Heat Illness Prevention Program

Steel City Scaffold, Inc.

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Safety Department

Heat Illness Prevention

INTRODUCTION

Heat illness in all it's forms has always been a recognized work hazard in California, and across the nation. All heat related illnesses are preventable. Cal/OSHA requires employers in California to train workers regarding the hazards of working in heat and in heat related illness. The standard also requires the employer to have a written plan that informs employees, supervisors, and managers of the regulatory requirements the employer must adhere to related to heat related illness prevention.

The primary goal of the Steel City Scaffold, Inc. Heat Illness Prevention Plan is employee safety. The training and operational elements found in this plan will provide employees, managers and supervisors with the tools necessary to anticipate environmental conditions that contribute to heat related illness, to recognize when work assignments place employees at risk and what job instructions need to be communicated to employees regarding the prevention of heat related illness.

This plan is consistent with the requirements of the Company's Injury and Illness Prevention Plan (IIPP), and nothing in this program supersedes or nullifies the requirements found in our IIPP.

DEFINITION OF TERMS

Acclimatization - means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

Active Cooling Equipment - means clothing or powered devices (passive or active) that work to provide body core cooling when worn by an employee.

Heat Illness - means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

Environmental risk factors for heat illness - means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

Personal risk factors for heat illness - means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

Preventative recovery period - means a period of time to recover from the heat in order to prevent heat illness.

Shade - means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

Temperature - means the dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the thermometer should be shielded while taking the measurement, e.g., with the hand or some other object, from direct contact by sunlight.

PROGRAM SCOPE

The Steel City Scaffold, Inc. Heat Illness Prevention Plan (HIPP) is intended to control occurrence of heat related illness. The Plan applies to all outdoor areas where employees can be assigned work, and where environmental conditions cannot be mitigated by engineering controls.

Additionally, the Plan also applies to indoor areas where employees may be assigned work, where the indoor temperature meets or exceeds 90° F.

The following designated persons have the authority and responsibility for implementing the provisions of this program at the worksite:

1. **Diego Lopez** Safety Manager 949-842-1463
2. **Mario Solis** Superintendent 310-462-7270
3. **Gustavo Chavez** Jr. Superintendent 949-254-6595
4. **Jesus Mora** Foreman 424-375-1765
5. **Jesus Franco** Foreman 626-251-5604

PROGRAM RESPONSIBILITIES

Corporate Safety Department will:

- Draft and distribute the HIPP to Company managers & superintendents.
- Provide initial training in the requirements of the plan to managers, superintendents, and employees who are covered by the requirements of this program.
- Maintain employee training records for courses conducted by Safety Department.

Managers and Superintendents will:

- Ensure that employee work assignments both indoors and outdoors are evaluated and the components of this plan are implemented when the established temperature/relative humidity thresholds are met or exceeded.
- Ensure that initial and periodic training is provided to employees under their supervision and are consistent with the requirements of this document.
- Ensure that active or passive cooling equipment is available to employees who may require its use.
- Maintain employee training records for courses conducted solely by Safety Department personnel.

Employees will:

- Comply with the requirements of the plan.
- Understand the responsibilities of both the Company and employees in maintaining compliance with this plan.
- Take steps to mitigate any personal risk factors that may exist prior to working in a regulated hot environment.
- Immediately report unsafe conditions to their supervisor.
- Observe their fellow employees for signs of heat related illness, and take quick action to ensure that rapid assistance is provided if applicable.

TRAINING

California Code of Regulations, Title 8, Chapter 4, section 3395 requires employers to provide training in the provisions of the written Heat Illness Prevention Plan to managers, supervisors, and employees. The minimum requirements for training content include:

- The environmental and personal risk factors for heat illness;
- SCS's procedures for complying with the requirements of CCR, T8, section 3395;
- The importance of frequent consumption of small quantities of water, up to four (4) cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties;
- The importance of acclimatization.
- The different types of heat illness and the common signs and symptoms of heat illness.
- The importance to employees of **immediately** reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers;
- SCS's procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary.
- SCS's procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider.
- SCS's procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

Further, supervisors are required to receive the same training content as outlined above and in addition:

- The procedures the supervisor is to follow to implement the applicable provisions in this section.
- The procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

PROGRAM COMPLIANCE STRATEGY

Nothing in this plan prevents a manager or supervisor from encouraging good heat related work practices when local temperatures are hot but do not reach the thresholds detailed below.

