

Policies and procedures



Metro

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Subject Heat illness prevention
Section Safety and Risk Management Division, Finance and Regulatory Services Department
Approved by Marissa Madrigal, COO | June 24, 2022

POLICY

It is the policy of Metro to comply with; OAR 437-002-0156, Heat Illness Prevention. As such, Metro will maintain a Heat Illness Prevention Policy which describes actions to prioritize safety for staff during high heat events.

APPLICABLE TO

All Metro departments and facilities whenever an individual performs work activities, whether in indoor or outdoor environments, where the heat index (apparent temperature) equals or exceeds 80 degrees F.

Exemptions

1. Incidental heat exposures where an employee is not required to perform work activities for more than 15 minutes in any sixty-minute period.
2. Exposures to heat generated from the work process – such as occurs in bakeries – is not subject to this policy.
3. Emergency operations that are directly involved in the protection of life or property, or the restoration of essential services, such as evacuation, rescue, medical, structural firefighting, law enforcement, utilities, and communications, when individuals are engaged in those operations.
4. Buildings and structures that have a mechanical ventilation system that keeps the heat index below 80 degrees F.

Partial exemptions

1. Individuals performing either “rest” or “light” workloads (see Appendix C; Mandatory Information for Heat Illness Prevention).
2. Associated support activities for wildland firefighters, such as fire camp services and fire management, are exempt from acclimatization requirements.
3. Employees who work from home are subject only to the training requirements of this policy.

DEFINITIONS

Acclimatization: short-term, temporary adaptation or adjustment of the body in response to a change in its working environment, including changes in temperature such as heat or cold.

Drinking water: Potable water that is suitable to drink and that is cool (66°F - 77°F) or cold (35°F - 65°F).

Heat illnesses: medical conditions resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

Heat index (or apparent temperature): what the temperature feels like to the human body when relative humidity is combined with the air temperature. The heat index is calculated using equations published by the National Oceanic and Atmospheric Administration's National Weather Service.

Heat wave: a prolonged period of abnormally hot weather.

Relative humidity: the amount of water vapor present in air expressed as a percentage of the amount needed for saturation at the same temperature.

Shade: blockage of direct sunlight is shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not sufficient 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 working air conditioning.

PROCEDURES

Metro facility and venue supervisors and managers shall ensure the implementation of the following procedures at their worksite(s):

1. Monitoring the weather

Each day Supervisors will review weather forecasts for the following work day to allow for adjustments to schedules and assure the ability to implement the requirements of this policy if needed.

Prior to the start of each shift, forecasted temperatures and humidity will be compared to the Heat Index and precautions adjusted accordingly.

During each work shift, personnel will be designated to monitor the temperature and humidity for changes that may require work adjustments. Personnel can utilize the OSHA-NIOSH Heat Safety Tool App to obtain conditions for their geographical area (See Appendix A).

Personnel designated to monitor heat and humidity shall report to the Director any significant changes in temperature or humidity that would impact employees working in the heat.

2. Emergency medical plan

Metro locations are required to develop an emergency medical plan to ensure the rapid provision of medical services to employees with major illnesses and injuries, and determine the services will be available in an emergency. Personnel working at locations with an existing emergency plan should follow the emergency notification guidelines established for that site.

Emergency medical services

If it is determined that medical services are required, locations with designated 911 services and access to emergency response services with Emergency Medical Technicians (EMT) or physicians, should use those 911 services. Sites outside of 911 service areas must post the telephone number for the specific ambulance service at the work location.

If the work location is not in proximity to emergency medical services, or if site personnel will respond to workplace emergencies, the emergency medical plan shall consist of arrangements for:

- a) Communication: Two-way radio, telephone, or provision for emergency communication to contact the emergency medical services.

- b) Transportation: Availability of transportation to a point where an ambulance can be met or to the nearest suitable medical facility. Vehicles provided for this purpose shall be available at all times, shall have right-of-way over all vehicles or equipment under the control of the employer, and shall be equipped so that due consideration can be given to the proper care and comfort of the injured employee.
- c) Qualified medical personnel at destination.
- d) All employees shall be knowledgeable concerning the qualified first aid person(s), the first aid requirements, and emergency medical plan.

