, remove outer clothing ▪ Fan air on worker; cold packs in armpits ▪ Wet worker with cool water; apply ice packs, cool compresses, or ice if available ▪ Provide fluids (preferably water) as soon as possible ▪ Stay with worker until help arrives and ensure they remain sedentary.	▪ Call 911 While waiting for help: ▪ Lie in shady, cool area ▪ Loosen clothing, remove outer clothing ▪ Fan air on yourself; cold packs in armpits ▪ Wet yourself with cool water; apply ice packs, cool compresses, or ice if available ▪ Drink fluids (preferably water) as soon as possible. ▪ DO NOT attempt any activity.
Heat exhaustion	▪ Cool, moist skin ▪ Heavy sweating ▪ Headache ▪ Nausea or vomiting ▪ Dizziness ▪ Light headedness ▪ Weakness ▪ Thirst ▪ Irritability ▪ Fast heartbeat	▪ Have worker sit or lie down in a cool, shady area. ▪ Give worker plenty of water or other cool hydrating beverages to drink ▪ Cool worker with cold compresses/ice packs ▪ Take worker to clinic or emergency room for medical evaluation or treatment. Call 911 if medical care is not available. ▪ Do not leave worker alone. ▪ Ensure worker does not attempt any activity or tries to return to work.	▪ Call 911 While waiting for help: ▪ Sit or lie down in a cool, shady area ▪ Drink plenty of water or other cool beverages ▪ Cool yourself with cold compresses/ice packs. ▪ Do not return to work that day.
Heat cramps	▪ Muscle spasms ▪ Pain ▪ Usually in abdomen, arms, or legs	▪ Have worker rest in shady, cool area. ▪ Worker should drink water or other cool beverages. ▪ Wait a few hours before allowing worker to return to strenuous work. ▪ Have worker seek medical attention if cramps don't go away.	▪ Rest in shady, cool area. ▪ Drink water/other cool beverages. ▪ Wait a few hours before returning to strenuous work. ▪ Seek medical attention if cramps don't go away.
Heat rash	▪ Clusters of red bumps on skin ▪ Often appears on neck, upper chest, folds of skin	▪ Move worker to a cooler, less humid environment whenever possible. ▪ Keep the affected area dry.	▪ Try to work in a cooler, less humid environment when possible. ▪ Keep the affected area dry.