

# CALLAWAY HEAT STRESS GUIDANCE

## **1.0 INTRODUCTION**

### 1.1. Purpose

The purpose of this procedure is to define the practices and precautions necessary to work in areas where there is a potential for heat stress. The goal is to help ensure the health and safety of personnel performing work in High Heat Environments.

### 1.2. Scope and Applicability

Procedure applies to all departments, to include contractor personnel where work is performed in temperatures that have the potential to cause injury or illness due to heat stress.

**NOTE:** This procedure does not apply to Emergency Operations or Live Fire training for the Fire Brigade. For these actions, specific policies and procedures should be adhered to for worker safety.

## **2.0 DEFINITIONS**

**Acclimatization:** A physiological change which occurs as an adaptation to working in hot environments over a period of time, usually over a period of 10 - 14 days. This adaptation results in increased sweating, earlier onset of sweating, more even distribution of sweating, decreased salt loss, a lower basal core temperature and decreased cardiovascular demands. Both heat and physical labor are required to initiate this change. Acclimatized does not change Stay Times, it only increases worker comfort level and increases the bodies natural heat mitigation.

**Action Time (Stay Time):** The length of time a healthy, acclimated worker should be able to work in a heat environment, based on environmental conditions such as type of clothing being worn, work being performed, and individual health and metabolism. (**NOTE:** Stay Times start upon exposure to elevated temperatures and end when exiting elevated temperatures.)

**Check Time:** The prescribed time intervals for which the physical condition of a worker must be evaluated to determine if work can be safely continued up until the end of Action Time.

**Dry Bulb Temperature (Ambient):** The temperature as measured with a standard thermometer without respect to humidity or Radiant Heat.

**Emergency Operations:** Activities performed that are related to an immediate safety issue (personnel, industrial, radiological or nuclear) to protect personnel or the public. This includes rescue, fire suppression, emergency medical care, emergency site security incidents, and placing plant equipment in a safe condition.

**Exposure Time:** Actual time spent in a heat stress environment.

**Globe Temperature:** A temperature measurement which calculates contributions of radiant heat using a specially designed thermometer encased in a blackened copper globe.

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**Heat Cramps:** Painful cramps caused by the loss of body salts and fluid during sweating.

**Heat Exhaustion:** The body's response to loss of water and salt from heavy sweating. Signs include headache, nausea, dizziness, weakness, irritability, thirst, and heavy sweating.

**Heat Rash:** A skin irritation caused by sweat that does not evaporate from the skin.

**Heat Stroke:** The most serious form of heat-related illness that occurs when the body is unable to regulate its core temperature. Signs include confusion, loss of consciousness, and seizures. Symptoms include hot, dry skin or profuse sweating.

**Heat Syncope (Fainting):** May occur when persons not accustomed to the heat stay in one position for periods of time. This allows the blood to pool in enlarged blood vessels and lower parts of the body. Insufficient blood is returned to the heart and brain.

**High Heat Environment:** Environmental or physical conditions in which a worker may be susceptible to heat stress or heat illness. These conditions may exist outdoors or indoors.

These conditions may include but are not limited to tasks performed in the following types of areas:

- (1) Areas of unusually high heat or humidity (i.e., drywell, steam or hot water leak areas, hot exterior weather conditions, near cooling towers, hot wells, heater bays)
- (2) Areas with significant sources of radiant heat (i.e., boiler rooms, diesel generator area, steam piping and other heated vessels or the reactor cavity).

**Radiant Heat:** Electromagnetic Heat transferred from one higher temperature mass to another without direct contact.

**Recovery Areas:** Areas, preferably indoors, which workers who have been in adverse climate may rest, recover, and rehydrate.

**Recovery Time:** The amount of time required by an exposed worker's physiological state to return to its pre-exposure condition.

**Self Determination:** The method by which an individual may begin to recognize the early warning signs of heat related illness. Self-determination can be used to shorten assigned Stay Times.

**Wet Bulb Globe Temperature (WBGT):** A composite temperature used to estimate the effect of temperature, humidity, wind speed, and radiant heat.

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### **3.0 RESPONSIBILITIES**

#### **Senior Leadership**

- Ensure resources (i.e., materials, services and facilities) provided to support leaders and workers in applying the methods and countermeasures of this procedure to reduce heat stress risk.