Heat emergency response actions

Supervisors must take immediate action appropriate to the severity of the illness. If a supervisor observes signs or an employee reports symptoms of heat illness, the employee must be relieved from duty and provided with a sufficient means to reduce body temperature. Examples include, but are not limited to:

- Cooling blankets;
- cooling vests; and
- fans.

Severe heat illness symptoms and response

The supervisor must immediately implement emergency response procedures if the signs or symptoms are indicators of severe heat illness, such as:

- decreased level of consciousness;
- staggering;
- vomiting;
- disorientation; and
- irrational behavior or convulsions.

An employee exhibiting signs or symptoms of heat illness must be monitored and must not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services in accordance with the emergency response plan.

3. Heat preparedness guidance

During a hot weather event, heat wave or heat spike, Supervisors shall consider implementing the following corrective options including:

- Reschedule heavy work to time of day or night with cooler temperatures;
- Providing extra breaks;
- Providing shade near where work is being performed;
- Providing drinking water; and
- Stopping work for the day where feasible.

Acclimatization: Adjust work tasks and/or workload

The body needs time to adapt when temperatures rise suddenly, and an employee risks heat illness by not taking it easy when a heat wave strikes or when starting a new job that exposes the employee to heat that the employee's body has not yet adjusted.

Note: Acclimatization peaks in most people within seven to fourteen day of regular work for at least two hours per day in the heat. This time frame applies to fit individuals with no underlying medical conditions.

80 degree heat index temperatures or higher

The following measures shall be implemented at each worksite when the Heat Index equals or exceeds 80 degrees F.

Access to shade

Shade areas must be provided in the workplace and must meet the following requirements:

- a) Consist of natural (trees) or artificial (structures such as tent/umbrella) means;
- b) Do not expose individuals to unsafe or unhealthy conditions, and that does not deter or discourage access or use;
- c) Open air or have mechanical ventilation for cooling;
- d) Large enough to accommodate the number of employees on recovery or meal and rest periods;
- e) Located as close as practical to the work area;

Indoor, air conditioned spaces

If available, indoor, air conditioned spaces should be used instead of shaded areas for breaks and meals.

Cool down breaks

Employees are encouraged to take at least 5 minute cool down breaks as they need them and at least once every 2 hours.

Drinking water

When the Heat Index temperature equals or exceeds 80 degrees F., supervisors shall ensure employees are provided an adequate supply of drinking water (32oz per employee/per hour). The supervisors or their designees will act as Water Monitor. During a heat event, the Water Monitor will assess once an hour to see that all workers have access to drinking water.

Note: Drinking water packaged as a consumer product and electrolyte-replenishing beverages that do not contain caffeine (for example, sports drinks) are acceptable substitutes, but should not completely replace the required water supplies.

90 degree heat index temperatures or higher: High heat practices

When the ambient heat index exceeds 90 degrees F., these additional practices will be implemented:

- a) An effective means of communication to report signs and symptoms of heat illness, assured for all employees
- b) Means for monitoring employees for heat-related signs and symptoms by any of the following:
 - Radio or cell phone;
 - Mandatory buddy system;
 - Other equally effective means of observation or communication.
- c) Equip and designate one or more personnel to call for emergency services as part of their normal duties and will service this function during a heat event. See Heat Emergency Response Actions and Severe Heat Illness Symptoms below.
- d) Supervisors must ensure that each employee takes a minimum 10 minute rest break in the shade or air-conditioned space every 2 hours.

100 degree heat index temperatures or higher: High heat practices

When the ambient heat index exceeds 100 degrees F., the additional practices will be implemented: Supervisors must ensure that each employee takes a minimum 15 minute rest break in the shade or air-conditioned space every hour.

4. Heat illness prevention training

All employees and supervisors will receive heat illness prevention training at least annually before reasonably anticipated work in conditions with Heat Index temperature equal or in excess of 80 degrees

F. Training topics include:

- Risk factors for heat illness;
- Provisions of this Heat Illness Prevention Plan;
- Concept, importance and methods of acclimatization;
- Importance of and how to report signs and symptoms of heat illness;
- Effects of non-occupational factors (medications, alcohol, obesity, etc.);
- Common signs and symptoms of the different types of heat-related illness;
- The employee's right to exercise their rights under this standard without fear of retaliation.

