

Administrative Summary for Heat Stress

Note: Heat Stress/Illness is one of the newer OSHA regulations and they are asking about it most of the time. If they stop by for a visit, you might need to provide them with now you are complying.

The most likely people to be affected by a heat illness are students in athletic programs like football, especially during the preseason when students are still trying to make the team (2-a-days or physical training). Fatalities due to heat illness have happened in that situation. Coaches MUST be aware of and address heat illness.

1. Heat Stress is a legal requirement under OSHA under these conditions:

- **a.** Employees that spend more than 50% of their time outdoors. This includes groundskeepers and occasionally M&O/custodial staff. OSHA asks the employee how much time they spend outside and they take that number instead of what might be written in a job description. You should include all your employees that spend two hours or more outside.
- **b.** When there is a temperature of 85 or higher.
- c. If there are hot environments indoors, they need to be addressed (kitchens, shops...)
- **d.** There are 2 main kinds:
 - i. Heat Exhaustion severe overheating: heavy sweating, nausea, dizziness.
 - ii. Heat Stroke body system shutdown: no sweating, unconsciousness, rising body temperature

2. The legal requirements are:

- **a.** <u>Written procedures</u> for how you are complying with the regulations.
- **b.** <u>Providing shade</u> for employees that work outdoors (not usually a problem in schools).
- c. <u>Allowing employees to take breaks</u> and rest in the shade whenever they feel the need.
- d. Access to water (not usually a problem in schools).
- e. <u>Training</u> for affected employees. It must be documented. The JPA can provide this and it should be done at hire. We do this annually for custodians and M&O.
- **f.** <u>Supervisor training</u> to ensure they know the requirements and that they can recognize the symptoms and know what to do.

3. At-risk employees:

- a. Groundskeepers
- **b.** M&O/custodians that are working outside occasionally, as acclimatization is a factor.
- c. Some playground aides
- **d.** Some athletic department employees
 - i. There have been many documented cases involving students in athletic programs, especially football, where the students are wearing heavy equipment, are physically exhausted, and don't stop for adequate water breaks. Coaches MUST be well trained on this subject.
- e. Employees working outside on the first few hot days.
- f. Employees on outdoor field trips, especially if there is a lot of walking.
- g. Overweight employees or those in poor physical condition.
- **h.** Additional factors like age, taking certain medications, alcohol consumption, caffeine, etc.

4. Response:

- **a.** For Heat Exhaustion: treat the symptoms. Get them out of the heat, give water, and monitor. It can take a few hours to few days to fully recover. They may need medical attention.
- **b.** For Heat Stroke: call 911 immediately. Then cool the person quickly: wet sheets, ice packs, etc.



HEAT ILLNESS SECTION

M&O Summary for Heat Stress

Note: Heat Stress/Illness is one of the newer OSHA regulations and they are asking about it most of the time. If they stop by for a visit, you might need to provide them with now you are complying. They have determined that 63% of heat illness fatalities occurred under supervisors that were not trained. As a supervisor, you will need proof of training.

The most likely people to be affected by a heat illness are students in athletic programs like football, especially during the preseason when students are still trying to make the team (2-a-days or physical training). Fatalities due to heat illness have happened in that situation. Although coaches are responsible for this, please watch them and remind them if they forget.

- 1. Heat Stress is a legal requirement under OSHA. The admin summary addresses who is included and lists the regs.
 - **a.** Be conservative when deciding who to works at least 50% outdoors. OSHA includes roads, loading docks, and even sheds if they are hot enough inside. Also note that it is those people that don't usually work outdoors and are suddenly thrust into it that often have an incident.
 - **b.** OSHA is also applying this to hot indoor environments.
 - **c.** Don't forget roofs and attics. Attics can climb to 125 or more on hot days with no ventilation and some M&O people work alone.
 - **d.** The minimum temperature when this applies is 85 degrees unless circumstances cause a greater heat load than normal (work type, worker fitness, ventilation...)

