

New Mexico Environment Department

Proposed Heat Illness and Injury Prevention Rule

TITLE 11 LABOR AND WORKERS COMPENSATION
CHAPTER 5 OCCUPATIONAL HEALTH AND SAFETY
PART 7 OCCUPATIONAL HEALTH AND SAFETY- HEAT ILLNESS AND INJURY
PREVENTION

11.5.7.1 ISSUING AGENCY: New Mexico Environmental Improvement Board.
[11.5.7.1 NMAC- N x/x/xx]

11.5.7.2 SCOPE: All employment and places of employment, including indoor and outdoor workplaces covered by the standards for General Industry, Construction Industry, Agriculture, and Convenience Stores, subject to the provisions of the Occupational Health and Safety Act.

1. The following situations are exempt from the requirements of this standard.
 - a. Incidental heat exposures of fifteen minutes or less per hour that require employee exposure to environments with a heat index exceeding 80 degrees Fahrenheit (27 degrees Celsius);
 - b. All emergency response 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, public utilities, and communications; and
 - c. Telework (i.e., work done from home or at another remote location of the employee's choosing); and
 - d. Buildings, structures, motor vehicles, and motorized equipment with a mechanical ventilation system that keeps the heat index below 80 degrees Fahrenheit (27 degrees Celsius) in all working areas.

[11.5.7.2 NMAC- N x/x/xx]

11.5.7.3 STATUTORY AUTHORITY: NMSA 1978, Sections 50-9-7 and 74-1-8.
[11.5.7.3 NMAC- N x/x/xx]

11.5.7.4 DURATION: Permanent.
[11.5.7.4 NMAC- N x/x/xx]

11.5.7.5 EFFECTIVE DATE: MM//DD/YYYY, unless a later date is cited at the end of a section.
[11.5.7.5 NMAC- N x/x/xx]

11.5.7.6 OBJECTIVE: To establish standards related to the occupational health and safety of employees to prevent heat illnesses and related injuries.
[11.5.7.6 NMAC- N x/x/xx]

11.5.7.7 DEFINITIONS: General: Unless otherwise specified, the following definitions, in addition to those contained in 11.5.1.7 NMAC and the state act, are applicable to this part.

- A. **“Acclimatization”** means temporary physiological adaptation to work in the heat that enhances an individual's ability to tolerate heat stress. Acclimatization occurs gradually when a person performs work under heat stress conditions. A worker may be considered heat acclimatized if they have experienced at least 2 hours of continuous work under heat stress conditions on at least five of the previous seven days. .
- B. **“Drinking water”** is water that is suitable to drink (potable), suitably cool (typically less than 60 degrees Fahrenheit or 15 degrees Celsius) in temperature and provided in sufficient quantity.
- C. **“Heat Index”** is a measure of how hot it really feels when relative humidity is factored with the actual air temperature. Heat index is expressed as a temperature value measured in shade conditions. Exposure to direct sunlight can increase heat index values by up to 15 degrees Fahrenheit (9 degrees Celsius). The heat

index (HI) is widely published by reliable weather services such as the National Weather Service (NWS) and many phone based applications are available to track HI.

- D. **“High Heat Conditions”** refer to any workplace environment where the heat index equals or exceeds 100 degrees Fahrenheit (35 degrees Celsius). The level of caution should increase in proportion to the increase in heat index. The effects of solar radiation must be accounted for when assessing high-heat conditions. See Index Table 1 and Table 3 for guidance on the level of caution associated with increases in heat index.
- E. **“Heat Illnesses”** means a group of medical conditions resulting from the body's inability to cope with a particular heat load, and includes, but is not limited to, heat cramps, heat rash, heat exhaustion, fainting, and heat stroke.
- F. **“Heat Related Injury”** is a secondary injury that occurs as a consequence of heat exposure’s effects on human performance and judgement. Examples include injuries from slips, trips, or falls caused by heat-induced dizziness or disorientation and accidents due to heat-related reduced mental alertness.
- G. **“New Work Area”** means a new geographical location where the heat index equals or exceeds 80 degrees Fahrenheit (27 degrees Celsius), and where the immediately preceding work location had a heat index below 80 degrees Fahrenheit (27 degrees Celsius).
- H. **“Shade”** means the blockage of direct sunlight where objects within the shaded area do not cast a shadow. Shade is inadequate when ambient heat and/or humidity prevent a person's body from cooling in the shaded area. 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. Shade may be provided by any natural or artificial means.

