HEAT ILLNESS PREVENTION PROGRAM

Table of Contents

1.0 OBJECTIVES AND OVERVIEW

This Heat Illness Prevention Program provides procedures for use on all 20/20 Plumbing & Heating, Inc. construction work locations. This written program is based on the Federal OSHA Technical Manual Section III, Chapter 4.

2.0 SCOPE

This applies to all outdoor and indoor places of employment at those times when the environmental risk factors for heat illness are present as defined per the OSHA regulations.

3.0 POLICY

It is the policy of 20/20 Plumbing & Heating, Inc. that any employee participating in job tasks when environmental risk factors for heat illness are present **will comply** with the procedures in this document, the Injury and Illness Prevention Program, and Code of Safe Practices. Failure to implement this plan can result in disciplinary action up to and including immediate termination. This plan cannot be altered or waved for any reason without the specific written consent of the Safety/HR Manager and/or Company President.

4.0 PURPOSE

To ensure that all employees at 20/20 Plumbing & Heating, Inc. are protected from heat illness while working on job tasks where environmental risk factors for heat illness are present and to establish the minimum requirements for working in this environment.

5.0 DEFINITIONS

5.1 **"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 about two hours per day in the heat.

5.2 **"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 personnel protective equipment worn by employees.

5.3 **"Distance"** means the practical measurement between the employee's access to shade and water, given the working conditions and layout of the worksite. Average walking distance of 2.5 minutes.

5.3 **"Drinking Water"** means potable clean cool drinkable water at the site provided via municipal resources or by means of a water cooler. Such water must also be fresh, pure and suitably cool.

5.4 **"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.

5.5 **"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, blood pressure or other physiological responses to heat, returning from a vacation or leave due to illness or injury or transferring form a cooler climate to a hotter climate job assignment.

5.6 **"Preventative heat recovery period"** means a period of time to recover - lasting not less than five minutes from the heat in order to prevent heat illness this is to include shade and water**.**

5.7 **"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.

5.8 **"Shade structure"** Sheds, supply bins "tubes", and partial or temporary structures such as tents, lean-tos, and structures with one or more open sides can be either indoor or outdoor workplaces depending on the circumstances.

5.9 **"Temperature"** all reading of temperature shall be read in Fahrenheit unless otherwise stated.

5.10 **"Training"** means the communication of information and instruction on the prevention recognition and treatment of heat illness as required by OSHA.

6.0 COMMUNICATION

For each 20/20 Plumbing & Heating, Inc. job a Project Administrator will provide the supervisor/workers a map (included in the Red Book) with clear and precise directions (Google, Bing, Yahoo maps, or equivalent) that includes streets or road names, and distances to major roads of the site to the medical facility in order to avoid a delay of emergency medical services (see Appendix A).

Supervisor shall carry cell phones or other means of communication to ensure that emergency services can be called, and verify that the device is functional at the worksite prior to start of each shift.

Supervisor will inform and verify workers knowledge of their work site location, and update them whenever work locations change during the work shift, in the event there is a need to call for emergency medical services.

In an emergency situation and while providing care to the victim a 20/20 Plumbing & Heating, Inc. supervisor or an employee(s) designated by the supervisor will be required to notify Emergency Medical Services immediately. This will include the address cross streets and/or GPS location for the EMS responders (You can get GPS coordinates from most computer generated map web sites.) An employee will be sent to the entrance of the job site to guide EMS to the victim. On each project 20/20 Plumbing & Heating, Inc. we will ensure that a designated person(s) who can speak English is available to communicate with emergency services.

After EMS arrives the 20/20 Plumbing & Heating, Inc. supervisor must also contact his/her company superintendent, safety director/HR Manager, and general contractor to follow up with an accident report.

7.0 RESPONDING TO HEAT ILLNESS EMERGENCIES:

All 20/20 Plumbing & Heating, Inc. field supervisors shall be appropriately trained in First Aid/CPR and equipped to render first aid. Designated leadsmen may also have First Aid/CPR training.