2. Compliance tips

Note: OSHA has stated that it is not enough for supervisors to provide heat stress training to their employees. Supervisors must also follow up to ensure compliance.

- **a.** <u>Written procedures:</u> The JPA provides a handout that can serve as your written procedure, but you'll need to be sure you do what is written or that you modify it to reflect what you actually do.
- **b.** <u>Shade:</u> Can be an issue for mowing/lawn care. Schedule those tasks for as early as you can.
- **c.** <u>Breaks:</u> Allow 5 minute breaks whenever <u>the employee</u> feels they need them. This may mean that you get less work done on very hot days. If that becomes an issue, one solution is to start work just before daybreak so that the outdoor tasks can be started at dawn.
- **d.** <u>Water:</u> You don't have to provide bottled water tap or fountain water is fine. You do need to provide some kind of water bottle and some districts find it easier to use bottled water. It doesn't have to be kept in a cooler but it should be "suitably cool". Provide a quart an hour.
- e. <u>Training:</u> The list of topics is in the regulation (attached). It must absolutely be done before working outdoors, but it is recommended you at least hand out something at initial hire. The JPA provides employee training during the summer Custodial Training Days. You also need documented training the JPA Supervisor training suffices for this.

3. Daily Observation and First Aid Response:

- **a.** Monitor your employees for symptoms, especially new employees, those doing outdoor work for the first time, those in poor physical condition, taking medications, and during the first few hot weeks. Push water on them.
- **b.** Victims rarely realize they are exhibiting symptoms: train your people to watch each other.
- c. If you have people working alone, you'll need to check on them periodically.
- d. If anyone feints from the heat and they are not sweating, call 911.



HEAT ILLNESS PREVENTION PLAN

District Name		
Street Address		
City	State	ZIP Code

The following designated person/persons (Administrator/Safety Coordinator/MOT Supervisor) have the authority and responsibility for implementing the provisions of this program at this worksite.

Name/Title/Phone Number

1.	
2.	
•	
3.	
4.	

INJURY AND ILLNESS PREVENTION PROGRAM

Heat Illness Prevention Plan

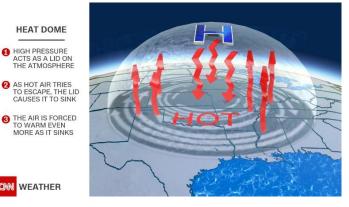
Objective

The purpose of the Heat Illness Prevention Plan is to meet the requirements set forth in California Code of Regulations, Title 8, and also to serve as a supplement to School District's Injury and Illness Prevention Program (IIPP). This information is intended and must be used in conjunction with the IIPP. The Heat Illness Prevention Guide establishes procedures and provides information which is necessary to ensure that workers are knowledgeable in the prevention and recognition of heat related Illness, including heat illness prevention guidance, to ensure their own safety and the safety of others.

It is the policy of the School District to prevent heat illnesses among employees. Employee Groups considered to be at risk include the following job areas:

- Food Service
- Maintenance, Custodial and Grounds
- Coaches, PE Teachers

- Security, Campus Liaisons
- Playground Supervisors
- Bus Drivers and Mechanics



The trigger temperature that supervisors will use to alter schedules and prevent employees from working in excessive heat is 103° F – OR a Heat Index of 84 (see the Temperature Humidity Chart on Page 4).

A Heat Illness App for SmartPhones can be downloaded at <u>https://www.osha.gov/SLTC/heatillness/heat_index/heat_app.html</u> or directly from the PlayStore or iTunes.

When the temperature is between 100⁰ F and 103⁰ F, employee work may be modified to allow for tasks away from the outside heat. A second trigger temperature of 104⁰F to 109⁰F will be used to terminate any outside work or activity.

The threshold temperature for initiating "high heat procedures" is 85 degrees. High heat procedures include a means of observing employees for heat illness symptoms; a designated on-site employee to call for emergency medical services; and a pre-shift meeting to review high-heat precautions.