#### **Work Management**

- When it is possible, routine scheduled work (PM's) to be completed in areas with historical higher temperatures of the plant (IE: reactor building, fuel building, TB 2065 level, etc.) should be scheduled for completion during cooler times of the year when temperatures are at their coolest levels.
- During T-1 meetings look ahead should be conducted in coordination with supervisors to review weather forecast for work week and evaluate industrial safety risks for weather hazards to include heat stress potential.
  - Non-critical jobs should be considered for movement into a future work week during cooler temperatures.
  - If jobs cannot be moved, consideration should be given to conduct work during cooler parts of the day, early mornings/night with supervisor coordination to potentially flex work hours.

#### **Supervisor**

- Review jobs in relation to work environment, workload, and clothing worn to determine if potential heat stress conditions exist.
- Discuss susceptibility factors with any workers who make them aware of such issues to determine if medical evaluation or other precautions are warranted.
- Determine the prevention strategy (Stay Time calculation method, or alternative method) to be used.
- When Stay Time calculation method is utilized, perform the following:
  - Ensure that Wet Bulb Globe Temperature measurements are taken.
  - Determine appropriate Stay Times, check times, recovery times, and communicate this to workers.
  - Enforce Stay Times, check times, recovery times, and heat stress countermeasures are used.
- Perform pre-job brief of work environment, workload, and clothing worn to determine if potential heat stress conditions exist.
- Notification to Site Nurse or Medical Emergency Response Team (MERT) for evaluation if worker experiences heat stress related symptoms.

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- Conduct Severe heat stress prevention checklist, Attachment 4, for any job that has an associated Stay Time less than 30 minutes from below charts or the heat stress prevention checklist for all other Stay Times or if the dry bulb temperature is above 90 degrees Fahrenheit.

### **Worker**

- Cognizance of their current physical health and any factors which may increase their susceptibility to heat stress. These factors include, but are not limited to, the following:
  - Age
  - Current personal health (illness, recent medical procedure, sunburn, etc...)
  - Elevated blood pressure
  - Elevated pulse rate
  - Previous heat stress exposure
  - Pulmonary disease
  - Diabetes
  - Current use of prescription as well as over the counter medications (diuretics, vasodilators, antihistamines, muscle relaxants, beta blocking agents, antidepressants, etc.)
- Personnel with risk factors should discuss these issues with their Leader prior to beginning any task governed by this procedure to determine if medical evaluation, countermeasures, or other precautions are warranted.
- Notification of their Leader if any job presents a previously unrecognized heat stress potential.
- Maintains proper hydration in potential heat stress situations. Utilize Attachment 2 "Urine Color Chart" as reference of hydration.
- Compliance with relevant aspects of the control measure chosen (Stay Time calculation method or alternative method, including assigned Stay Times, check times, and recovery times).
- Notification of co-workers and their Leader if self-determination results in abbreviated Stay Times.
- Contacting of their Leader for additional assistance as necessary.
- Employees have both the right and the responsibility to report to Occupational Health personnel and their supervisor medical conditions or past medical history that may affect their ability to perform work in heat stress conditions.
- Failure to report pre-existing medical conditions can result in serious injury to employees.

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- Notify Supervisor and Site Nurse or MERT if heat stress related symptoms are self-identified or observed in a co-worker.

### **Safety Department**

- Assist supervisors with any Stay Time calculations and advice for any engineering controls to lower temperatures in working environment.
- Provide oversight for work scheduling controls during elevated temperatures, proper use of heat stress safety strategies, and Stay Time adherence.
- Use of respiratory equipment in a High Heat Environment requires consultation with Safety Department.

### **4.0 HEAT STRESS GUIDANCE**

If a potential heat stress condition exists, the supervisor for the work group must determine an appropriate strategy to preclude a heat related incident including an associated Stay Time if applicable.

Strategies or countermeasures that may be used to avoid/prevent heat stress related tasks include utilizing engineering/administrative controls and PPE where applicable. Examples include scheduling, water intake, cooling vests, and Stay Times.