The appropriately trained and equipped First Aid provider who is available at the site can determine the appropriate response when an employee is experiencing possible symptoms of heat illness. This response may range from drinking water and resting in the shade to summoning emergency medical attention.

8.0 HEAT EXHAUSTION

As an individual is working, the body produces sweat to help keep the core of the body at 98.6 degrees. When the environment is hot, more sweat is produced and depletes the amount of water in the body. This reduces the amount of sweat to cool the body down. The individual must now drink water to maintain the sweating process. If not, the individual will experience lightheaded, nausea, weakness and possibly muscle cramping.

Employees will stop what he/she is doing and seek a shaded or air conditioned area and drink water. The recovery time shall be at least five minutes or longer. After recovering, the individual will be monitored by his/her immediate supervisor and it will be determined if the employee will need medical assistance. If not, the employees work load will be significantly reduced or eliminated for the remainder of the shift. Again, this will be based on monitoring the employee and how they report their condition.

9.0 HEAT STROKE

Heat Stroke is a result of the body's inability to cool down. Due to the lack of sweat, the core temperature starts to climb to a dangerous level. It is not known at what exact temperature Heat Stroke occurs because every human being is unique. However the signs and symptoms are always the same. Hot Red Dry Skin, confusion, possibly combativeness, seizures or unconsciousness. **This is a true Emergency and requires that 911 be called immediately**.

The employee will be moved to a shaded area. They will be dowsed with water using the cloth rags or equivalent and will be fanned if possible. If available, ice packs (wrapped in a wet cloth or paper towel) will be put on the forehead, behind the neck, in the arm pits, and in the groin area. This is done because the head is the biggest radiator of heat and the large blood vessels are closest to the surface of the skin at the arm pits and groin. As the employee recovers, they will be allowed to drink water as tolerated and continue the cooling process until EMS arrives. At no time will the employee be left alone or allowed to drive themselves to emergency room or home.

10.0 WATER PROVISIONS

10.1 Potable Water

- An adequate supply of water shall be provided at all sites of employment by ensuring one or more of the following steps:
    - Provide drinking fountains.
    - Supply single-service cups. Where single-service cups are supplied, a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.
    - Supply sealed one-time use water containers. Where sealed one-time use water containers are supplied, a receptacle for disposing of the used containers shall be provided.
    - Supply individual re-usable, closable containers (water bottles). Where re-usable containers for individual use are relied upon the site supervisor shall ensure the containers are marked to identify the user and maintained in a sanitary condition.
- Portable containers used to dispense drinking water to more than one person shall be equipped with a faucet or drinking fountain. Drinking water containers shall be capable of being tightly closed and shall be otherwise designed, constructed and serviced so that sanitary conditions are maintained. Water shall not be dipped from containers.
- Any container used to store or dispense drinking water shall be clearly marked as to the nature of its contents and shall not be used for any other purpose.
- Re-usable containers for individual use and drinking cups shall not be shared or used in common.
- Exception: Re-usable containers for individual use and drinking cups which are safely and effectively cleaned and sanitized between use by different users.

- During water replenishment, ample amounts of water shall remain on site when other water container(s) are being replenished with fresh water off site. ***No worksite shall be left without water at anytime during replenishing.***

10.2 Non-potable Water

- Non-potable water shall not be used for the purposes of drinking or washing.

10.3 Water Requirements/Replenishment:

Employees shall have access to potable drinking water where it is not plumbed in or otherwise continuously supplied. Water shall be provided in sufficient quantities at the beginning of each work shift **(*One quart of water per hour per employee for drinking throughout the work shift.*)** to provide at least two gallons of water per employee per work shift.