In addition, shade and water will always be available to all staff, no matter the temperature. Please report any incidents involving heat illness to the District Office.

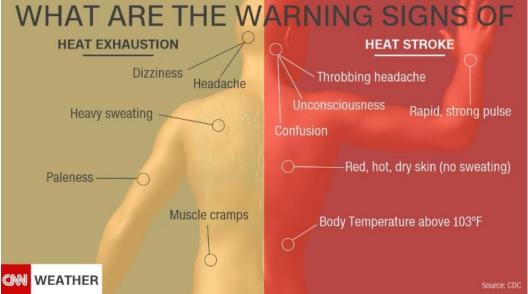
To accomplish these objectives, the School District has adopted the following policies and procedures:

Water:

All employees who work in a hot environment shall be provided with water adequate to prevent dehydration and heat illness. This will be accomplished by assuring that piped, potable drinking water is available in or near all fixed facility work sites. Fresh, pure and suitably cool water will be provided within 400 feet of any work location. Employees who work away from fixed sites shall take with them a minimum or one quart of water per employee per hour for the period they will be working away from a potable water source. Water shall be stored in insulated containers filled with enough ice to keep the water at a palatable temperature throughout the work period. Containers will be cleaned and sanitized on a regular basis; damaged containers shall be replaced.

Shade:

Shade will be available when the temperature exceeds 80 degrees Fahrenheit and will accommodate all employees on break. Any employee who becomes ill due to dehydration or exposure to high heat must be provided a shaded place to rest and recuperate. A vehicle equipped with a working air conditioning system can be used to provide shade for an employee who needs it. All workers subject to this plan shall be provided with a working vehicle equipped with adequate air conditioning, and shall be directed to rest in the vehicle when they begin to experience the effects of any heat illness. In addition, Grounds and Maintenance Personnel will be provided with an umbrella for field work where vehicle shade is not appropriate or available. All employees have access to air conditioned buildings at the school campus. For serious illness, employees in the field shall call their supervisor to obtain emergency medical services referrals and information.



Training:

All employees who may be exposed to high heat in their work shall attend annual training covering the dangers of heat illnesses, how to recognize those illnesses, and the proper first aid for each illness. Employees shall also learn the appropriate methods for seeking emergency medical assistance.

Employees shall be trained in the factors that can make them more susceptible to heat illness and methods to protect themselves when working in a hot environment.

The attached handout, titled "Heat Illness Prevention", shall be provided to each employee during training.

Record Keeping:

Training records shall be kept for each employee who attends annual heat illness prevention training. Records of any heat-related illness shall be maintained with the employee's medical and/or workers compensation records.

Summon Emergency Medical Assistance

Employees taking cool-down breaks are be encouraged to remain in the shade until symptoms subside, and the employee will be monitored during the recovery period;

To summon emergency medical assistance, use one of the following methods. Be prepared to describe your location and the nature of the emergency. Answer any questions and stay on the line until you are told to hang up. Call **911**

INJURY AND ILLNESS PREVENTION PROGRAM

Heat Illness Prevention

When the body becomes overheated, a condition of heat stress exists. Heat stress can lead to a number of problems, including heat exhaustion, heat stroke, heat cramps, fainting, or heat rash.

Heat Exhaustion

Although not the most serious health problem, heat exhaustion is very common. Heat exhaustion happens when a worker sweats a lot and does not drink enough fluids or take in enough salt or both. The simple way to describe the worker is wet, pale (almost white), and weak.

Signs and symptoms

- Sweaty
- · Weak or tired, possibly giddy
- Nausea
- Normal or slightly higher body temperature
- Pale, clammy skin (sometimes flushed)

Heat Stroke

Heat stroke is the most serious health problem for people working in the heat, but is not very common. It is caused by the failure of the body to regulate its core temperature. Sweating stops and the body cannot get rid of excess heat. Victims will die unless they receive proper treatment promptly.