If countermeasures are not feasible, then Supervisors/Planners/Workers shall determine if heat stress will potentially affect workers and if work should continue, such as work in:

- Containment
- Main Steam Enclosure
- Turbine Building
- Outside work with direct exposure to sun

Workers in High Heat Environments shall:

- Monitor their personal condition and exit the area if they identify any symptoms of heat-related illness.
- IF feeling any discomfort or illness, THEN notify a co-worker and leave the area immediately.
- Monitor fellow workers under the buddy system established for any symptoms of heat-related illness.
- Follow guidance from pre-job briefing including Stay Time limits, fluid intake, and use of protective equipment.

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### 4.1. Administrative Controls

Review the following information in the Pre-Job Briefing. IF an employee has any physical condition which may reduce heat tolerance (i.e., heart condition, illness, lack of sleep, use of prescription drugs or other medical condition which can affect the employees heat tolerance), they should avoid work in a high heat stress environment. Employees that have experienced a heat stress related illness in their past work history are likely to experience similar health effects when exposed to subsequent heat stress conditions.

Work Management/Job Scheduling process considers potential heat stress conditions for tasks. Determine if tasks with a high heat stress potential can be scheduled to reduce heat stress potential.

Reducing protective clothing requirements within a radiologically controlled area, such as, from a “full set” to “minimum set”.

### 4.2. Engineering controls

Use of engineering controls reduces the work area temperature. The following are illustrative examples.

- Ventilation: Dilute hot air with cool air (generally brought from the outside). This works better in cooler climates.
- Air cooling: It can be either local/spot or area air cooling. It requires either a chiller or an air conditioning unit.
- Fans: Good only IF air temperature (i.e. dry bulb temperature) is less than 95 degrees Fahrenheit. This technique does not cool the air. It increases the evaporative cooling from the body. It is not effective IF impervious clothing is worn.
- Shielding: Used to minimize radiant heat. Insert shielding material between source and worker to interrupt the path of infrared radiation (emitted by surfaces that exceed 95 degrees Fahrenheit). Polished surfaces make the best barriers; however, special glass or mesh surfaces can be used IF visibility is a problem.
- Insulation: Insulate hot surfaces.

### 4.3. Personal Protective Equipment Controls

Wearing of cool vests or other personal cooling devices

- The purpose of using a cooling vest is to provide a heat sink inside the insulating layers of clothing to absorb the heat due to metabolism. When the gel packs are in contact with the worker, heat is conducted away from the skin to the gel. In this way, the skin is cooled, which in turn, cools the blood that returns to the body's core. The primary advantage of cooling vests over bubble hoods is increased worker mobility.

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### Step 4.3 Cont'd

- Once the cooling vest is ready for use, it begins to absorb heat. For this reason, the removal of the vest from the cooling method should be delayed until immediately before the work is to be performed.
- A cooling vest worn under an insulated garment will normally provide the worker with cooling for anywhere from 30 minutes to 4 hours depending on the rate of metabolism.

#### **NOTE**

Use of respiratory equipment in a High Heat Environment requires consultation with Safety Department.

#### **NOTE**

\*NL denotes no Stay Time associated

\*Grey block with no time listed denotes work should not be accomplished unless emergent plant work impacting nuclear or public safety.

\*Even when areas in charts show NL and dry bulb temperature is above 90 degrees Fahrenheit the Table 2, heat strategy chart should be utilized.

#### 4.4. Stay Times

Stay Times shall be determined per Table 1, “Stay Time Schedule for Unacclimatized Workers”, using WBGT measurements, the estimated workload, and dress-out requirements for the work task.

Heat stress temperature measurements are taken using a Wet Bulb Globe Temperature (WBGT) meter. Set meter to compensate for in direct sunlight or out of direct sunlight as appropriate.

The Stay Time is measured from the time the worker enters the High Heat Environment until the worker leaves the High Heat Environment. IF utilizing a Stay Time, workers must adhere to Recovery Times listed in Section 4.5.

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### Step 4.4 Cont'd

Utilize the Charts Below for associated Stay Times associated with current WBGT.