Each shift will have available water and effective procedures for replenishment during the shift as needed. The supervisor or his/her designated employee will monitor water containers every 30 minutes or as needed depending on environmental conditions. Water levels shall not fall below the point that will allow for adequate water during the time necessary to effectively replenish. Supervisors will encourage workers to report low levels of water, or dirty water supply. This means access to potable water at the job site or the capability to provide fresh water from a local convenience store to allow employees to drink (1qt) one quart or more per hour.

Water jugs must not be less than half empty at any time and disposable drinking cups shall be assessable for all workers. No community cup or drinking from spigot is allowed.

10.4 Encouragement to Drink Water:

Supervisors will emphasize the importance of frequent drinking of water throughout the day, especially in high heat. This will be significantly facilitated in morning briefings and during weekly safety meetings. Water containers will also be placed as close as practicable to the areas where employees are working.

10.5 Water Temperature:

The temperature of water shall be cooler than the ambient temperature. When possible ice will be provided especially in high heat conditions. Ambient temperature is defined as the temperature of the surroundings.

11.0 SHADE PROVISIONS

11.1 Access to shade:

Shade will be available when the ambient temperature is above 85 degrees. Employees suffering from heat illness or believing a preventative recovery period is needed shall be provided access to an area with shade that is either

open to the air or provided with ventilation or cooling for a period of no less than five minutes. Such access to shade shall be permitted at all times.

To ensure access to shade, the following steps will be taken:

- At start of shift, the supervisor will assess work area to ensure adequate shade is available.
- If shade is not available, supervisor will set-up an adequate number of portable shade devices, and relocate them as necessary at a distance to be as close as practicable to the areas where employees are working.
- In temperatures not exceeding 85 degrees Fahrenheit, supervisors shall either provide shade or provide access to shade upon an employee's request.
- Supervisors shall allow and encourage employees to take a cool-down rest in the shade for a period of no less than five minutes at a time when they feel the need to do so to protect themselves from overheating. Such access to shade shall be permitted at all times.

11.2 Heat Wave:

If the temperature exceeds or reaches 95 degrees F for one or multiple days, supervisors will be required to closely monitor all employees frequently for signs and symptoms of heat illness. Supervisors will remind employees to frequently drink water. New hires require a higher level of close and frequent supervision unless he or she has been acclimatized to doing outdoor work. See acclimatization section 11.12 and High Heat section 13.0

11.3 Quality:

Shade is blockage of direct sunlight. Blockage is always sufficient when objects do not cast a shadow in the shaded area. An enclosed area used to provide shade must allow cooling at least comparable to the cooling that would be provided in a shaded unenclosed area in the same location.

11.4 Sources:

Shade can be provided by buildings, canopies, lean-tos, tarps or other partial or temporary structures that are either ventilated or open to air movement. Trees and dense vines can provide shade that is superior to artificially provided shade and are accepted as compliant sources of shade if the canopy of the trees or vines is sufficiently dense to provide substantially complete blockage of direct sunlight. Flecks of sunlight are acceptable as long as, overall, the shade provides substantially complete blockage of sunlight. Where trees or other vegetation are used to provide shade, the thickness and shape of the canopy must, given the changing angles of the sun, result in a sufficient shadow being cast to protect employees from the sun during the entire shift.

11.5 The Interior of a Vehicle

The vehicle interior may not be used to provide shade unless the vehicle is air-conditioned and the air conditioner is operating prior to use. Similarly, metal storage sheds and other out-buildings do not provide protection from sunlight that meets the definition of shade unless they provide a cooling environment

comparable to shade in open air (i.e., they must be mechanically ventilated or open to air movement).

11.6 Conditions of Access:
The shaded area will let employees assume a comfortable posture and will not cause exposure to another hazard. Using areas underneath mobile equipment is not allowed.

11.7 Areas shaded by artificial or mechanical (as opposed to natural) means: Areas such as a popup canopy as opposed to a tree, must allow for employees to avoid contact with bare soil. This can be done by providing chairs, benches, sheets, towels, or any other items that let employees sit and rest without contacting dirt. Where the shaded area is a lawn, no such item need be provided, regardless of the means by which the area is shaded.

