

Austin Independent School District
Extreme Heat & Energy Conservation Plan
2011-2012

Executive Summary

Student and employee safety is a priority at Austin Independent School District (AISD). The district's School Safety and Security Committee created this plan to mitigate the effects of extreme heat and subsequent power outages on our unique community. Ultimately, this plan helps protect:

- AISD employees and students
- AISD infrastructure.

Extreme heat is unique because its effects are not always visible or experienced instantly. The ill effects of extreme heat take place over an extended period. At the district-level, extreme heat may cause power outages or an increase in plumbing failures. At the facility-level, extreme heat may cause individuals to experience sunburns, heat cramps, heat exhaustion and even heat stroke.

This plan provides a general overview of extreme heat, including examples of how extreme heat may affect the district, identifies key stakeholders and their roles and responsibilities, lays out a 3-tier framework for extreme heat crises, and identifies a chain of communication to report power outages during regular hours and after hours.

The 3-tier system consists of a **green**, **yellow**, and **red** tier. These tiers were developed using two main source documents—The *City of Austin Special Operations Plan: Heat Emergencies* and Austin Energy's Energy Emergency Alert External Communication Matrix. Within each tier, there are certain actions employees should take to ensure the safety of the district's students as well as the district's infrastructure. These actions are listed below.

The district's School Safety and Security Committee remains confident a yellow- or red-tier event is highly unlikely if green-tier activities are carried out. This plan identifies yellow- and red-tier actions out of an abundance of precaution for our community.

Table of Contents

- Objectives 4
 - General Facts 4
 - Possible Impacts to Employees and Students..... 5
 - Possible Impacts to Infrastructure..... 6
- 3-Tier Response Framework 6
 - Green-Tier 7
 - Table 1 – Suggested Green-Tier Actions for AISD Infrastructure..... 7
 - Table 2 – Suggested Green-Tier Actions for AISD Employees and Students 7
 - Yellow-Tier 8
 - Table 3 – Suggested District-Wide Yellow -Tier Actions 8
 - Table 4 – Suggested Facility-Level Yellow-Tier Actions..... 8
 - Red-Tier..... 9
 - Table 5 – Suggested District-Wide Red-Tier Actions..... 9
 - Table 6 – Suggested Facility-Level Red-Tier Actions 9
- Critical Incident Team Members & Responsibilities 10
- Power Outage Communication Chart..... 12
- Commonly Used Terms..... 13
- Attachment 1 – Treating Heat-Related Symptoms..... 14

Objectives

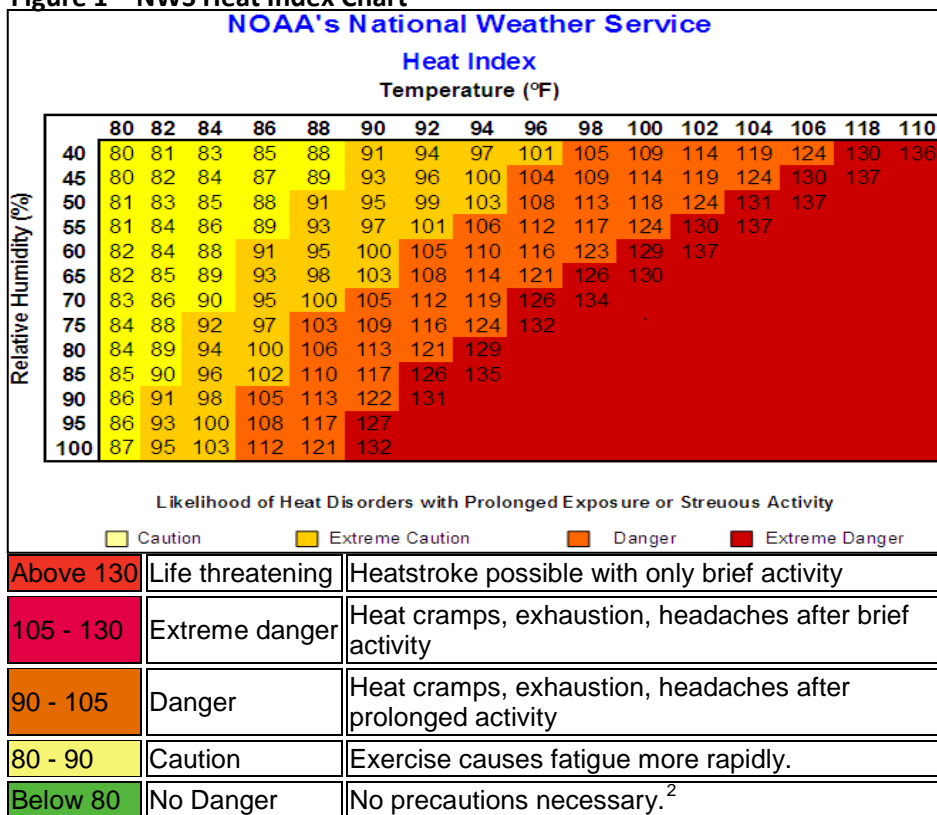
The objectives of AISD’s Extreme Heat & Power Outage Plan are to:

1. Reduce likelihood of heat-related illness among employees and students.
2. Reduce chance of power failure by promoting energy conservation actions.

General Facts

Temperatures in the City of Austin/Travis County area may rise to an average of 90° Fahrenheit between June and September. Typically, the City of Austin/Travis County area experiences about 111 days of 90°-plus weather, annually, with most of these days falling within the previously mentioned months.¹ Most organizations use the National Weather Service’s Heat Index Chart to determine the extent of heat. This chart, illustrated in Figure 1, takes the relative humidity and air temperature into consideration. This Heat Index Chart is followed by a table of possible heat-related reactions.

Figure 1 – NWS Heat Index Chart



¹ City of Austin, *City of Austin Special Operations Plan: Heat Emergencies* (Austin, 2011), 6.

² Taken from Seton Good Health, Jul. 2011

Remember, the Heat Index is the primary source you should consider in weather reports if you are going to be outside and engaging in physical exertion for fun, exercise, or work. If you review the numbers below, you'll see how quickly the Heat Index climbs past 80 degrees on an average day. Once the heat arrives, it tends to continue all afternoon and into the evening.

	7 am	9 am	11 am	1 pm	3 pm	5 pm
Heat Index	84	93	100	106	109	105

Possible Impacts to Employees and Students

Extreme heat may adversely impact district employees and students. Heat-related symptoms include, but are not limited to:

- Heat cramps
- Heat syncope
- Heat exhaustion
- Heat stroke (see Commonly Used Terms at the end of the document)

This is particularly the case for employees and students participating in extra-curricular activities outdoors. For example, during the 2011 summer, numerous news mediums reported area football coaches and players were succumbing to heat-related symptoms. Also, remember that the affects of extreme heat may not be limited to employees and students participating in outdoor activities. In the event of power failure during the hot summer months, indoor spaces may also become hot. District employees should monitor each other for symptoms of heat-related symptoms. This is known as a buddy system. Please also remember that certain conditions may increase the risks of heat-related symptoms. These conditions may include, but are not limited to:

- Cystic fibrosis
- Vomiting
- Diarrhea
- Fever
- Obesity
- Diabetes
- Chronic heart failure
- Caloric malnutrition
- Anorexia nervosa, and
- Sweating insufficiency syndrome

District employees should familiarize themselves with Attachment 1, which are suggested actions to take in order to treat heat-related symptoms.

District employees who oversee the activities of students with any of these conditions or work with employees with any of these conditions should stay in contact with their facility nurse and monitor the daily heat index closely. After consultation with these two sources, employees should plan their day accordingly.

Possible Impacts to Infrastructure

During the hot months between June and September, it is not uncommon for local utility companies such as Austin Energy to experience energy demands beyond their capacity. Energy demand typically peaks between 3 p.m. to 6 p.m. as individuals return home and activate their heating, ventilation, and air conditioning (HVAC) units. In certain cases, an overwhelming energy demand from HVAC units may lead to power outages.