Outdoor Work Assignments

Managers and supervisors shall ensure that they are aware of the most current and accurate meteorological information (ambient temperature and relative humidity) in areas where they will be assigning employees to work. The manager and/or supervisor shall implement the proper controls when local weather conditions have achieved, or are expected to achieve the following threshold:

- **More than 48 hours with day time temperatures at or above 80° F and relative humidity at or above 80%.**

In these conditions, the manager and/or supervisor shall implement the following worker protection controls.

- Prior to the start of the work shift, when weather conditions require the application of the HIPP, managers and/or supervisors shall meet with their employees, and review the work procedures to be used during the high heat period.
- Managers and/or supervisors shall ensure that exposed employees have access to cool potable drinking water. Water must be provided to employees at the beginning of the work shift in sufficient quantities to ensure that employees can consume one quart of potable water per hour.
- Employees may be provided with smaller quantities of water if provisions are made to supply one quart of water per hour per employee.
- Managers and/or supervisors shall encourage frequent drinking of water by employees.
- Managers and/or supervisors shall ensure that employees assigned work outdoors and exposed to high environmental temperatures shall have quick and effective access to a rest area where shade is available, or to an area where ventilation or cooling is provided for a period of not less than 5 minutes. Employees shall have access to shade or cooling at all times during the work shift. Depending on the worksite, employees shall have a shade canopy EZ Up style provided by the Company, or an area designated by the General Contractor as a shaded lunch area or within an existing building.

Work Assignments in Indoor Environments

Where employees are assigned work in an indoor environment where ambient temperatures will meet or exceed 90° F, managers and supervisors will ensure that:

- Prior to the start of the work shift, when interior environmental conditions require the application of the HIPP, managers and/or supervisors shall meet with their employees, and review the work procedures to be used during the high heat period.
- Managers and/or supervisors shall ensure that exposed employees have access to cool potable drinking water. Water must be provided to employees at the beginning of the work shift in sufficient quantities to ensure that employees can consume one quart of potable water per hour.
- Employees may be provided with smaller quantities of water if provisions are made to supply one quart of water per hour per employee.
- Managers and/or supervisors shall encourage frequent drinking of water by employees.
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Work in Full – Body Protective Clothing (FBPC)

When an employee wishes to wear FBPC it is used on the jobsite for non-routine non-emergency response to hazardous materials releases and for routine maintenance/construction – related tasks.

1. a full – body protective suit (Tyvek, breathable Kleenguard, etc.) to **solely** prevent soiling street clothing from a routine work assignment, and no exposure to hazardous materials is anticipated, and the temperature is not expected to meet or exceed the HIPP action thresholds, the manager and/or supervisor shall comply with the following:
    - Employees shall be advised to pre-hydrate before donning suit and beginning work.
    - Employees shall be advised to continue drinking sufficient water to maintain a hydration rate of one 500ml bottle of water per hour.
    - Employees shall be instructed to get out of the direct sun, and into a shaded area, for at least 5 minutes every hour.
    - Supervisors shall ensure that active cooling equipment is available for employee use, and that employees have been trained in the use of the equipment prior to work assignment.
    - Supervisors shall limit work assignments for employees to allow sufficient rest time for fluid replacement and restoration of nominal vital signs.