11.8 Amount of shade available:
During the shift, there shall always be enough shade to accommodate those employees who seek it to cool off. This does not mean there must be enough shade to accommodate all employees on the shift at the same time. Such procedure would be for the rotation of employees in and out of shaded areas to ensure all have sufficient access for the five-minute interval specified in the standard or supply additional shade structures as needed.

As a general rule, and subject to the considerations described above, the amount of shade to be sufficient shall accommodate 25 percent of the employees on a shift, so that employees can sit comfortably in the shade without touching each other.

11.9 How Close Must a Shaded Area Be to Employees
The nearest shaded area shall kept at a distance as close as practicable, but no further than a 2 ½ minute walk, depending on job site conditions

Note: The time it realistically takes to get to the shaded area will always the critical consideration and this will be taken into consideration if the means of access is by vehicle instead of walking.

11.10 **Monitoring Weather Conditions**
It will be the supervisor's responsibility to know the high temperatures for the day, by means of local weather reports, national weather service, AccuWeather.com, local newspaper reports, weather channel reports, or other reliable method. This shall be done the week prior to know the 5 day forecast and prior to each days shift to appropriately prepare for the upcoming work shifts.

11.12 **Acclimatization**
Procedures for acclimatization shall be as follows:

- Supervisors will monitor the weather and check for sudden heat wave(s), or increases in temperatures to which employees haven't been exposed to for several weeks or longer.
- During a heat wave or spike (a sudden increase in daytime temperature of 9 degrees or more) the work day will start earlier or switched to the evening if possible.
- During the hot summer months, the work shift will start as early as possible or later in the evening when the weather has begun to cool down.
- For new employees, the supervisor will try to find ways to lessen the intensity of the employees work during a two-week break-in period (giving the employee slower paced, less physically demanding work during the hot parts of the day and the heaviest work activities during the cooler parts of the day (early-morning or evening). Steps taken to lessen the intensity of the workload for new employees will be documented.
- The supervisor will be extra-vigilant with new employees and stay alert to the presence of heat related symptoms.
- The supervisor will assign new employees a "buddy" or experienced coworker to watch each other closely for discomfort or symptoms of heat illness.
- During a heat wave, the supervisor will observe all employees closely (or maintain frequent communication via phone or radio) and be on the lookout for possible symptoms of heat illness.
- 20/20 Plumbing & Heating, Inc. training for employees and supervisors will include the importance of acclimatization, how it is developed and how these company procedures address it.

12.0 RESPONSIBILITY

12.1 Safety Director/HR Manager is responsible for:

Preparing and maintaining a written program which complies with the requirements of OSHA. Assisting with providing training to all potentially impacted employees on the risks and prevention of heat illness, including how to recognize symptoms and respond when they appear.

12.2 Supervisors are Responsible For:

- Identifying all employees who are required to work outdoors where potential heat illness could occur and identifying the supervisor of the employees.

- Assure that adequate water and shade are available at a job site when the environmental risk factors for heat illness are present.

- Ensure that all affected employees have received proper training on heat illness prevention.

- Ensure that the requirements in this document are followed.

11.3 Affected employees are responsible for:

- Complying with the provisions of the Heat Illness Prevention Program, as described in this document and in the training sessions they attend.

- Ensuring they have drinking water available at all times when the environmental risk factors for heat illness are present.

- Ensuring they have access to a shaded area to prevent or recover from heat related symptoms.

- Reporting heat related illness symptoms to the supervisor.