[11.5.7.7 NMAC- N x/x/xx]

11.5.7.8 Heat Illness and Injury Prevention Plan: The employer shall establish, implement, and maintain, an effective heat illness prevention plan. The plan shall be in writing in both English and the language understood by the majority of the employees and shall be made available at the worksite to employees and to representatives of the Occupational Health and Safety Bureau upon request. The plan must contain at least the following information:

- A. How employers conduct a heat assessment to identify control measures.
- B. The procedures for implementing required control measures.
- C. The procedures for implementing control measures in high heat conditions.
- D. Acclimatization methods and schedules.
- E. The procedures for implementing indoor heat requirements where applicable.
- F. Emergency medical care identification and procedures.
- G. The methods and procedures for training supervisors and employees.

[11.5.7.8 NMAC- N x/x/xx]

11.5.7.9 Heat Exposure Assessment: Employers shall conduct a heat exposure assessment for each worksite where the heat index is expected to exceed the threshold of 80 degrees Fahrenheit. Employers may use existing job hazard assessment procedures and forms and shall include heat exposure as part of the normal scope of work. The heat exposure assessment shall be conducted annually per work site. The assessment shall be updated as necessary to reflect those changes in workplace conditions that affect exposure to heat.

The following criteria must be considered when assessing employee exposure to heat illness:

- A. Heat index of the work environment: Heat index can be calculated by measuring the temperature and relative humidity and applying those numbers to Table 1.
- B. The effect of direct sunlight for high-heat conditions.
- C. Intensity of the work performed (see Table 2).
- D. The heat retaining effects of required protective clothing and PPE.

[11.5.7.9 NMAC- N x/x/xx]

11.5.7.10 Control Measures: For all outdoor and indoor working environments where the heat index exceeds 80 degrees Fahrenheit (27 degrees Celsius) employers shall implement the measures below:

- A. **Acclimatization Methods:**
 - a. A new worker who previously worked in ambient temperatures or mechanically ventilated working areas with a heat index maintained below 80 degrees Fahrenheit or whose work was light

or very light in intensity (see Table 2) that is assigned to work in areas with a heat index of 80 degrees Fahrenheit or higher with a work intensity of moderate or greater shall be closely observed by a supervisor or designee for the first seven days of the employee's employment.

- i. The work schedule must be no more than 20% of the usual duration of work in the heat on day one and no more than a 20% increase on each additional day.
 - b. A new worker who previously worked in areas with a heat index of 80 degrees Fahrenheit or higher and at a moderate or greater work intensity is exempt from acclimatization.
 - c. For workers returning from an absence of seven or more days or who have been assigned to a new work area the work schedule must follow one of the options below:
 - i. Be no more than 50% of the usual duration of work in the heat on day one, 60% on day two, 80% on day three, and 100% thereafter, or,
 - ii. Establish a procedure for monitoring return to work over a period of 3 days which reduces risk of heat illness.
- B. **Provision of Fluids** Suitable hydrating fluids must be provided by the employer in sufficient quantities throughout the day when working in the heat. Suitable hydrating fluids include drinking water and drinks containing carbohydrates and electrolytes.
 - a. Employees shall have access to at least one quart of drinking water per hour.
 - b. Drinking water shall be located as close as practical to the areas where employees are working.
 - c. Drinking water shall be made available at no cost to the employee.
 - d. Employers must provide sufficient pauses in continuous work to allow workers to drink fluids.
- C. **Regular Rest Breaks:** Employers must provide paid rest breaks to employees when the heat index exceeds 80 degrees Fahrenheit (27 degrees Celsius). Rest periods may be provided concurrently with any other meal or rest period required by policy, rule, or law if the timing of the preventative rest break coincides with the otherwise required meal or rest period. Rest periods must:
 - a. Be 15 minutes for every two hours of work when the heat index is below 100 degrees Fahrenheit,
 - b. Under high heat conditions, the rest break must follow one of the options below:
 - i. the rest schedule provided in Table 3, or
 - ii. the NIOSH recommended work rest schedule, or
 - iii. the employer shall establish a rest schedule in the written heat illness and injury prevention plan that permits sufficient rest and reduces risk of heat illness for employees.
- D. **Cooling Areas:** Cooling areas include shade and artificial cooling such as mechanical ventilation systems, such as air conditioning or fans. Employers must establish and maintain one or more cooling area for employees who work in the heat.
 - a. Before work begins, the supervisor shall assess shade options for each job site.
 - b. The shade area must either be open to the air or provide mechanical ventilation for cooling.
 - c. The shade must be located as close as practical to the areas where employees are working.
 - d. The amount of shade present must be at least sufficient to accommodate the number of employees in a sitting position with normal posture during recovery or rest periods.
 - e. Shade present during meal periods must be large enough to accommodate the number of employees on the meal period who remain onsite.
 - f. When the employer can demonstrate that providing access to shade is not safe or feasible, cooling measures other than shade such as the use of misters or active cooling garments may be provided in lieu of shade.
 - g. When a work environment is equipped with mechanical ventilation systems, the employer shall ensure those systems are operated and maintained as follows:
 - i. Outside air shall be provided to all workrooms to maintain a temperature below 80 degrees Fahrenheit (27 degrees Celsius).
 - ii. HVAC systems shall be properly maintained according to the manufacturer's recommendations and in good working condition.
- E. **Personnel Monitoring:** Employers must implement at least one of the following to promptly identify when an employee may be experiencing heat illness:
 - a. Regular communication with employees who are working alone by radio, cellular phone, or other reliable means of communication.