Signs and symptoms

- Mental confusion, delirium, fainting, or seizures
- Body temperature of 106°F or higher
- Hot, dry skin, usually red or bluish color

What to do

- Rest in a cool place
- Drink an electrolyte solution, such as Gatorade or another sports drink. Avoid caffeinated beverages such as colas, iced tea or coffee.
- In severe cases involving vomiting or fainting, have the worker taken to the hospital.

What to do:

- Call 911 immediately, request an ambulance
- Move victim to a cool area
- Soak the victim with cool water
- · Fan the victim vigorously to increase cooling

Heat Cramps

Heat cramps are painful muscle spasms. They occur when a worker does not replace water, and specifically salts lost from sweating. Tired muscles – those used for performing the work – are usually the most likely to have the cramps.

Signs and symptoms:

- Cramping or spasms of muscles
- · May occur during or after the work

What to do

- Drink an electrolyte solution (sports drink) such as Gatorade
- If the cramps are severe or not relieved by drinking a sports drink, seek medical.

Fainting (Heat Syncope)

Fainting usually happens to someone who is not used to working in the hot environment and simply stands around. Moving around, rather than standing still, will usually reduce the likelihood of fainting.

Signs and symptoms

- Brief loss of consciousness
- Sweaty skin, normal body temperature
- No signs of heat stroke or heat exhaustion

What to do:

- Lie down in a cool place
- Seek medical attention if not recovered after brief period of lying down

Heat Rash

Heat rash, also called prickly heat, may occur in hot and humid environments where sweat cannot evaporate easily. When the rash covers a large area or if it becomes infected, it may become very uncomfortable. Heat rash may be prevented by resting in a cool place and allowing the skin to dry.

Signs and symptoms

- rash characterized by small pink or red bumps
- irritation or prickly sensation
- itching

What to do

- · keep skin clean and dry to prevent infection
- · wear loose cotton clothing
- cool baths and air conditioning are very helpful
- some over-the counter lotions may help ease pain and itching

Work Practices

- <u>Clothing:</u> Wear loose-fitting, lightweight clothing, such as cotton, to allow sweat to evaporate. Light colors absorb less heat than dark colors. When working outside, wear a lightweight hat with a good brim to keep the sun off your head and face.
- <u>Drinking</u>: Drink plenty of liquids, especially if your urine is dark yellow, to replace the fluids you lose from sweating – as much as one quart per hour may be necessary. Water and/or sports drinks are recommended. Since caffeine is a diuretic (makes you urinate more), beverage such as cola, iced tea and coffee should be avoided. Thirst is not a reliable sign that your body needs fluids. When doing heavy work, it is better to sip rather than gulp the liquids.
- <u>Acclimatization</u>: New employees and workers returning from an absence of two weeks or more should have 5 days to get used to the heat. Begin with 50 percent of the normal workload and time exposure the first day and gradually build up to 100 percent on the fifth day.
- <u>Work Schedule:</u> If possible, heavy work should be scheduled during the cooler parts of the day. Otherwise, alternate heavy work in the heat with lighter work or work in cooler areas.

Temperature-Humidity Index

A useful guide to summertime comfort is the Temperature-Humidity Index (THI).

To use the table, find out the temperature and relative humidity of the work area.

- Start at the temperature listed on the left, and read across to the number under the relative humidity level (round up to the higher percentage). This number is the temperature-humidity index.
- The lightly highlighted area is uncomfortable for everyone. For moderate to heavy activity, workers should be concerned about heat stress and should alternate time working in the heat and time in cooler areas or light work.
- When the THI is in the darkly highlighted area, extreme caution is indicated. Try to schedule work to allow only 25% of time performing heavy work in such an environment.



Drink plenty of fluids and be on the
lookout for signs of heat stress.

The values are for people wearing the right amount of clothing doing light work, with very little wind.