In February 2011, the Emergency Reliability Council of Texas instituted rolling power outages across the state in response to overwhelming energy demands. As temperatures dropped across the state, residents and businesses turned to HVAC units to stay warm, which caused a spike in energy demands. This spike in demand, coupled with unprotected equipment, caused the rolling power outages. These rolling power outages lasted anywhere between a few minutes and 45 minutes in some cases. Within AISD, this event caused communication lines to falter and interruptions in classes. While this example took place during winter, it illustrates what can happen when energy demands exceed capacity. Remember that power outages may trigger a series of related effects as the example above illustrates. For example, power outages during days of extreme heat may cause outages in network access as computing equipment fails or may cause telephone lines to be busy as individuals make calls seeking direction. District employees and students can help curb the effects of this region-wide increase in demand for power by taking several, easy, energy conservation actions (see Green-Tier section below).

3-Tier Response Framework

The heart of this plan is a 3-tier response framework. The 3 tiers are: green, yellow, and red. The green tier corresponds to proactive measures taken by district employees to curb rolling blackouts. The yellow tier corresponds to actions taken by district employees to curb the effects of rolling blackouts. The red tier corresponds to a highly unlikely, worst-case-scenario where all power is lost in the area. The specific actions taken at each tier appear below.

Green-Tier

A National Weather Service heat advisory will trigger green-tier activities. The district’s main focus during the green-tier is twofold—energy conservation and the monitoring of students and employees for heat-related symptoms. During this tier, information will be disseminated via email and posts on AISD’s various web pages (see Power Outage Communication Chart at the end of the document). Messages will also be shared with area stakeholders, including the various news mediums. These announcements should also prepare AISD employees to communicate in the event of any power outages, using such methods as portable, hand-held, radios, traditional phones, and cell phones. Announcements made during this tier should include, at a minimum, the suggested actions in Table 1 and 2. Table 1 identifies measures the district may take during days of extreme heat. Table 2 identifies measures facility employees and students may take to mitigate the effects of extreme heat.

Table 1 – Suggested Green-Tier Actions for AISD Infrastructure

Responsible Party	Action
Critical Incident Team (All)	Turn lights off in large areas such as cafeterias and libraries
Critical Incident Team (All)	Turn lights off where natural light exists (e.g., in classrooms with sufficient natural light)
Building & Grounds Supervisor	Reduce facility use of HVAC systems (e.g., by raising thermostats to 78 degrees)
Critical Incident Team (All)	Spread and encourage energy conservation message

Table 2 – Suggested Green-Tier Actions for AISD Employees and Students

Responsible Party	Action
Critical Incident Team (All)	Stay in the shade or indoors whenever possible
Critical Incident Team (All)	Wear ≥ SPF 15 sunscreen
Athletics Director	Set schedules according to physical fitness and encourage early morning or late evening workouts
Athletics Director & Health Services Administrator	Promote environmental fitness, acclimatize employees and students to the heat over a 10 to 14 day period
Athletics Director & Health Services Administrator	Water breaks 10 minutes per 30 minutes of exercise
Critical Incident Team (All)	Wear light, loose-fitting, clothing
Athletics Director & Health Services Administrator	Use buddy system during all outside activities such as athletic practices or performing arts rehearsals
Facility Safety Team	Encourage parents to: <ul style="list-style-type: none"> • Send water bottles to school with students • Dress students in light-weight, light-colored clothing • Never leave infants or children in parked cars • Seek medical attention immediately if child has symptoms of heat-related illnesses
Critical Incident Team (All)	Ensure portable, hand-held, radios and cell phones are charged and functioning properly

Yellow-Tier

The following will trigger a **yellow**-tier response from AISD:

- National Weather Service heat warning
- Low energy reserves emergency alert from Austin Energy

During the yellow-tier, rolling blackouts are likely to occur. Rolling blackouts may last anywhere between a few minutes and 45 minutes. During this tier, communication will take place using portable, hand-held radios, traditional phones, and cell phones. Messages sent to traditional and cell phones will come from the AISD Police Department’s Dispatch Center or AISD’s Director of Communications. These messages will inform AISD employees and students on the actions being taken by the district to deal with power outages. The district will take the actions outlined in Tables 3 and 4 to the extent necessary.