- Every effort shall be made to schedule work in the coolest part of the day, usually early morning, to mitigate the need for active cooling equipment.
- If conditions do not permit off hours scheduling, supervisors shall ensure that baseline vital signs for employees shall not exceed established thresholds

APPENDIX A: RECOGNIZING HEALTH RELATED ILLNESS

Emergency Services Contact Procedures

When an employee has been impacted with a heat related illness, or any emergent medical condition, Steel City Scaffold, Inc. has the following process in place:

1. When an employee appears to be suffering from a heat related illness, contact 9-1-1 immediately. Use a public telephone, a cellular telephone, or a private cellular telephone. Advise emergency services that an employee is suffering from a heat related emergency. Do not hang up; the emergency services will require further information from the calling party.
2. If the affected employee is able to walk, get them out of the sun, begin active cooling, and advise emergency services of the patient's location. Be as precise as possible. If the dispatcher requests that the employee be moved to a location that is easier for emergency services to access, advise the dispatcher if you think that can be done without further injury.
3. If the patient cannot be re-located, provide emergency services with the precise location. If other employees or workers are available, direct them to the nearest street to assist in directing emergency services to the patient.

The Steel City Scaffold, Inc. HIPP uses definitions and treatment modalities promulgated in the American Red Cross curriculum, First Aid/CPR/AED for the Workplace - 2007. The following information is collected from that source.

Types of Heat Related Illness

- Heat Cramps – are painful muscle spasms that usually occur in the legs (hamstrings) and abdomen. Heat cramps are treatable, and are the least severe form of heat related illness.
- Heat Exhaustion (heat syncope) – is an early indicator that the body's cooling system is becoming overwhelmed. Signals of heat exhaustion include:
    - Cool, moist, pale, ashen or flushed skin.
    - Headache, nausea, dizziness.
    - Weakness, exhaustion
    - Heavy sweating (a capstone sign)
- Heat Stroke – is a profound medical emergency. Heat stroke occurs when the body's systems are overwhelmed by heat and stop functioning. Heat stroke is a life threatening condition and requires professional emergency medical intervention. Signals of heat stroke include:
    - Red, hot, dry skin.

- Changes in the level of consciousness (LOC)
- Vomiting

First Aid Care for Victims of Health Related Illness

For employees suffering from heat cramps or heat exhaustion:

- Move the employee out of the sun, to a cool shaded place.
- Loosen tight or restrictive clothing, and remove any personal protective equipment over garments.
- Remove perspiration soaked clothing.
- Apply cool, wet towels to the skin
- Fan the employee gently
- If the person is conscious, provide small sips of cool water, (not a sports drink)

For employees suffering from heat stroke:

- This is a profound medical emergency, and cannot be successfully treated in the field. Immediate and decisive action is required.
- Call 9-1-1 and advise emergency services of the situation. Ensure that accurate directions are provided to emergency services so medical assistance is not delayed.
- Move the employee to a place out of the sun, or provide shade for them.
- Loosen tight clothing, and begin active cooling methods (active fanning, pouring cool water over the body core, placing ice packs in the arm pits, behind the neck, and in the groin.
- Place the employee on their back (supine position) and gently roll them onto their side, with their airway (mouth) pointed down toward the ground in the recovery (Haines) position. Maintain an open airway!
- Continue to cool the person by using ice or cold packs on the employee's wrists, ankles, groin, neck, and armpits.
- Remain with the employee until medical assistance arrives, and provide assistance to responders as required.

APPENDIX B: HYDRATION TECHNIQUES

For most employees who are well acclimated to exterior conditions in the work environment, proper hydration is a simple matter of drinking sufficient potable water prior to exposure to heat, and at least one quart per hour of cool potable water during the work involving exposure to high heat. **Drink before you get thirsty.** If you are working in high heat conditions, and become thirsty, you cannot replace the fluid loss you have sustained orally.

To re-state what Cal/OSHA recommends, an employee must consume up to four (4) cups per hour of cool, potable water during work in high heat conditions. For reference, a 500 ml bottle of commercially available water is equal to approximately two (2) cups of water. Thus, consuming two (2) 500ml bottles of water per hour would be equal to 4 cups.