RESPONSIBILITIES

Employees

- All employees are responsible for protecting themselves from heat illnesses by following these guidelines for prevention and immediately reporting any signs or symptoms to their supervisor.
- Employees are required to participate in training as outlined in this policy.

Supervisors

- Shall ensure there is an emergency plan specific to the work location
- Shall ensure the implementation of this policy in the workplace

Department directors

Shall ensure resources are available to implement this policy.

Safety and Risk Management Division

- Develops and maintains this policy
- Develops training and ensures personnel are trained in accordance with this policy
- Audits Metro worksite adherence to this policy

REFERENCES

- OAR 437-002-0156 –Heat Illness Prevention
- OAR 437-002-0161 – Medical Services and First Aid

ATTACHMENTS

Appendix A

OSHA-NIOSH Heat Safety Tool

NOAA's National Weather Service Heat Index

Appendix B

Potential best practices: Heat related illness

Appendix C

Work/rest schedules for workers wearing normal work clothing

APPENDIX A

OSHA-NIOSH Heat Safety Tool

Smartphone app available for iOS and Android devices. View tool guidance and download applications from the CDC: <https://www.cdc.gov/niosh/topics/heatstress/heatapp.html>



OSHA-NIOSH Heat Safety Tool 12+
 Centers For Disease Control and Prevention
 #46 in Weather
 ★★★★★ 2.7 • 88 Ratings
 Free

NOAA’s National Weather Service Heat Index

Available at <https://www.weather.gov/safety/heat-index>

NOAA's National Weather Service

Heat Index

Temperature (°F)

	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution
 Extreme Caution
 Danger
 Extreme Danger

APPENDIX B

Best practices: Preventing heat related illness

1. Containers that hold ice or otherwise keep drinking water and other beverages cold.
2. Chilled beverages such as electrolyte type sports drinks (discourage caffeine consumption).
3. Cold treats at break time such as popsicles, ice cream, or fruit with high water content (watermelon, grapes, oranges).
4. A cooling trailer with conditioned air and cold water to consume.
5. Cooling tents with mist, fan, and cold water to consume.
6. Heat-reflective work clothing such as light-colored, breathable uniforms.
7. Evaporative accessories (cooling neck wraps, head bands).
8. Cooling vests designed to safely use ice packs.
9. Ventilated PPE (high-visibility garments or powered air purifying respirators, if appropriate).
10. Cell phone text orders from supervisor to stop and rest in shade and drink.

*Source: Heat Illness Prevention Plan, Appendix A. Oregon OSHA
<https://osha.oregon.gov/OSHAPubs/pubform/heat-sample-program.pdf>*

APPENDIX C

Work/rest schedules for workers wearing normal work clothing*

Adjust the temperature reading as follows before going to the temperature column in the table:

- Full sun (no clouds): Add 13°
- Partly cloudy/overcast: Add 7°
- No shadows visible/work is in the shade or at night: no adjustment
- Adjust for PPE (see NIOSH)

Adjusted temperature (°F)[†]	Light work (minutes work/rest)	Moderate work (minutes work/rest)	Heavy work (minutes work/rest)
90	Normal	Normal	Normal
91	Normal	Normal	Normal
92	Normal	Normal	Normal
93	Normal	Normal	Normal
94	Normal	Normal	Normal
95	Normal	Normal	45/15
96	Normal	Normal	45/15
97	Normal	Normal	40/20
98	Normal	Normal	35/25
99	Normal	Normal	35/25
100	Normal	45/15	30/30
101	Normal	40/20	30/30
102	Normal	35/25	25/35
103	Normal	30/30	20/40
104	Normal	30/30	20/40
105	Normal	25/35	15/45
106	45/15	20/40	Caution [‡]
107	40/20	15/45	Caution [‡]
108	35/25	Caution [‡]	Caution [‡]
109	30/30	Caution [‡]	Caution [‡]
110	15/45	Caution [‡]	Caution [‡]
111	Caution [‡]	Caution [‡]	Caution [‡]
112	Caution [‡]	Caution [‡]	Caution [‡]

* With the assumption that workers are physically fit, well-rested, fully hydrated, under age 40, and have adequate water intake and that there is 30% RH [relative humidity] and natural ventilation with perceptible air movement.