Table 3 – Suggested District-Wide Yellow -Tier Actions

Responsible Party	Action
Critical Incident Team (All)	Implement all actions suggested in Table 1
Health Services Administrator	Increase monitoring and surveillance of heat-related symptoms by: <ul style="list-style-type: none"> • Informing physical education teachers, coaches, and staff with “need to know” about student medical conditions that could be made worse by a high heat index
Building & Grounds Supervisor	Pre-position employees around district to shut off HVAC, if necessary
Transportation Director	Notify employees of possible early/late release, if necessary
Police Chief	Provide increased security services to transportation and facility employees and students, if necessary
Athletics Director	Check and adjust district-wide schedules, if necessary
Chief Technology Officer	Take steps to ensure minimal disruption to network equipment

Table 4 – Suggested Facility-Level Yellow-Tier Actions

Responsible Party	Action
Critical Incident Team (All)	Implement all actions suggested in Table 2
Facility Safety Team	Check extra-curricular activity schedules and adjust if necessary, including, but not limited to: <ul style="list-style-type: none"> • Athletic practices • Band practices
Facility Safety Team	Double-check go-kits, including, but not limited to: <ul style="list-style-type: none"> • First-aid kits • Flashlights • Extra batteries • Charged portable, hand-held, radios
Critical Incident Team (All)	Encourage employees and students to keep a water bottle with them at all times

Red-Tier

The red-tier represents a worst-case scenario where extreme heat conditions exist coupled with a complete power failure. This is a highly unlikely scenario. However, AISD remains prepared for such an event. Here is what AISD assumes in such a scenario:

- Traffic signals across the City of Austin/Travis County area are inoperable
- Gas pumps are inoperable
- Communication systems overloaded

Table 5 – Suggested District-Wide Red-Tier Actions

Responsible Party	Action
Critical Incident Team (All)	Implement all actions suggested in Table 1 & 3
Critical Incident Team (All)	Coordinate early/late dismissal by: <ul style="list-style-type: none">• Contacting parents/guardians advising them to pick students up early/late

Table 6 – Suggested Facility-Level Red-Tier Actions

Responsible Party	Action
Critical Incident Team (All)	Implement all actions suggested in Table 2 & 4
Facility Safety Team	Coordinate early/late dismissal by: <ul style="list-style-type: none">• Ensuring employees and students stay out of sun and extreme heat as much as possible• Ensuring employees and students remain hydrated

In the unlikely event a facility must be evacuated because complete power failure takes place in the morning, facility safety teams should consult their emergency operations plans (EOP). Each facility EOP should contain evacuation as well as relocation procedures. Facility safety teams are also encouraged to use the District-Wide Crisis Communication Plan. This plan is available on the AISD Police Department's [internal website](#).

As a matter of good practice, facility administrators are encouraged to stay at their facility until all associated bus routes are complete and students successfully delivered home. Administrators are encouraged to take this step during the first month of school, which coincides with the end of the traditional hot months in the City of Austin/Travis County area. This step ensures the safety of students who may need to return to their facility-of-origin.

Critical Incident Team Members & Responsibilities

During extreme heat and power outage crises, there are key personnel that will always be involved in responding. These personnel represent key resources within the district to address any problems that may arise. Please note the following:

- The only individual authorized to modify or cease district-wide or facility operations during crises is the **Superintendent**.
- Please call 512.414.1703 first to report a power outage at your facility (see Power Outage Communication Chart).

Superintendent

- Notifies Board of Trustees
- Makes final response decisions
- Authorizes release of appropriate information
- Ensures existence and maintenance of Extreme Heat/Energy Conservation Plan

Chief of Staff

- In absence of Superintendent, notifies Board of Trustees
- In absence of Superintendent, authorizes release of appropriate information
- In absence of Superintendent, ensures existence and maintenance of Extreme Heat/Energy Conservation Plan
- Notifies Director of Public Relations to reach out to parents and media stakeholders

Chief Operations Officer

- In absence of Superintendent and Chief of Staff, notifies Board of Trustees
- In absence of Superintendent and Chief of Staff, authorizes release of appropriate information
- In absence of Superintendent and Chief of Staff, ensures existence and maintenance of Extreme Heat/Energy Conservation Plan
- Participates in Critical Incident Team meetings
- Recommends response actions to Superintendent