Preventing heat related illness in employees is preferable to responding to a victim of heat illness, It is very important to "pre-hydrate" prior to beginning work in a high heat environment. If possible, employees should consume at least one bottle of water, or 2 cups, before beginning work in a high heat environment.

The Cal/OSHA standard requires employers to provide potable, "cool" water for employees. For reference, public drinking fountains that are not electrically refrigerated provide water at between 75° F and 76° F. If supervisors choose to supply drinking water out of insulated water coolers, the contents needs to be kept at that relative temperature. Additionally, if a water cooler is provided, it must be sanitary, and have a valve for dispensing the water into individual cups, one for each employee, or disposable cups. The use of a communal dipper is not permitted. The water levels of the insulated water coolers shall be checked at a minimum of every 30 minutes. If the water level reaches 50% it needs to be replenished and shall be done by either calling a supervisor to provide more water and ice or by the lead Foreman purchasing water & ice and the Company reimbursing him the cost.

The use of **salt pills**, or **electrolyte replacement "sports" drinks** is not recommended for normal hydration and fluid replacement. Water is the preferred fluid, taken in the amounts discussed. Do not over-hydrate, or try to consume more that the recommended amount and rate. Water intoxication can occur, where so much water in ingested that electrolyte balance is disturbed, which can lead to heart arrhythmias and other circulation problems.

APPENDIX C: HIGH HEAT OR HEAT WAVE PROCEDURES

Acclimatization

For the purpose of this section "heat wave" means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit and at least 10 degrees Fahrenheit higher than the average high daily temperature in the preceding 5 days.

High heat procedures are additional preventive measures that this company will use when the temperature equals or exceeds 95 degrees Fahrenheit.

During a heat wave or heat spike the work day will be cut short or rescheduled (ex. Conducted at night or during cooler hours). The weather will be monitored daily.

During a heat wave or heat spike and before starting work, tailgate meetings will be held to review the HIPP, the weather forecast and emergency response. In addition employees will be provided with an increased number of water and rest brakes and will be observed closely for signs and symptoms of heat illness.

In high heat effective communication by voice, direct observation or electronic means will be maintained so that employees at the worksite can contact a supervisor when necessary. If the supervisor is unable to be near the workers then an electronic device such as a cell phone or text messaging device may be used for this purpose if reception in the area is reliable.

Employees will be reminded constantly throughout the work shift to drink plenty of water and take preventive coo-down rest break when needed.

An employee who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

In summary, anticipate high heat conditions, ensure that heat illness risk factors are eliminated or controlled, pre-hydrate before beginning work in high heat and humidity, and consume at least four (4) cups of water per hour during work in high heat.

Know the signs and symptoms of heat related illness. Keep an eye on co-workers, and respond quickly when you see signs of heat related illness in others.

APPENDIX D: ACCESS TO SHADE AND PROVISION OF WATER

Drinking water containers (of 5 to 10 gallons each) will be brought to the site so that at least two quarts per employee are available at the start of the shift. All workers will have access to drinking water. The water level of all containers will be checked periodically (ex. Every hour or every 30 min) and more frequently when the temperature rises. Water will be fresh, pure and suitably cool and provided to employees free of charge.

All water containers will be kept in sanitary condition. Water from non-approved or non-tested water sources is not acceptable. If hoses are used they must be governmentally approved for potable drinking water systems, as shown on the manufacturers' label. Individual water containers or bottled water provided to workers will be adequately identified to eliminate the possibility of drinking from a co-workers container of bottle.

Shade structures will be opened and placed as close as practical to the workers when the temperature equals or exceeds 80 degrees Fahrenheit. The interior of a vehicle may not be used to provide shade unless the vehicle is air-conditioned and the air conditioner is on.

An employee who takes a preventive cool-down rest break will be monitored and asked if she/he is experiencing symptoms of heat illness and in no case will the employee be ordered back to work until signs or symptoms of heat illness have abated.