Work Demand	ACTIVITIES (A list of examples not all inclusive)	
<p style="text-align: center;">L LOW 180 Kcal/hr.</p>	<p>Sitting / Walking Monitoring / Inspecting</p>	<p>Calibrating instruments /equipment Equipment operation (e.g., crane operations)</p>
<p style="text-align: center;">M MEDIUM 300 Kcal/hr.</p>	<p>Installing insulation Manual valve alignment - easy Mopping/Sweeping</p>	<p>Sorting materials (e.g., clothing) Intermittent stair or ladder climbing Moderate or intermittent manual materials handling</p>
<p style="text-align: center;">H HIGH 415 Kcal/hr.</p>	<p>Manual valve alignment - difficult Manual decontamination Manual hoisting</p>	<p>Shoveling/Digging Heavy or continuous manual material handling Scrubbing/brushing/scraping/Hand Sawing Using tight fitting respirator (Not PAPR) Extensive stair or ladder climbing (Polar Crane/Transfer Canal)</p>

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### Step 4.4 Cont'd

**Table 1 -Stay Time Schedule for Unacclimatized Workers (EPRI)**

WBGT	WORK CLOTHES			Single PC with modesty			Double PCs with modesty			OREX ULTRA PC with modesty			PLASTICS or Equiv. with modesty		
	Work Demand			Work Demand			Work Demand			Work Demand			Work Demand		
	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH
120°F	20														
118°F	20														
116°F	25														
114°F	25	15		15											
112°F	30	20		20											
110°F	35	20		25			20								
108°F	45	25		25	15		20			20					
106°F	50	25		30	20		25	15		20					
104°F	60	30	15	35	20		25	20		25	15		15		
102°F	75	35	20	45	25		30	20		25	20		20		
100°F	90	40	20	50	25		40	20		30	20		25	15	
98°F	105	45	25	60	30	15	45	25		40	20		30	15	
96°F	130	50	35	75	35	20	55	30		45	25		30	20	
94°F	165	55	40	90	40	20	70	30	20	55	30		40	20	
92°F	195	70	45	105	45	25	80	35	20	70	30	20	45	25	
90°F	230	85	55	130	50	35	100	40	25	80	35	20	55	30	
88°F	NL	110	70	165	55	40	120	45	30	100	40	25	65	30	15
86°F	NL	170	85	195	70	45	150	50	35	120	45	30	80	35	20
84°F	NL	240	115	230	85	55	180	60	40	150	50	35	100	40	25
82°F	NL	NL	180	NL	110	70	210	75	45	180	60	40	120	45	30
80°F	NL	NL	NL	NL	180	90	NL	95	65	210	75	45	150	50	35
78°F	NL	NL	NL	NL	NL	120	NL	150	80	NL	95	65	180	60	40
76°F	NL	NL	NL	NL	NL	NL	NL	210	100	NL	150	80	210	75	45
74°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	210	100	NL	100	60
72°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	140	NL	150	75
70°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	220	NL	210	100
68°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	140
66°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	240

1. Find WBGT temperature of the Heat Stress Area in the left-hand column of the Stay Time Chart
2. Follow this line to the right to the appropriate columns for clothing ensemble.
3. Determine the Work Demand (low, medium, or high) from within the clothing ensemble column.
4. The number within that box is the worker's maximum Stay Time in minutes.

NOTE: With modesty refers to light/breathable material such as scrubs. If standard work clothes are worn under PC's work demand should be increased one level.

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### Step 4.4 Cont'd

**Table 1 Cont. -Stay Time Schedule for Unacclimatized Workers (EPRI)**

WBGT	Acid Suit			Fire Gear			25/40 Cal Garment								
	Work Demand			Work Demand			Work Demand			Work Demand			Work Demand		
	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH
120°F															
118°F															
116°F															
114°F															
112°F															
110°F															
108°F	20														
106°F	25														
104°F	25	15					20								
102°F	28	15					20								
100°F	30	20		20			25								
98°F	35	20		25			25	15							
96°F	45	25		25	15		30	20							
94°F	55	25		28	15		35	20							
92°F	65	30	15	30	20		40	25							
90°F	80	35	20	35	20		50	25							
88°F	95	35	20	45	25		60	30	15						
86°F	120	45	30	55	25		74	30	20						
84°F	145	50	35	65	30	15	90	35	20						
82°F	180	60	40	80	35	20	105	40	25						
80°F	205	70	45	95	35	20	125	50	30						
78°F	NL	105	65	120	45	30	155	55	40						
76°F	NL	140	80	145	50	35	200	65	45						
74°F	NL	200	100	180	60	40	235	90	55						
72°F	NL	240	130	205	70	45	NL	110	70						
70°F	NL	NL	195	NL	105	65	NL	170	85						
68°F	NL	NL	NL	NL	140	80	NL	240	115						
66°F	NL	NL	NL	NL	200	100	NL	NL	145						

## CALLAWAY HEAT STRESS GUIDANCE

### 4.5. Recovery Times

Recovery times are based on 60-minute window, meaning if you stay for entire Stay Time you must recover in a cool area for a minimum of 60 minutes. If you do not stay the full allocated Stay Time you can use the below calculation to determine recovery time period.