Chief Schools Officer

- Oversees school closure/modification decision of Superintendent/Chief of Staff alongside Operations Officer
- Participates in Critical Incident Team meetings

Chief Technology Officer

- Monitors technology equipment and maintains network reliability
- Participates in Critical Incident Team meetings

Director of Public Relations

- Synthesizes and ensures accuracy of information for Superintendent and Chief of Staff
- Disseminates appropriate information to parents and media stakeholders
- Serves as liaison with facility-level safety team members, if needed
- Gathers and develops information for key stakeholders, if needed
- Participates in Critical Incident Team meetings

Chief of Police

- Recommends response actions to Chief Operations Officer and Chief Schools Officer
- Ensures close patrols to verify power outages conducted, if needed
- Oversees security and safety of employees and students
- Participates in Critical Incident Team meetings

Director of Transportation

- Ensures transportation personnel are notified early if modification to school operations become necessary
- Recommends response actions to Chief Operations Officer and Chief Schools Officer
- Ensures transportation personnel are trained to identify signs of heat-related illnesses
- Contact City of Austin Child Safety Coordinator for crossing guards, traffic signals, and school zones
- Updates Capital Metro as needed
- Participates in Critical Incident Team meetings

Health Services Administrator

- Ensures monitoring of employees and students for heat-related symptoms
- Recommends response actions to Chief Schools Officers and Chief Operations Officer
- Participates in Critical Incident Team meetings

Building & Grounds Supervisor

- Ensures building and grounds personnel notified early if modification to school operations become necessary
- Monitors HVAC units district-wide
- Recommends response actions to Chief Operations Officer and Chief Schools Officer
- Participates in Critical Incident Team meetings

Athletics Director

- Modifies athletic calendar, if needed
- Recommends response actions to Chief Schools Officer and Chief Operations Officer
- Ensure coaches are taking heat-related precautions during athletic events
- Ensures monitoring and surveillance of heat-related symptoms take place
- Participates in Critical Incident Team Meetings