- b. Create a mandatory buddy system in which employees are trained to recognize signs of heat related illness and are authorized to contact emergency services or render first aid in the absence of emergency services within proximity to the worksite.
- c. Require self-monitoring and communication with supervisors on symptoms of heat illness experienced.
- d. Other equally effective means of observation and communication.
- e. Conducting pre-shift meetings before the commencement of work to review the signs of heat illness.

[11.5.7.10 NMAC- N x/x/xx]

11.5.7.11 Emergency Medical Care: Employers shall comply with the provisions of 29 CFR Part 1910.151 - Medical Services and First Aid, 29 CFR Part 1926.50 - Medical Services and First Aid, or 11.5.4.12 NMAC – Emergency Medical Care, as appropriate.

[11.5.7.11 NMAC- N x/x/xx]

11.5.7.12 Training: All training must be conducted at the employer’s expense and in a language and vocabulary readily understood by all employees. Training must contain details specific to the workplace practices. All employees shall be trained in the following topics:

- A. Environmental and personal risk factors for heat illness.
- B. Procedures for identifying, evaluating, and controlling exposures to environmental and personal risk factors for heat illness.
- C. Rest break and provision of fluids methods and procedures.
- D. Acclimatization methods and schedules for new and returning workers.
- E. Different types of heat illness and the common signs and symptoms of heat illness.
- F. Procedures for observing, reporting, and responding to symptoms of heat illness.
- G. Procedures for communicating with emergency personnel.
- H. Supervisors should be provided with appropriate training on how to monitor weather reports and weather advisories.
- I. Training must be conducted at the beginning of employment for each employee and annually thereafter.

[11.5.7.12 NMAC- N x/x/xx]

11.5.7.13 Record Keeping and Reporting:

- A. The employer must keep a record of Heat Illness training, including a list of attendees, for a minimum of 5 years.
- B. The employer shall report all heat illness or related injuries within 24 hours of learning of the illness or injury:
 - a. Including those that only require first aid.
 - b. Heat index and working conditions at the time of illness or injury.

[11.5.7.13 NMAC- N x/x/xx]

11.5.7.14 Presumption of Violation and Rebuttal:

- A. If a worker is diagnosed by a medical professional with a heat illness or injury, and the exposure to heat occurs within the worker’s work shift, then the illness or injury shall constitute a violation of this Part subject to enforcement action under Section 50-9-17 NMSA 1978.
 - a. A heat illness or injury will require the employer to adopt all specified schedules listed in this Part for 3 years after the illness or injury occurs.
- B. If credible evidence or information obtained by the department or provided to the department by a third-party indicates that an employer is not in compliance with the provisions of this Part, that evidence or information may be used by the department for purposes of establishing whether an employer has violated or is in violation of this Part.
- C. An employer may rebut the violation by presenting clear and convincing evidence to the contrary.
- D. This presumption applies to all enforcement actions, including the issuance of citations, penalties, and orders to abate hazards. The finding of a rebuttable presumption does not relieve the employer of the duty to correct the underlying violation of the Part.