- CAL/OSHA HEAT ADVISORY

When employees work in hot conditions, employers must take special precautions in order to prevent heat illness. Heat illness can progress to heat stroke and be fatal, especially when emergency treatment is delayed. An effective approach to heat illness is vital to protecting the lives of California workers.

California law requires employers to identify and evaluate workplace hazards and take the steps necessary to address them. The risk of heat illness can be significantly reduced by consistently following just a few simple steps. Employers of outdoor workers at temporary work locations must be particularly alert and also plan for providing first aid and emergency medical services should they become necessary. All workers should be accounted for during and at the end of the work shift.

Heat illness results from a combination of factors including environmental temperature and humidity, direct radiant heat from the sun or other sources, air speed, and workload. Personal factors, such as age, weight, level of fitness, medical condition, use of medications and alcohol, and acclimatization effect how well the body deals with excess heat.

HEAT ILLNESS RISK REDUCTION

1. Recognize the Hazard.

Tuolumne JPA

There is no absolute cut-off below which work in heat is not a risk. With heavy work at high relative humidity or if workers are wearing protective clothing, even work at 70°F can present a risk. In the relative humidity levels often found in hot areas of California (20 to 40 percent) employers need to take some actions to effectively reduce heat illness risk when temperatures approach 80 °F. At temperatures above 90 °F, especially with heavy work, heat risk reduction needs to be a major concern.

2. Water.

There must be an adequate supply of clean, cool, potable water. Employees who are working in the heat need to drink 3-4 glasses of water per hour, including at the start of the shift, in order to replace the water lost to sweat. For an eight-hour day this means employers must provide two or more gallons per person. Thirst is an unreliable indicator of dehydration. Employees often need ongoing encouragement to consume adequate fluids, especially when the workload or process does not encourage breaks.

DO Not Drink

Drink Water



3. Shade.

The direct heat of the sun can add as much as 15 degrees to the heat index. If possible, work should be performed in the shade. If not, employers where possible, should provide a shaded area for breaks and when employees need relief from the sun. Wide brimmed hats can also decrease the impact of direct heat.

4. Acclimatization.

People need time for their bodies to adjust to working in heat. This "acclimatization" is particularly important for employees returning to work after (1) a prolonged absence, (2) recent illness, or (3) recently moving from a cool to a hot climate. For heavy work under very hot conditions, a period of 4 to 10 days of progressively increasing work time starting with about 2 hours work per day under the working conditions is recommended. For less severe conditions at least the first 2 or 3 days of work in the heat should be limited to 2 to 4 hours. Monitor employees closely for signs and symptoms of heat <u>for the last few days, and when a heat wave occurs.</u>

5. Rest Breaks.

Rest breaks are important to reduce internal heat load and provide time for cooling. Heat illness occurs due to a combination of environmental and internal heat that cannot be adequately dissipated. Breaks should be taken in cooler, shaded areas. Rest breaks also provide an opportunity to drink water.

6. Prompt Medical Attention.

Recognizing the symptoms of heat illness and providing an effective response requires promptly acting on early warning signs. Common early symptoms and signs of heat illness include headache, muscle cramps, and unusual fatigue. However, progression to more serious illness can be rapid and can include unusual behavior, nausea/vomiting, weakness, rapid pulse excessive sweating or hot dry skin, seizures, and fainting or loss of consciousness.

Any of these symptoms require immediate attention.

Even the initial symptoms may indicate serious heat exposure. If medical personnel are not immediately available on-site, and you suspect severe heat illness, you must call 911. Regardless of the worker's protests, no employee with any of the symptoms of possible serious heat illness noted above should be sent home or left unattended without medical assessment and authorization.

7. Training.

Supervisors and employees must be trained in the risks of heat illness, and the measures to protect themselves and their co-workers. Training should include:

- Why it is important to prevent heat illness
- Procedures for acclimatization
- The need to drink approximately one quart per hour of water to replace fluids.
- The need to take breaks out of the heat
- How to recognize the symptoms of heat illness
- How to contact emergency services, and how to effectively report the work location to 911.