13.0 High Heat (95 degrees or greater)

The following requirements apply to all employees:

- Supervisor shall ensure that effective communication by voice, observation, or cell phone is maintained so that employees at the worksite can contact a supervisor or co-worker when necessary.
- Implement a buddy system for all workers; no worker is to be permitted to work outside of the communication range of another 20/20 Plumbing & Heating, Inc. employee or assigned employee from another organization.
- Employees shall be reminded and encouraged to drink sufficient amounts of water throughout the work shift.
- Supervisors shall conduct a daily verbal tailgate safety meeting covering information such as the expected high temperature, frequent consumption of water, location of shade, reporting heat-related illnesses, additional breaks if necessary, and work location.
- Supervisors shall observe workers for alertness and signs and symptoms of heat-related illnesses.
- Close supervision of new employees by a supervisor or co-worker (designee) for the first 14 days of the employee's employment by the employer, unless the employee indicates at the time of hire that he or she has been doing similar outdoor work for at least 10 of the past 30 days for 4 or more hours per day.
- Whenever possible, schedule strenuous work activities for early in the day.

14.0 TRAINING

14.1 Levels of Training:

The following are responsible for maintaining current in Heat Illness Prevention.

14.2 Employees:

All employees working on job tasks where environmental risk factors for heat illness are present shall receive instruction before being assigned to work tasks. Training topics shall include the following:

- Environmental and personal risk factors for heat illness.
- 20/20 Plumbing & Heating, Inc. procedures for complying with the requirements of this standard
- Procedures for identifying, evaluating, and controlling exposures to the environmental and personal risk factors for heat illness.
- Importance of frequent consumption of small quantities of water, up to 4 cups per hour under extreme conditions of work and heat.
- Importance of acclimatization.
- Different types, signs, and symptoms of heat illness.
- Importance of immediately reporting symptoms or signs of heat illness in themselves or in coworkers to their supervisor.
- 20/20 Plumbing & Heating, Inc. procedures for responding to symptoms of possible heat illness, including how emergency medical services will be contacted and provided, should they become necessary.
- 20/20 Plumbing & Heating, Inc. 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. These procedures shall include designating a person to be available to ensure that emergency procedures are invoked when appropriate.

14.3 <u>Supervisors:</u>

Supervisors shall receive training prior to managing any employees on the following topics:

- Information as detailed above in the employee training requirements.
- Procedures the supervisor shall follow to implement the provisions of this program.
- Procedures the supervisor shall follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.
- How to monitor weather reports and how to respond to hot weather advisories

14.4 Managers:

Shall receive training in the company's Heat Illness Prevention program to assist in the enforcement of the program and investigation should the need arise.

15.0 PROGRAM AUDITS

15.1 Responsibility

Audits of the Heat Illness Prevention Program shall be performed by the Safety Director/HR Manager.

15.2 Frequency

Audits of the Heat Illness Prevention Program shall be performed annually or if conditions/regulations change.

15.3 Contents

The audit shall review the program to ensure that heat illness prevention procedures are in place and are being properly followed. In addition, the audit shall be compared to the current OSHA regulations for compliance.

16.0 RECORDS

All training, audit, and other records prepared in association with the Heat Illness Prevention Program shall be managed in accordance with the requirements of 20/20 Plumbing & Heating, Inc. Injury and Illness Prevention Program.

APPENDIX–A

EMERGENCY RESPONSE PROCEDURES

Always know the address of your location or GPS Coordinates for EMS responders.

Procedures for Emergency Response include but are not limited to:
Prior to assigning a crew to a particular worksite, the Project Administrator will provide workers and the supervisor a map (included in the Red Book) along with clear and precise directions (Google, Bing, Yahoo maps, or equivalent) that includes streets or road names, and distances to major roads of the site to the medical facility in order to avoid a delay of emergency medical services.

Prior to assigning a crew to a particular worksite, the General Manager and Superintendent will ensure that a qualified, appropriately trained and equipped person will be available at the site, to render first aid if necessary.

Prior to the start of the shift, the Foreman will determine if a language barrier is present at the site and take steps (such as assigning the responsibility to call emergency medical services to the foreman or an English speaking worker) to ensure that emergency medical services can be immediately called in the event of an emergency.