[11.5.7.14 NMAC- N x/x/xx]

Appendix I: Tables

Table 1: National Weather Service Heat Index

		Relative Humidity (%)																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Temperature (°F)	80	77	78	78	79	79	79	80	80	80	81	81	82	82	83	84	84	85	86	86	87
	81	78	79	79	79	79	80	80	81	81	82	82	83	84	85	86	86	87	88	90	91
	82	79	79	80	80	80	80	81	81	82	83	84	84	85	86	88	89	90	91	93	95
	83	79	80	80	81	81	81	82	82	83	84	85	86	87	88	90	91	93	95	97	99
	84	80	81	81	81	82	82	83	83	84	85	86	88	89	90	92	94	96	98	100	103
	85	81	81	82	82	82	83	84	84	85	86	88	89	91	93	95	97	99	102	104	107
	86	81	82	83	83	83	84	85	85	87	88	89	91	93	95	97	100	102	105	108	112
	87	82	83	83	84	84	85	86	87	88	89	91	93	95	98	100	103	106	109	113	116
	88	83	84	84	85	85	86	87	88	89	91	93	95	98	100	103	106	110	113	117	121
	89	84	84	85	85	86	87	88	89	91	93	95	97	100	103	106	110	113	117	122	
	90	84	85	86	86	87	88	89	91	92	95	97	100	103	106	109	113	117	122	127	
	91	85	86	87	87	88	89	90	92	94	97	99	102	105	109	113	117	122	126	132	
	92	86	87	88	88	89	90	92	94	96	99	101	105	108	112	116	121	126	131		
	93	87	88	89	89	90	92	93	95	98	101	104	107	111	116	120	125	130	136		
	94	87	89	90	90	91	93	95	97	100	103	106	110	114	119	124	129	135	141		
	95	88	89	91	91	93	94	96	99	102	105	109	113	118	123	128	134	140			
	96	89	90	92	93	94	96	98	101	104	108	112	116	121	126	132	138	145			
	97	90	91	93	94	95	97	100	103	106	110	114	119	125	130	136	143	150			
	98	91	92	94	95	97	99	102	105	109	113	117	123	128	134	141	148				
	99	92	93	95	96	98	101	104	107	111	115	120	126	132	138	145	153				
	100	93	94	96	97	100	102	106	109	114	118	124	129	136	143	150	158				
	101	93	95	97	99	101	104	108	112	116	121	127	133	140	147	155					
	102	94	96	98	100	103	106	110	114	119	124	130	137	144	152	160					
	103	95	97	99	101	104	108	112	116	122	127	134	141	148	157	165					
	104	96	98	100	103	106	110	114	119	124	131	137	145	153	161						
105	97	99	102	104	108	112	116	121	127	134	141	149	157	166							
106	98	100	103	106	109	114	119	124	130	137	145	153	162	172							
107	99	101	104	107	111	116	121	127	134	141	149	157	167								
108	100	102	105	109	113	118	123	130	137	144	153	162	172								
109	100	103	107	110	115	120	126	133	140	148	157	167	177								
110	101	104	108	112	117	122	129	136	143	152	161	171									
111	102	106	109	114	119	125	131	139	147	156	166	176									
112	104	107	111	115	121	127	134	142	150	160	170	181									
113	104	108	112	117	123	129	137	145	154	164	175										
114	105	109	113	119	125	132	140	148	158	168	179										
115	106	110	115	121	127	134	143	152	162	173	184										
116	107	111	116	122	129	137	146	155	166	177											
117	108	112	118	124	132	140	149	159	170	181											
118	108	113	119	126	134	142	152	162	174	186											
119	109	114	121	128	136	145	155	166	178												
120	110	116	122	130	138	148	158	170	182												
121	111	117	124	132	141	151	162	174	187												
122	111	118	125	134	143	154	165	178													
123	112	119	127	136	146	157	169	182													
124	113	120	129	138	148	160	172														
125	114	121	130	140	151	163	176														

Heat Index




Extreme Danger	Heat stroke likely.
Danger	Sunstroke, muscle cramps, and/or heat exhaustion likely. Heatstroke possible with prolonged exposure and/or physical activity.
Extreme Caution	Sunstroke, muscle cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Caution	Fatigue possible with prolonged exposure and/or physical activity.