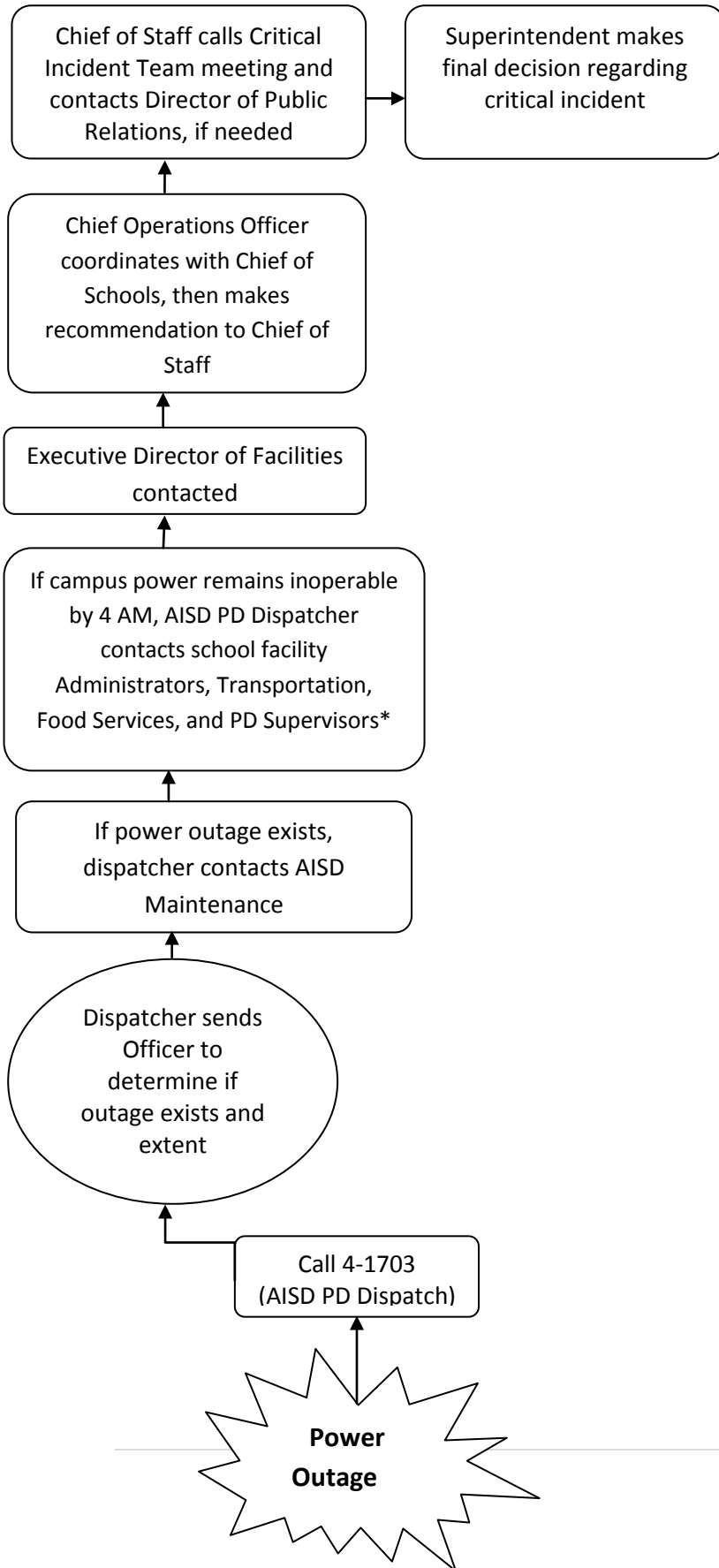
Facility Administrator

- Ensures facility safety team takes energy conservation actions
- Ensures monitoring and surveillance of heat-related symptoms takes place
- Provides feedback to AISD Senior Cabinet through Chief Schools Officer

Facility Nurse

- Ensures monitoring and surveillance of heat-related symptoms takes place
- Provides feedback to AISD Health Services Administrator

Power Outage Communication Chart



Key Information for Administrator to Gather

(see note below)

- ✓ What happened?
- ✓ What is extent of damage?
- ✓ Why did it happen?
- ✓ Who or what is responsible?
- ✓ What is being done about it?
- ✓ When will it be over?
- ✓ Has it happened before?
- ✓ Were there any warning signs of problem?

For Media Inquiries: Should you receive any media inquiries, please have media contact the AISD Media Relations line at 512-414-2414.

Related AISD Policies

CS (Legal)

CV (Legal)

CL (Legal)

Contact Data

Name	Work #	Cell #	Pager #
AISD PD Dispatch		512.414.1703	

*Action for after-hour power outages

Commonly Used Terms

Extreme Heat – Temperatures that hover 10 degrees or more above the high temperature for the region and last for prolonged periods of time³;

Heat Advisory - Issued by National Weather Service (NWS) when heat index is expected to reach at least 100° Fahrenheit but not more than 105° Fahrenheit⁴

Heat Warning - Issued by NWS when heat index expected to reach 105° Fahrenheit for at least 3 hours, for at least 2 consecutive days or when heat index expected to reach 115° Fahrenheit⁵

Heat Cramps – Painful cramps involving the abdominal muscles⁶

Heat Syncope – Weakness, fatigue, and fainting due to loss of salt and water in sweat⁷

Heat Exhaustion – Two sources of heat exhaustion are water depletion and salt depletion; if water depletion causes heat exhaustion, symptoms may include weight loss, reduced sweating, elevated skin/core temperatures and unconsciousness; if salt depletion leads to heat exhaustion, symptoms may include muscle cramps, nausea, vomiting, and general exhaustion⁸

Heatstroke – body loses ability to regulate its temperature; symptoms may include nausea, seizures, unconsciousness, or coma⁹

Heat Index Temperature – Temperature that considers air temperature together with levels of humidity

³ NYC Hazards: Extreme Heat Basics, http://www.nyc.gov/html/oem/html/hazards/heat_basics.shtml (2011).

⁴ *Ibid.*

⁵ *Ibid.*

⁶ Heat Stress and Athletic Participation, <http://www.uilTEXAS.org/health/info/heat-stress-and-athletic-participation> (2011).

⁷ *Ibid.*

⁸ *Ibid.*

⁹ *Ibid.*

Attachment 1 – Treating Heat-Related Symptoms