Recovery Time =  $60(\text{Actual Time}/\text{Stay Time})$  minimal physical activity (sitting or standing) in shade, if possible

#### 4.5.1. Recovery area

- This area must be subjectively cool (ventilation/air conditioning).
- The recovery area must have drinking water available.
- Air movement to facilitate evaporative cooling is strongly recommended.
- Recovery times from physiological strain are required for any heat stress exposures.
- Recovery time should be spent in an area between 70-76 degrees Fahrenheit.
- Personnel should be dressed in light clothing.

## CALLAWAY HEAT STRESS GUIDANCE

### Step 4.5 Cont'd

**For work in elevated ambient air (dry bulb) above 90-degrees Fahrenheit that is not covered with a Stay Time from previous guidance, strategies shown below should be considered for inclusion in the Job Safety Briefing**

SEVERITY	STRATEGY PLAN
<ul style="list-style-type: none"> <li>● <b>Level 1</b></li> </ul>	<p><b><i>Ambient or Dry Bulb Temperature range 90 – 95 degrees Fahrenheit</i></b></p> <ul style="list-style-type: none"> <li>● Continuous work should not exceed 2 hours without a cool-off break (Refer to section 4.5.1 recovery area)</li> <li>● Replenish fluids frequently</li> <li>● Pace work accordingly</li> <li>● Take breaks as needed in a cool environment</li> <li>● Complete Heat Stress Prevention Checklist</li> </ul>
<ul style="list-style-type: none"> <li>● <b>Level 2</b></li> </ul>	<p><b><i>Ambient or Dry Bulb Temperature range 96 – 100 degrees Fahrenheit</i></b></p> <ul style="list-style-type: none"> <li>● Continuous work should not exceed 1.5 hours without a cool-off break (Refer to section 4.5.1 recovery area)</li> <li>● Consider acclimation measures to the environment and tasks (i.e. graduate work time to continuous work exposure time)</li> <li>● Replenish fluids frequently</li> <li>● Pace work accordingly</li> <li>● Take breaks frequently in a cool environment</li> <li>● Be aware of early symptoms of heat stress (see attachment 1)</li> <li>● Make use of engineering controls and appropriate personal cooling devices</li> <li>● Complete Heat Stress Prevention Checklist</li> </ul>
<ul style="list-style-type: none"> <li>● <b>Level 3</b></li> </ul>	<p><b><i>Ambient or Dry Bulb Temperature range &gt; 100 degrees Fahrenheit</i></b></p> <ul style="list-style-type: none"> <li>● Limit Unnecessary tasks if possible</li> <li>● Implement all other actions from Level 2</li> <li>● Ensure work/break schedule is discussed and understood during Job Safety Briefing</li> </ul>