Table 2: Work Intensity

Strength level	Duration of lifting or carrying				Percent of workday standing ^[1]
	Seldom	Occasionally	Frequently	Constantly	
Sedentary work	Up to 10 pounds	Up to 10 pounds	Negligible ^[2]	No weight	Less than or equal to 1/3 ^[3]
Light work	11–25 pounds	11–25 pounds	1–10 pounds	Negligible weight ^[2]	
Medium work	26–50 pounds	26–50 pounds	11–25 pounds	1–10 pounds	
Heavy work	51–100 pounds	51–100 pounds	26–50 pounds	11–25 pounds	
Very heavy work	>100 pounds	>100 pounds	>50 pounds	>25 pounds	

^[1] Standing estimates includes time spent standing, walking, and in low postures.
^[2] Negligible weight includes anything lifted or carried weighing less than 1 pound.
^[3] When the sedentary lifting or carrying requirements are met, and more than 1/3 of the workday is spent standing, light work is required.
Source: U.S. Bureau of Labor Statistics, Occupational Requirements Survey.

Table 3: Work Rest Schedule

Work/Rest Schedule	
Heat Index (°F)	Minutes Work / Minutes Rest
80 - 99	120 / 15
100	45 / 15
102	40 / 20
104	35 / 25
106	30 / 30
110	30 / 30
112	25 / 35
114	20 / 40
116	15 / 45
118	Caution (consider rescheduling activities) Ψ
120	Caution (consider rescheduling activities)
122	Caution (consider rescheduling activities)

Important note: This table is adapted from the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limits. Values are based on heat-acclimatized, physically fit, well-rested, and fully hydrated adults under 40 years of age. Assumptions include adequate water intake (approximately 30% of maximum sweat loss), natural ventilation with perceptible air movement, and air-temperature readings taken in shade (with no direct solar radiation). National Weather Service readings are also taken in shade.

To adjust for solar radiation, modify the measured air temperature (or heat index) as follows:

- Full sun (no clouds): add 11°F
- Partly cloudy or overcast: add 5 °F
- Shade or night (no visible shadows): no adjustment

The work-rest cycle is based on a 45-minute work / 15-minute rest per hour.

Ψ Symbols in the table indicate very high levels of heat stress where rescheduling or postponing work should be considered.

Table 4: Work Intensity in Relation to Occupational Activities

Category	Metabolic Rate (W)	Description	Occupational Activities Examples
Rest	115 W	Sitting with very light manual work.	Sitting and writing, typing, drafting, operating a switchboard. Office or security booth work.
Light	115 to 235 W	Sitting with light manual work with hands or hands and arms and driving. Standing with some light arm work and occasional walking.	Inspection work, flagging traffic, machine operation seated, painting, using small hand tools, scaffolding setup, inspecting crops.
Moderate	235 to 360 W	Sustained moderate hand and arm work, moderate arm and leg work, moderate arm and trunk work, or light pushing and pulling. Normal walking.	Shoveling gravel intermittently, light carpentry, plastering, trimming vegetation, assembling rebar, cleaning floors with mop, lifting moderate materials, weeding, picking fruits and vegetables, washing vehicle.
Heavy	360 to 470 W	Intense arm and trunk work, carrying, shoveling, manual sawing; pushing and pulling heavy loads; and walking at a fast pace.	Continuous shoveling or digging, carrying bricks or rebar, framing walls, laying concrete blocks, trenching, manual earthmoving, loading sacks, moving irrigation pipes, pushing or pulling loaded hand carts or wheelbarrows.
Very Heavy	>470 W	Very intense activity at fast to maximum pace; frequent heavy lifting or climbing.	Heavy shoveling and digging, Sledgehammer work, , demolition, sustained lifting > 55 lb, pushing heavy wheelbarrows uphill.

Notes:

- Categories and metabolic rates adapted from ISO 8996:2021 (Determination of Metabolic Rate) and ACGIH 2022 TLV for Heat Stress and Strain (Table 1)
- Metabolic rate (M) is expressed in watts (W) as total energy expenditure associated with the task.