



HEAT, COLD AND SEVERE WEATHER

Plan, Monitor, Protect and Respond

POLICY STANDARD

Each project shall evaluate environmental conditions before and during work, implement controls that match the task and worker risk, and stop operations when weather or exposure cannot be controlled safely. Water, rest, shade or cooling, acclimatization, warming, shelter and emergency response shall be provided as conditions require.

PHEIFER BROTHERS CONSTRUCTION CO., INC.

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REGULATORY NOTE

As of this policy date, OSHA's federal heat standard remains a proposed rule and is not presented here as a final standard. Employers must protect employees from recognized serious hazards under the OSH Act General Duty Clause and comply with applicable construction, sanitation, emergency, PPE, crane, aerial-lift and other standards. Company requirements in this policy may be more protective.

Primary References

- OSH Act Section 5(a)(1) - General Duty Clause
- 29 CFR 1926.21, 1926.23, 1926.28, 1926.35, 1926.50, 1926.51 and applicable equipment standards
- OSHA Heat Exposure, Heat Illness First Aid, Winter Weather and Emergency Preparedness guidance
- Manufacturer limits, WisDOT/project requirements and the site-specific emergency action plan

1. Purpose, Scope and Responsibilities

Purpose and Scope

- Prevent heat illness, cold injury, lightning strike, weather-related struck-by/fall/collapse, flooding, reduced visibility and related emergencies during heavy-highway, bridge, marine, shop, yard and support work.
- Applies to employees, temporary workers and subcontractors exposed to outdoor conditions, unconditioned spaces, radiant heat, hot processes, cold/wet/windy environments or severe weather.
- This policy establishes minimum controls; the foreman shall address additional hazards created by the task, worker, equipment, location and forecast.

Management / Program Owner

- Provide weather-monitoring resources, potable water, cooling/shade, warming shelter, PPE, training, emergency arrangements and authority to adjust or stop work.
- Review incidents, exposure data and program effectiveness; coordinate owner/controlling-contractor requirements.

Project Manager / Superintendent

- Ensure each project has a documented weather and emergency plan, reliable alerts, shelter/evacuation locations, accountability and equipment-securement procedures.
- Schedule work and resources so production pressure does not override environmental controls.

Foreman / Designated Person

- Assess conditions before shift and at appropriate intervals; brief the crew; implement work/rest and other controls; closely monitor new/returning and symptomatic workers.
- Stop work at established triggers or whenever conditions exceed the crew's ability to control risk.

Employees

- Drink water, use required breaks/PPE, monitor themselves and coworkers, report symptoms and changing conditions immediately, and follow shelter/evacuation directions.
- Use stop-work authority without retaliation; never work alone when the plan requires buddy monitoring.

Medical Privacy

- Employees should tell supervision when a health condition, medication, illness or recent absence may affect safe work in heat/cold, without being required to disclose a diagnosis beyond what is needed for accommodation. Obtain medical guidance through the company process.

2. Site-Specific Weather Planning and Monitoring

Pre-Shift Plan

- Identify expected temperature, humidity, heat index, sun/radiant heat, wind/wind chill, precipitation, lightning, severe-storm/flood outlook, air quality and visibility for the exact project location and shift.
- Consider workload, duration, PPE/impermeable clothing, hot surfaces/processes, bridge decks, asphalt/concrete, confined areas, elevation, water exposure, night work and remote access.
- Identify workers who are new, returning after one week or more, not acclimatized, or performing unusually heavy work; apply added protection without delaying symptom reporting.

Reliable Information

- Use National Weather Service or other reliable real-time source and on-site observations. Assign a person to receive warnings; ensure a backup method when cellular service fails.
- Heat Index is a screening tool based on shade. Direct sun, radiant surfaces, heavy work and PPE can make exposure substantially greater. Use wet bulb globe temperature (WBGT) or a qualified assessment when those factors are important.
- Record the source, time, reading/alert and decisions at the frequency established in the plan and whenever conditions change.

Site Plan Elements

- Water/cooling and warming locations; work/rest approach; acclimatization; buddy assignments; clothing/PPE adjustments; shelter and evacuation routes; headcount method.
- Who calls 911, exact address/GPS/access point, who meets responders, cooling/rewarming supplies, first-aid/AED resources and communication method.
- Crane/aerial lift/formwork/scaffold/material wind limits; lightning shutdown; flood/ice/visibility triggers; securement and restart inspection.