All foremen and supervisors will carry cell phones or other means of communication, to ensure that emergency medical services can be called and check that these are functional at the worksite prior to each shift.

When an employee is showing symptoms of possible heat illness, the Foreman will take immediate steps to keep the stricken employee cool and comfortable once emergency service responders have been called (to reduce the progression to more serious illness).

At remote locations such as lots or undeveloped areas, the Foreman will designate an employee or employees to physically go to the nearest road or highway where emergency responders can see them. If daylight is diminished, the designated employee(s) shall be given reflective vest or flashlights in order to direct emergency personnel to the location of the worksite, which may not be visible from the road or highway.

During a heat wave or hot temperatures, workers will be reminded and encouraged to immediately report to their supervisor any signs or symptoms they are experiencing.

20/20 Plumbing & Heating, Inc. training for employees and supervisors will include every detail of these written emergency procedures.

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HEAT ILLNESS PREVENTION – SAFETY TRAINING

Summer temperatures in the United States can climb above **100 degrees Fahrenheit** (38 degrees Celsius), making Heat Illness a big problem. **Heat stroke** can be fatal in many cases because it happens so quickly -- there is not much time to react.

"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 (fainting) and heat stroke.

Let's say that it's 100 degrees F outside. The human body wants to stay at 98.6 degrees F. The only way to stay at 98.6° is to sweat. By putting moisture on the skin and letting it evaporate, your body can cool itself very effectively and keep its temperature in the proper range.

Sweat works well as long as there is plenty of water in your body -- it takes water to manufacture sweat. If you run out of water, sweat stops and your body rapidly overheats. It turns out that it is extremely easy to run out of water -- your body can produce 0.5 gallons (2 liters) of sweat every hour in a hot environment. Unless you are drinking water at the same rate, you will dehydrate and then stop sweating. Your internal thirst meter often is not sensitive enough when you need that much water (and it has been said that by the time you feel thirsty, you're already dehydrated), so you have to keep drinking regardless of how thirsty you feel.

Water - Employees should drink one quart or more of cool water per hour (4 Cups/hour).

Risk Factors – Include 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.

Heat Exhaustion – Occurs when the body is over exerted and begins to get hot. Sweating increases followed by light headedness, nausea/vomiting, muscle weakness and/or cramping. At this point the individual should stop what he/her is doing, rest cool down and drink water with equal amounts of a sport drink to replace lost electrolytes.

Heat Stroke (TRUE EMERGENCY 911 is required) - Occurs when the body continues to be over exerted beyond what the sweat can cool down. At this point the body dilates skin blood vessels to try to release heat, making the skin red, and the dryness comes from lack of sweat. Although there may be a small amount of sweat on the body it is no longer enough to cool the body down. **The victim may be confused, unconscious or having seizures, skin will be red dry and hot. At this point call 911 and give your exact location. Provide shade immediately and remove the victims clothing down to their underwear, wet down the victim's bare skin with a sponge or cloth while fanning them. If available, apply ice packs to the head, neck, armpits and groin. Monitor breathing and prepare to give CPR if needed. Continue to do this until Emergency Medical Services (EMS) arrives**

The other thing that can lead to heat stroke is very high humidity, which keeps sweat from evaporating.

In either case -- be it the lack of sweat or the inability to evaporate it - the core body temperature can rise very quickly if it is hot outside. Once the core gets to 106 degrees F, it is a serious problem. The dizziness and confusion and or seizures come from the high body temperature, which affects the brain.

The only solution for heat stroke is to cool the victim down. If not treated, heat stroke can kill in less than an hour.

Foreman _____ **Signature** _____ **Date** _____

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PREVENCIÓN DE DEBILITAMIENTO POR CALOR - ENTRENAMIENTO DE SEGURIDAD

Temperaturas en los Estados Unidos fácilmente sobrepasan **100 grados Fahrenheit** (38 centígrados) provocando debilitamiento por calor. **Insolación** en muchos casos puede ser fatal porque ocurre rápidamente – sin mucho tiempo para racionar.