Heat Illness Prevention

Guidance for Workers

Awareness of heat illness symptoms can save your life or the life of a co-worker

- If you are coming back to work from an illness or an extended break or you are just starting a job working in the heat, it is important to be aware that you are more vulnerable to heat stress until your body has time to adjust. Let your employer know you are not used to the heat. It takes about 5 – 7 days for your body to adjust.
- Drinking plenty of water frequently is vital to workers exposed to the heat. An individual may produce as much as 2 to 3 gallons of sweat per day. In order to replenish that fluid the worker should drink 3 to 4 cups of water every hour starting at the beginning of your shift.
- Taking your breaks in a cool shaded area and allowing time for recovery from the heat during the day are effective ways to avoid heat illness.
- Avoid or limit the use of alcohol and caffeine during periods of extreme heat. Both dehydrate the body.
- If you or a co-worker start to feel symptoms such as nausea, dizziness, weakness or unusual fatigue, let your supervisor know and rest in a cool shaded area. If symptoms persist or worsen seek immediate medical attention.
- Whenever possible, wear clothing that provides protection from the sun but allows airflow to the body. Protect your head and shade your eyes if working outdoors.
- When working in the heat be sure to pay extra attention to your coworkers and be sure you know how to call for medical attention.

For more information call Cal/OSHA or visit our Web site at: <u>www.dir.ca.gov</u>



Subchapter 7. General Industry Safety Orders Group 2. Safe Practices and Personal Protection Article 10. Personal Safety Devices and Safeguards

§3395. Heat Illness Prevention

(a) Scope and Application. This section applies to the control of risk of occurrence of heat illness. This is not intended to exclude the application of other sections of Title 8, including, but not necessarily limited to, sections 1230(a), 1512, 1524, 3203, 3363, 3400, 3439, 3457, 6251, 6512, 6969, 6975, 8420 and 8602(e). This section applies to all outdoor places of employment.

Note No. 1: The measures required here may be integrated into the employer's Injury and Illness Program required by section 3203.

Note No. 2: This standard is enforceable by the Division of Occupational Safety and Health pursuant to Labor Code sections 6308 and 6317 and any other statutes conferring enforcement powers upon the Division. It is a violation of Labor Code sections 6310, 6311, and 6312 to discharge or discriminate in any other manner against employees for exercising their rights under this or any other provision offering occupational safety and health protection to employees.

(b) Definitions.

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

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

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

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





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

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

(c) **Provision of water**. Employees shall have access to potable drinking water meeting the requirements of Sections 1524, 3363, and 3457, as applicable. Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift. Employers may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour. The frequent drinking of water, as described in (e), shall be encouraged.

(d) Access to shade. 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. Except for employers in the agricultural industry, cooling measures other than shade (e.g., use of misting machines) may be provided in lieu of shade if the employer can demonstrate that these measures are at least as effective as shade in allowing employees to cool.

(e) Training.

(1) Employee training. Training in the following topics shall be provided to all supervisory and non-supervisory employees.

(A) The environmental and personal risk factors for heat illness;

(B) The employer's procedures for complying with the requirements of this standard;

(C) The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties;

(D) The importance of acclimatization;

(E) The different types of heat illness and the common signs and symptoms of heat illness;

(F) The importance to employees of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers;

(G) The employer's procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary;

(H) The employer's procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider;

(I) The employer's procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

(2) Supervisor training. Prior to assignment to supervision of employees working in the heat, training on the following topics shall be provided:

(A) The information required to be provided by section (e)(1) above.

(B) The procedures the supervisor is to follow to implement the applicable provisions in this section.

(C) The procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

(3) The employer's procedures required by subsections (e)(1)(B), (G), (H), and (I) shall be in writing and shall be made available to employees and to representatives of the Division upon request.