Heat National Emphasis Program Review

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Heat NEP: Discussion Topics

- Purpose, Scope
- Goal and OSHA regulations
- High Hazard Industries
- Industry Example
- Compliance Resources

https://www.osha.gov/heat
Heat NEP: Purpose

- The NEP ensures employees in high-hazard industries are protected from both indoor and outdoor heat-related hazards.
- The NEP adds an enforcement component to target specific high-hazard industries in workplaces where this hazard is prevalent; and
- The NEP focuses on vulnerable workers in outdoor and indoor environments by coordinating efforts with the Department of Labor Wage and Hour Division (WHD).
- **CPL 03-00-024**, Effective Date: April 8, 2022, operative for 3 years
Heat NEP: Scope

- The Heat NEP incorporates and expands on the September 1, 2021, heat initiative OSHA Memorandum (*now archived*).
- The NEP provides procedures for planned/programmed and follow-up inspections in targeted workplaces.
- The NEP prioritizes **on-site** (in person) response for complaints and for all employer-reported hospitalizations (i.e., severe injury reports) related to heat hazards.
Heat NEP: Goals

- To reduce or eliminate worker exposures to heat hazards.
- To target industries and worksites where employees are not provided with cool water, rest, cool shaded areas, training, and acclimatization.
Heat NEP: Goals (Cont’d)

- Proactive vs. Reactive approach.
- Use of enforcement, outreach to employers, and compliance assistance.
- OSHA’s goal is to increase heat inspections by 100% above the baseline of the average of fiscal years 2017 through 2021.
BLS – Fatal occupational injuries related to environmental heat

Heat NEP: Inspection Data

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<tbody>
<tr>
<td>TOTAL OSHA HEAT INSPECTIONS</td>
<td>110</td>
<td>175</td>
<td>112</td>
<td>191</td>
<td>323</td>
<td>171</td>
<td>235</td>
<td>239</td>
<td>79</td>
<td>166</td>
<td>216</td>
<td><strong>179</strong></td>
<td>193</td>
</tr>
</tbody>
</table>

Data Source: OSHA Inspection Information System
Public Data available at: [https://www.osha.gov/data](https://www.osha.gov/data)
Heat NEP: Inspection Procedures

- **On heat priority days** (when the heat index is expected to be **80 degrees F or higher**):
  - During any programmed or unprogrammed inspections, CSHOs should inquire about heat-related hazard prevention programs
  - Provide compliance assistance where needed

- **On any day that the NWS has announced a heat advisory or warning, for the local area**: [https://www.weather.gov/safety/heat-ww](https://www.weather.gov/safety/heat-ww)
  - Conduct programmed inspections at targeted industries

- May expand inspection scope if heat hazards are present
# Heat NEP: High Heat Hazard Industries - Appendix A

<table>
<thead>
<tr>
<th>Table 1 – Examples of non-construction industries in ListGen</th>
<th>Table 2 – Examples of construction industries</th>
<th>Table 3 – Examples of industries based on local knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2017 NAICS Industry Sector Title</strong></td>
<td><strong>2017 NAICS Industry Sector Title</strong></td>
<td><strong>2017 NAICS Industry Sector Title</strong></td>
</tr>
<tr>
<td>3118 Bakeries and Tortilla Manufacturing</td>
<td>2361 Residential Building Construction</td>
<td>1112 Vegetable and Melon Farming</td>
</tr>
<tr>
<td>3211 Sawmills and Wood Preservation</td>
<td>2362 Nonresidential Building Construction</td>
<td>4911 Postal Service</td>
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<tr>
<td>3241 Petroleum and Coal Products Manufacturing</td>
<td>2371 Utility System Construction</td>
<td>5613 Employment Services</td>
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<tr>
<td>3251 Basic Chemical Manufacturing</td>
<td>2372 Land Subdivision</td>
<td>5616 Investigation and Security</td>
</tr>
<tr>
<td>3272 Glass and Glass Product Manufacturing</td>
<td>2373 Highway, Street, and Bridge Construction</td>
<td>7225 Restaurants and Other Eating Places</td>
</tr>
<tr>
<td>3311 Iron and Steel Mills and Ferroalloy Manufacturing</td>
<td>2379 Other Heavy and Civil Engineering Construction</td>
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<tr>
<td>3314 Nonferrous Metal (except Aluminum) Production and Processing</td>
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<td>3315 Foundries</td>
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</tbody>
</table>
Heat NEP: Inspection Procedures