Reassessment

- Reassess after weather alerts, increasing sun/wind/humidity, wet clothing, PPE change, heavy-work phase, equipment alarm, symptoms, near miss, power loss or emergency-plan change.
- A forecast does not replace field observation or instrument readings. Stop if monitoring is unavailable when the plan depends on it.

3. Heat Hazard Assessment

Evaluate Total Heat Stress

- Environmental heat: air temperature, humidity, air movement, direct sun, radiant heat from steel/concrete/asphalt, enclosed spaces and hot equipment/material.
- Metabolic heat: heavy lifting, climbing, rebar/formwork, demolition, rigging, concrete placement, PPE and pace. Increase controls for sustained moderate/heavy/very heavy work.
- Personal risk can increase with lack of acclimatization, dehydration, recent illness, poor sleep, certain medical conditions or medications. Never use appearance or fitness to assume immunity.

Heat Index and WBGT

- Use Heat Index for initial outdoor screening when work resembles shaded, light-clothing conditions. OSHA notes direct sun can increase apparent heat exposure by up to 13.5 F.
- Use WBGT or qualified industrial-hygiene evaluation for direct sun/radiant heat, limited air movement, heavy or impermeable PPE, high workload, indoor hot areas or when symptoms occur despite Heat Index controls.
- Apply the more protective requirement when OSHA guidance, exposure assessment, owner rule, manufacturer requirement or site conditions differ.

Company Action Levels

- No single temperature is safe for every task. The foreman establishes controls from total risk, not a weather-app number alone.
- At any elevated heat risk: make cool potable water and a cool/shaded rest area readily accessible; encourage frequent drinking; brief symptoms and emergency actions.
- As risk rises: require scheduled breaks, reduce workload/pacing, rotate where effective, reschedule heavy tasks, use mechanical aids/cooling, increase monitoring and assign buddies.
- During heat waves, unusually hot first days, direct sun or heavy PPE: apply controls earlier and more frequently; do not wait for symptoms.

Stop and Escalate

- Stop when a worker has symptoms, required water/cooling/rest is unavailable, monitoring shows controls inadequate, the crew cannot maintain safe pace, or communication/emergency access fails.
- Seek qualified assistance when exposure cannot be reliably characterized or controlled.

4. Heat Prevention Controls and Acclimatization

Water, Rest and Cooling

- Provide cool potable water readily accessible near the work. Encourage about one cup (8 oz.) every 15-20 minutes during heat exposure rather than waiting for thirst; drinking needs vary.
- Provide scheduled and as-needed rest in shade, air conditioning or another genuinely cooler area. Break frequency and duration increase with heat, workload and PPE.
- Do not use salt tablets or Vitamin C as routine heat controls. Electrolyte replacement may be appropriate during prolonged heavy sweating, but employees with medical/diet restrictions should follow medical advice.
- Provide hygienic containers/cups; never share drinking cups. Maintain required sanitation and water supply.

Engineering and Work-Practice Controls

- Use shade canopies, ventilation/fans where effective, air-conditioned cabs/rooms, insulation/shields, cooled tools/PPE, mechanical handling and distance from radiant sources.
- Schedule heavy work for cooler periods; reduce pace/duration; rotate only to lower-exposure tasks; add workers; adjust PPE where permitted; plan frequent relief.
- Fans are not adequate when air temperature approaches/exceeds skin temperature and may increase heat gain; use qualified guidance.

Acclimatization

- New and unacclimatized workers receive gradual heat exposure, additional breaks, close supervision and buddy monitoring for 7-14 days.
- Use OSHA/NIOSH's Rule of 20 Percent as a planning method when practicable: start at no more than 20% of the usual heat-work duration on day 1 and increase by no more than 20% each day while maintaining controls.
- Returning workers after a week or more away, seasonal return, heat wave or major task/PPE change receive added protection for at least the first week based on condition and experience.
- Acclimatization does not eliminate the need for water, rest, cooling or monitoring.

Buddy Monitoring

- Train buddies to notice headache, dizziness, cramps, nausea, weakness, unusual fatigue, confusion, poor coordination, slurred speech or abnormal behavior.
- Check new/returning workers frequently. Never leave a symptomatic worker alone or send the person home alone.