"Debilitamiento por Calor" indica una severa condición medica resultando en que el cuerpo no puede sobrellevar una carga particular de calor inclusivamente calambres musculares, agotamiento y desmayo por causa de calor.

Diremos que la temperatura afuera esta a 100° F (38° C). El cuerpo humano quiere mantenerse a **98.6 grados F**. La única manera de lograrlo es **sudar**. Cuando la piel se empaña con sudor se evapora causando que su cuerpo se mantenga fresco y en la zona de temperatura normal.

El sudor trabaja muy bien cuando hay bastante **agua** en el cuerpo – se necesita agua para producir sudor. Si a su cuerpo se le acaba el agua, la piel deja de sudar y empieza a sobrecalentar el cuerpo. Sucede que al cuerpo se le acaba el agua rápidamente – su cuerpo produce 0.5 gallones (2 litros) de sudor cada hora en ambientes de temperaturas elevadas. Si usted no reemplaza el agua al miso paso sufrirá **deshidratación** y el cuerpo **dejara de sudar**. Su medidor interno de la sed no es bastante sensitivo para indicar que el cuerpo necesita agua (Incluso, se dice que cuando uno tiene sed, ya esta deshidratado), por esta razón usted debe te tomar bastante agua a pesar de la sed que tenga.

Agua – Trabajadores deben tomar un cuarto de galon de agua fresca (no helada) cada hora (4 tazas por hora).

Factores de Riesgo Son la edad del individuo, grado de aclimatación, salud, consumo de agua, alcohol, cafeína, el exceso de ropa, el uso de ciertos medicamentos como diuréticos que previene la retención de agua en el cuerpo.

Agotamiento de Calor – Ocurre cuando se ejercita el cuerpo y empieza a calentarse. El sudor aumenta desminuyendo la cantidad de agua en el cuerpo, esto es seguido por la nausea/vomito, debilidad muscular y/o calambres. A este punto, el individuo debe de parar su obra y relajarse. Debe de tomar agua y líquidos deportivos en cantidades iguales para reemplazar los electrolitos que se han perdidos.

Insolación (EMERGENCIA SEVERA- llamar al 911) – Ocurre cuando el cuerpo tiende a calentarse porque se sobre ejercita mas allá de lo que el sudor puede enfrascar la piel. A este punto el cuerpo dilata el sistema capilar para librar el calor interno causando que la piel se ponga roja en color y reseca por falta de sudor. Aunque la piel este un poco empañad, ya no es suficiente para refrescar el cuerpo. La **victima** mostrara confusión, inconciencia o convulsiones. La piel se mostrara roja, cliente y seca. **Busque asistencia médica inmediatamente marcando al 911 (Servicios de Emergencias Medicas) y de sus localidad exacta. Hay que apartar la victima del sol y colocarla en la sombra. Mientras se espera la llegada de atención medica, quítele la ropa a la victima dejándole puesta solo la ropa interior. Tiene que refrescar la victima rápidamente cubriéndolo con agua sea con esponjas o paños húmedos mientras abanicándolo. Si es posible, póngale hielo sobre la cabeza, cuello, auxilias y la ingle. Mantenga la vía aérea abierta y prepare para dar RCP (Resucitación Cardio-Pulmonar)y Siga hasta que llege la asistencia medica.**

Otra causa del Debilitamiento por Calor es alta humedad que no deja que el sudor se evapore de la piel. En cualquier caso, si el sudor no se evapora la temperatura interna se eleva rápidamente. Cuando el núcleo del cuerpo llega a 106° F el problema ya es severo. La confusión y/o convulsiones resultan porque el cerebro ya esta afectado.

La única solución para la insolación es refrescar a la victima. Sin tratamiento, la insolación mata en **menos de media hora!**

Foreman _____ **Signature** _____ **Date** _____

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APPENDIX - C

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 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.