## Attachment 1

### Heat Illness Symptoms and Initial First Aid

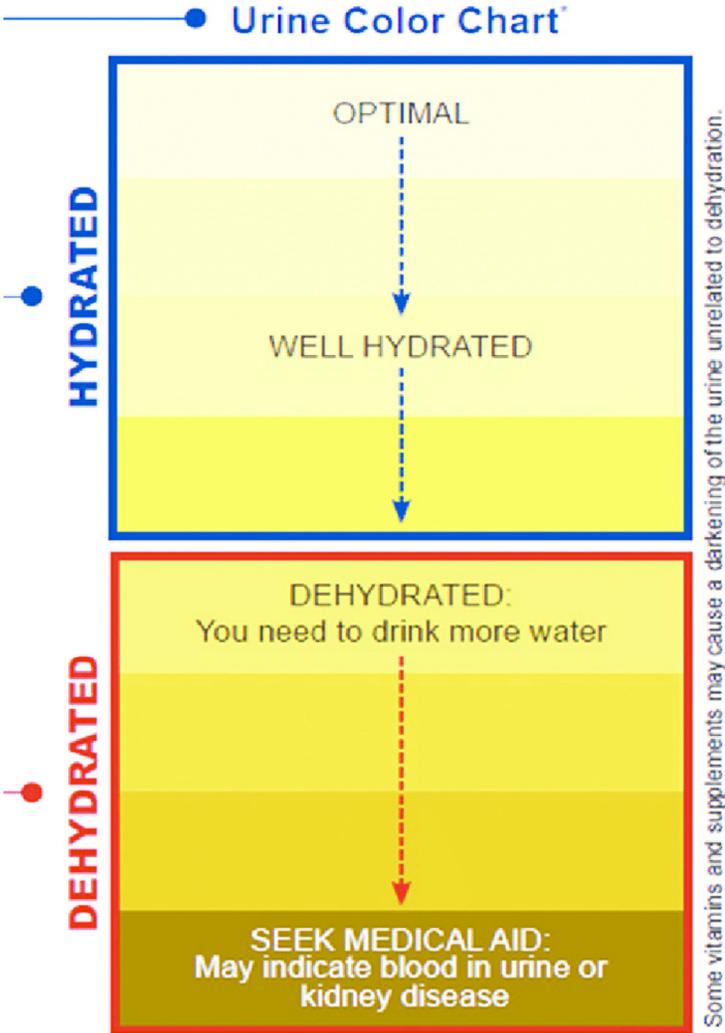
Sheet 1 of 1

Condition	Symptoms	Initial First Aid
<b>Heat Stroke (Medical Emergency)</b>	Confusion, altered mental state, slurred speech, loss of consciousness Hot, dry skin or profuse sweating Very high body temperatures Fatal if treatment delayed	<b>Immediate emergency medical attention required!</b> <b>Call Control Room.: 573-676-8787 to activate MERT alarm</b> Move worker to a cool area Place cold, wet cloths or ice packs on head, neck, armpits, and groin Stay with worker until MERT or Nurse arrive Contact Worker Supervisor
<b>Heat Exhaustion</b>	Headache Nausea or vomiting Extreme weakness, fatigue, or dizziness Irritability Heavy sweating Elevated body temperature Rapid heartbeat	Call for MERT and/or site Nurse for evaluation and treatment Move worker to a cool environment Remove extra layers of clothing Cool worker with water, ice packs, or cold cloths Encourage frequent sips of cool water Stay with worker until medical arrives Contact Worker Supervisor
<b>Heat Cramps</b>	Muscle cramps, pain, or spasms in the abdomen, arms, or legs	Stop activity and move to a cool environment Drink fluids every 15-20 min. (water or electrolyte replacement) eat a snack Avoid Salt tablets Follow up with medical Contact Worker Supervisor
<b>Heat Rash</b>	Red cluster of pimples or small blisters, usually on neck, upper chest, groin, under breast, and in elbow creases where there is persistent wet skin from sweating, no air flow, and restrictive clothing	Move worker to a cool environment Keep rash clean and dry Do not use ointments or creams as they may impair cooling and warm moist skin can make the rash worse Contact Worker Supervisor
<b>Heat Syncope (Fainting)</b>	Fainting, dizziness, light-headedness, blurred vision after prolonged static postures with high environmental temperatures and barrier clothing (i.e., PCs)	Call for MERT and/or site Nurse for evaluation and treatment Have worker sit or lie down and drink fluids (water or electrolyte drink) slowly Contact Worker Supervisor

# Attachment 2 Are You Hydrated?

Sheet 1 of 1

## Are You Hydrated? Take the Urine Color Test



\*This color chart is not for clinical use.