- Observations: heat sources, workload exertions, PPE, duration
- Records Review: OSHA 300 & 301, emergency records
- Interviews: symptoms, previous incidents
- Heat Program
- Weather Conditions
Heat NEP: Heat Program Considerations

- Is there a written program?
  - How did the employer monitor ambient temperature(s) and levels of work exertion at the worksite?
  - Was there access to water, rest, shade, breaks?
  - Did the employer provide time for acclimatization of new and returning workers?
  - Was a “buddy” system in place on hot days?
  - Were administrative controls used (earlier start times, and employee/job rotation) to limit heat exposures?
  - Did the employer provide training on heat illness signs, how to report signs and symptoms, first aid, how to contact emergency personnel, prevention, and the importance of hydration?
### Acclimatization

#### New Workers/Returning after absence

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>20%</td>
<td>40%</td>
<td>60%</td>
<td>80%</td>
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</table>

#### All workers during a heat advisory

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
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Observe and document current conditions and those at the time the incident occurred (for unprogrammed inspections), including:

- Observed wind speed,
- Relative humidity,
- Dry bulb temperature at the workplace and in the shaded rest area,
- Wet-bulb globe temperature at the workplace, (ensure the equipment has been properly calibrated prior to use),
- Cloud cover (no clouds, 25%, 50%, 75%, 100%), and
- The existence of any heat advisories, warnings, or alerts the previous days.
Heat NEP: Regulations Review

- General Duty Clause 5(a)(1) or HAL
- Other applicable standards:
  - **Recordkeeping**: 1904.7(b)(5) and 1926.22
  - **Personal Protective Equipment**: 1910.132 and 1926.28
  - **Sanitation**: 1910.141, 1915.88, 1917.127, 1918.95, 1926.51, and 1928.110
  - **Medical Services and First Aid**: 1910.151 and 1926.23.
  - **Safety & Health Program** (frequent safety & health inspections): 1926.21 and 1926.20
## NWS Heat Advisory Chart

### NOAA's national Weather Service Heat Index

<table>
<thead>
<tr>
<th>Temperature (°F)</th>
<th>80</th>
<th>82</th>
<th>84</th>
<th>86</th>
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### Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

- **Caution**
- **Extreme Caution**
- **Danger**
- **Extreme Danger**

This Photo by Unknown Author is licensed under [CC BY-SA-NC](https://creativecommons.org/licenses/by-sa/4.0/).
A construction worker had returned to work after a four to five week layoff. He had been constructing formwork in an area open to full sun on the site starting at 7:00 am. On his first day back on the job he strove hard to make a good impression and only took one break to eat a banana and drink water. During the middle of the afternoon, the heat index rose to 99°F. As he prepared to leave for the day just before 3:00 pm, he collapsed and was transported to the hospital. He was admitted to the hospital with a core temperature over 106°F. He was hospitalized for several days for heat stroke and fortunately he recovered.
## Heat Incident Calculations

<table>
<thead>
<tr>
<th>Time</th>
<th>Dry Bulb Temp (°F)</th>
<th>Relative Humidity (%)</th>
<th>Solar Irradiance** (W/m²)</th>
<th>Wind Speed (MPH)</th>
<th>Station Pressure (inHg)</th>
<th>Heat Index*</th>
<th>WBGT (°F)**</th>
<th>WBGT (°C)</th>
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<tbody>
<tr>
<td>7:54</td>
<td>83</td>
<td>72</td>
<td>990</td>
<td>0</td>
<td>29.91</td>
<td>89</td>
<td>95.1</td>
<td>35.06</td>
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<td>8:54</td>
<td>85</td>
<td>68</td>
<td>990</td>
<td>6</td>
<td>29.93</td>
<td>92</td>
<td>85</td>
<td>29.44</td>
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<tr>
<td>9:54</td>
<td>86</td>
<td>63</td>
<td>990</td>
<td>5</td>
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<td>92</td>
<td>86.1</td>
<td>30.05</td>
</tr>
<tr>
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<td>980</td>
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<td>29.91</td>
<td>96</td>
<td>87.3</td>
<td>30.72</td>
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<td>980</td>
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<td>59</td>
<td>980</td>
<td>9</td>
<td>29.9</td>
<td>99</td>
<td>87.6</td>
<td>30.89</td>
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<td>13:54</td>
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<td>54</td>
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<td>29.88</td>
<td>99</td>
<td>86.4</td>
<td>30.22</td>
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<td>14:54</td>
<td>91</td>
<td>52</td>
<td>990</td>
<td>6</td>
<td>29.87</td>
<td>98</td>
<td>88</td>
<td>31.11</td>
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<tr>
<td>Max</td>
<td>91</td>
<td>52</td>
<td>990</td>
<td>0</td>
<td>29.87</td>
<td>89</td>
<td>85</td>
<td>29.44</td>
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<tr>
<td>Min</td>
<td>83</td>
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<td>990</td>
<td>9</td>
<td>29.3</td>
<td>99</td>
<td>95.1</td>
<td>31.11</td>
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Heat Incident