OSHA recommends employers to provide potable, "cool" water for employees. To maximize the benefit of the water used for hydration and quenching the thirst of employees, the temperature of water should be blow the ambient temperature. Cooler water will effectively cool an individual's body temperature faster. Water stored in insulated coolers should be cooler than the ambient temperature, sanitary, and have a valve for dispensing its contents into individual cups. The use of a communal dipper is not permitted.

The use of **salt pills**, or **electrolyte replacement "sports" drinks** is not recommended instead of 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.

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

SELF - True or False Safety Test

T	F	
		If the forecast temperature for the following day is 88 degrees, shade is not required to be set up.
		Safety and Training is responsible for preparing and maintaining a written program which complies with the requirements of OSHA.
		Safety and Training is responsible for training all potentially impacted employees and supervisors on the risks and prevention of heat illness symptoms and how to respond when they appear, including OSHA's requirements for shade and water.
		It is not important to identify all employees who are required to work outdoors where potential heat illness could occur.
		Adequate water and shade are not important at a job site when the environmental risk factors for heat illness are present.
		Employees are responsible for complying with the provisions of the Heat Illness Prevention Program and any training sessions, as described in this document.
		Ensuring they have drinking water available at all times, employees do not need to be concerned with the environmental risk factors for heat illness.
		Employees should report heat related illness symptoms to the supervisor only at the end of the work day.
		Drinking water shall be available at all times for employees who work outdoors in the heat.
		All employees must be identified who are required to work where environmental factors for heat illness are present.
		The following risk factors for Heat Illness are, Acclimatization to hot weather, the Individual's health, medications, age, water consumption, alcohol consumption and caffeine consumption.

Signs Symptoms for Heat Exhaustion and Treatment,

T	F	
		With increased sweating, lightheadedness, nausea/vomiting, muscle weakness and or cramping the employee should stop any physical activity, seek shade, rest cool down and drink water and equal amounts of sports drinks if available.
		The employee should keep on working as these are normal signs and symptoms of a hard worker.

Signs Symptoms for Heat Stroke and Treatment,

T	F	
		With hot, dry-red skin, confusion, unconsciousness, seizures and possibly NO signs of breathing and/or pulse. You should remove the victim from heat and place them in a shaded area. Remove clothing and dowse with water and if available place ice packs to the head, armpits and groin, monitor breathing and prepare to give CPR. ------ **CALL 911 IMMEDIATELY!**
		Place the victim in the shade with some water at their side, he/she will recover and drink the water after a good rest and nap.

ACKNOWLEDGEMENT OF RECEIPT AND REVIEW OF THE HEAT ILLNESS PREVENTION PROGRAM

TO ALL EMPLOYEES:

ATTACHED IS A COPY OF THE HEAT ILLNESS PREVENTION PROGRAM, **UPDATED April 2015**. THESE GUIDELINES ARE PROVIDED FOR YOUR SAFETY AS BY THE DEPARTMENT OF SAFETY & HEALTH.

IT IS THE RESPONSIBILITY OF THE SAFETY DIRECTOR AND HUMAN RESOURCES TO PROVIDE AND REVIEW THIS PROGRAM WITH **EACH EMPLOYEE**.

IT IS THE EMPLOYEE'S RESPONSIBILITY TO READ AND COMPLY WITH THIS PROGRAM.

THE ATTACHED COPY OF THE HEAT ILLNESS PREVENTION PROGRAM AND IS YOURS TO KEEP.

PLEASE SIGN AND DATE BELOW AND RETURN **ONLY THIS PAGE** TO THE SAFETY DIRECTOR OR HUMAN RESOURCES.

My signature attests and verifies my understanding of and agreement to comply with this program and all company policies and regulations.

DATE & EMPLOYEE SIGNATURE

PRINT NAME (EMPLOYEE) _____

_____ _____

DATE **EMPLOYEE SIGNATURE**