## Attachment 3 Heat Stress Prevention Checklist

Sheet 1 of 1

<b>Heat Stress Prevention Checklist</b>	
This checklist was created to be a guide to be used at the beginning of the workday to identify a plan for working in hot environments. The guide can be used for workers who will be working indoors and outdoors. Please complete the checklist with your team of co-workers as a tool to prevent heat related illnesses.	
<i>Place a ✓ in the highlighted areas and complete areas highlighted in gray.</i>	
<b>WATER</b>	Place a ✓ here
Is there plenty of fresh, cool, drinking water located as close as possible to the workers? (Describe where :)	
<b>SHADE AND REST</b>	
Is a shade structure available at all times (regardless of the weather) for outdoor workers to rest and cool down? For indoor workers, is there a cooling area available? (Describe where :)	
Have you checked the weather forecast and know what expected high temperatures will be?	
<b>Work Scheduling</b>	
Has this work been reviewed for possible completion at a cooler time of the day or reschedule to a cooler week?	
<b>TRAINING</b>	
Have workers been trained to recognize and prevent heat illness BEFORE they start working? Can workers identify symptoms of heat illness?	
<b>EMERGENCY PLAN</b>	
Does everyone know who to notify if there is an emergency? (Describe who :)	
Does everyone know who will provide first aid?	
<b>WORKER REMINDERS</b>	
Have workers been reminded to:	
<input type="checkbox"/> Drink water frequently?	
<input type="checkbox"/> Rest for at least 5 minutes as needed?	
<input type="checkbox"/> Look out for one another and immediately report any symptoms?	
Are workers aware of other beneficial aids such as cooling vests, Sqwincher popsicles, Gatorade, fans, etc.?	
Team and Management Review (please check if complete):	
Reviewed with team on (date):	

## Attachment 4 Severe Heat Stress Entry Checklist

Sheet 1 of 2

<b>Severe Heat Stress Entry Checklist</b>	
This checklist is a mandatory item to be completed prior to any entry into a heat stress area that has a stay time 30 minutes or less as designated in the EPRI stay time chart. These conditions have high probabilities of a heat related illness developing and should only be completed if there is not a better time or plant condition to complete work.	
<i>Place a ✓ in the highlighted areas and complete areas highlighted in gray.</i>	
<b>WATER</b>	Place a ✓ here
Is there plenty of fresh, cool, drinking water located as close as possible to the workers? (Describe where :)	
<b>COOLING AND REST</b>	
Is a cool rest area in close proximity to workers for immediate recovery actions? (Describe where :)	
Strongly recommend that a personal body cooling torso garment or system is worn for entry. Cooling vest	
Consider use of countermeasures such as air conditioning, increased ventilation, air motion, reduced RP clothing for ventilation (must be approved by RP)	
<b>WORK SCHEDULING</b>	
Has this work been reviewed for possible completion at a cooler time of the day or reschedule to a cooler week?	
Is there a better time or plant condition where this work would be better suited?	
<b>TRAINING</b>	
Have workers been trained to recognize and prevent heat illness BEFORE they start working? Can workers identify symptoms of heat illness?	
<b>EMERGENCY PLAN</b>	
Does everyone know who to notify if there is an emergency? (Describe who :)	
Does everyone know where the nearest communication device is (gaitronics)	
Ensure MERT and Field supervisor are notified in the event emergency rescue is required.	
<b>MEDICAL</b>	
Is everyone medically fit for entry: No sickness, on-going medical conditions, recovery from illness within past 2 days that would impact hydration or heat tolerance? <b>Anyone who answers yes to this question should not be allowed to enter.</b>	

**Attachment 4 (Cont'd)**  
**Severe Heat Stress Entry Checklist**

Sheet 2 of 2

Are the workers aware that taking prescription medications for high blood pressure, heart disease, diabetes, pain, thyroid disease, fluid retention, anxiety, or depression can impact their bodies ability to tolerate heat?	
Ensure co-workers are aware that anyone who previously experienced a severe heat related illness or stroke is much much susceptible to heat illness conditions.	
<b>REQUIREMENTS</b>	
Assign Timekeep, employee who will not be entering high heat environment	
Minimum of 2 persons on entry into high heat area	
Must have Radio, Voice, or Gaitronics system communication at all times	
2 man crews in high heat area must be in visual coverage of each at all times	
<b>WORKER REMINDERS</b>	
Have workers been reminded to:	
<input type="checkbox"/> Drink water frequently?	
<input type="checkbox"/> Rest for at least 5 minutes as needed?	
<input type="checkbox"/> Look out for one another and immediately report any symptoms?	
Are workers aware of other beneficial aids such as cooling vests, Sqwincher popsicles, Gatorade, fans, etc.?	
Supervisor Signature:	
Duty Manager Signature:	
Reviewed with team on (date):	
<b>Additional Mitigation/Steps Taken on Task:</b>	