- Metabolic Rate – Working with lifting heavy wood, hammering/cutting
- Rest – Limited break time
- Shade – Worked in direct sunlight without shade
- Hydration – Only took one break during the day
- Acclimatization – Was off for 4-5 weeks
What can we do?

Employers can-
➢ Engineering controls- such as?
➢ Administrative controls- such as?
➢ Is there PPE?
➢ Provide Training- such as?

Employees can-
➢ Wear light clothing
➢ Avoid alcohol and drink more water
➢ Monitor themselves and co-workers
OSHA Heat Safety Tool

➢ Provides Heat Index
➢ Displays Risk Level
➢ Reminders about Protective Measures
➢ Available in English and Spanish for Android and iPhone
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</thead>
<tbody>
<tr>
<td>skin irritation from the sweating</td>
<td>sweating depletes the salts</td>
<td>dizziness/fainting dehydration</td>
<td>heavy sweating, weakness, dizziness/confusion, nausea, pale or flushed complexion, muscle cramps, slightly elevated body temp., fast shallow breathing</td>
<td>hot dry skin or sweating, chills, slurred speech, hallucinations, headache</td>
</tr>
</tbody>
</table>

What happens to the body?

**SIGNS OF**

**HEAT EXHAUSTION**

- Dizziness & Fainting
- Excessive Sweating
- Rapid, Weak Pulse
- Nausea or Vomiting
- Cool, Pale Clammy Skin
- Muscle Cramps

**HEAT STROKE**

- Throbbing Headache
- No Sweating
- Rapid, Strong Pulse
- Nausea or Vomiting
- Red, Hot Dry Skin
- May Lose Consciousness
Heat Illness Prevention

Every year, dozens of workers die and thousands more become ill while working in hot or humid conditions. The OSHA Heat Illness Prevention campaign educates employers and workers on the dangers of working in the heat.

Heat Illness General Education
Heat illness is serious, but you can prevent it.

Employer’s Responsibility
Employers can keep workers safe in the heat.

Worker Information
Understand workers’ rights and what workers should know about heat illness.

Featured Resources
- Prevent Heat Illness at Work: OSHA Alert (PDF) • Español (PDF)
- Heat Illness: Prevent Heat Illness at Work Poster (PDF) • Español (PDF)
- Sun Safety at Work Infographic
- English (ZIP)
- See all OSHA publications about Heat

OSHA® Occupational Safety and Health Administration
Heat

Overview: Working in Outdoor and Indoor Heat Environments

Millions of U.S. workers are exposed to heat in their workplaces. Although illness from exposure to heat is preventable, every year, thousands become sick from occupational heat exposure, and some cases are fatal. Most outdoor fatalities, 50% to 70%, occur in the first few days of working in warm or hot environments because the body needs to build a tolerance to the heat gradually over time. The process of building tolerance is called heat acclimatization. Lack of acclimatization represents a major risk factor for fatal outcomes.

Occupational risk factors for heat illness include heavy physical activity, warm or hot environmental conditions, lack of acclimatization, and wearing clothing that holds in body heat. (See also, personal risk factors, below.)

Hazardous heat exposure can occur indoors or outdoors, and can occur during any season if the conditions are right, not only during heat waves. The following is a list of some industries where workers have suffered heat-related illnesses.

<table>
<thead>
<tr>
<th>Outdoors</th>
<th>Indoors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>Bakeries, kitchens, and laundries (sources with indoor heat-generating appliances)</td>
</tr>
<tr>
<td>Construction – especially, road, roofing, and other outdoor work</td>
<td>Electrical utilities (particularly boiler rooms)</td>
</tr>
</tbody>
</table>

Highlights

- COVID-19 Guidance on the Use of Cloth Face Coverings while Working Indoors in Hot and Humid Conditions. OSHA.
Are you hydrated? Reminders!

https://gacc.nifc.gov/nwcc/content/pdfs/safety/DOD_Urine%20Color%20Test_Poster.pdf
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OSHA Philadelphia Regional Office

Contact NICK

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