5. Heat Illness Recognition and Emergency Response

Early / Serious Signs

- Heat cramps: painful muscle spasms. Heat rash: clustered red bumps. Heat syncope: fainting/lightheadedness. Heat exhaustion: headache, nausea, dizziness, weakness, thirst, heavy sweating, irritability or elevated temperature.
- Heat stroke is a medical emergency: confusion, altered behavior, slurred speech, seizure, collapse, loss of consciousness or very high body temperature. Sweating may be present or absent.

Emergency Action

- For suspected heat stroke or altered mental status: call 911 immediately, state heat emergency, move to cooler area, remove unnecessary outer/PPE layers and begin rapid active cooling. Do not delay cooling while waiting for EMS.
- Use cold-water/ice-water immersion when trained and feasible; otherwise wet skin/clothing with cold water, apply ice/cold wet towels to head, neck, armpits and groin, and fan. Continue until EMS takes over or directed otherwise.
- Do not leave the worker alone. Protect airway and place an unconscious breathing person in recovery position if trained. Do not give fluids to a confused, vomiting, seizing or unconscious person.
- For heat exhaustion: stop work, move to cool area, loosen/remove outer layers, cool, provide small sips of cool water only if fully alert and not vomiting, and obtain medical evaluation when symptoms are severe, worsen or do not promptly improve.

Do Not

- Do not tell a symptomatic employee to finish the shift, sit alone in a vehicle, drive home, or merely drink water and return to work.
- Do not administer salt tablets, stimulants, alcohol, or unapproved medication; do not use fever-reducing drugs as heat-stroke treatment.

After an Event

- Preserve relevant readings, work/rest history, PPE, task and witness information; report injury/near miss and evaluate severe-event reporting requirements.
- Work resumes only after medical/emergency needs are addressed, controls are corrected, crew is rebriefed and management authorizes restart.

6. Cold-Stress Prevention

Assess Cold Risk

- Consider air temperature, wind chill, wetness, contact with cold metal/water, duration, inactivity, fatigue, inadequate food/fluids, remote work and shelter access.
- Cold stress can occur above freezing, especially when wet or windy. Wet feet can develop immersion/trench foot at temperatures as high as 60 F.
- Use National Weather Service wind chill and warnings; establish work/warm-up schedules with qualified guidance for severe exposures.

Clothing and PPE

- Wear loose layers: moisture-managing inner layer, insulating middle layer and wind/water-resistant outer layer. Avoid cotton next to skin when it can remain wet.
- Protect head, face, ears, hands and feet; use insulated waterproof footwear/gloves as needed. Carry dry replacement socks, gloves and clothing.
- Ensure layers do not interfere with high-visibility apparel, hearing/vision, respirator seal, fall protection, machine guarding or dexterity. Replace wet clothing promptly.

Work Controls

- Provide warm, dry shelter and frequent short warm-up breaks; schedule demanding tasks for warmer times; use wind barriers/radiant heat where safe; rotate to warm/dry tasks.
- Use buddy monitoring and reliable communication; avoid lone work in severe cold or remote areas. Allow extra time for stiff controls, reduced dexterity and slippery access.
- Provide potable fluids and encourage regular drinking. Warm nonalcoholic beverages may be offered. Alcohol is prohibited and increases risk.

Heating Equipment

- Use heaters only as approved, ventilated and clear of combustibles. Control carbon monoxide, fire, fuel and electrical hazards; never use an unvented combustion heater in enclosed/confined areas.
- Inspect generators/heaters and maintain exhaust away from occupied areas and air intakes. Follow Fire Prevention, Confined Space and Electrical policies.

7. Cold Injury Recognition and Response

Hypothermia

- Signs include uncontrolled shivering, fatigue, loss of coordination, confusion, slurred speech, slowed pulse/breathing; severe cases may stop shivering and lose consciousness.
- Call 911 for confusion, impaired coordination, unconsciousness, severe shivering or suspected severe hypothermia. Move gently to warm dry shelter, remove wet clothing, insulate and warm the trunk first.
- Give warm sweet nonalcoholic fluids only if fully alert and able to swallow. Do not use direct intense heat, rub/massage limbs or leave the person alone. Begin CPR/AED if needed and trained.

Frostbite

- Signs include numbness, tingling/stinging, waxy or pale/blue skin, and firm/frozen tissue or blisters.
- Move to warmth, protect loosely and obtain medical care. Do not rub, massage, use snow/direct heat or thaw if refreezing is possible. Do not walk on frostbitten feet unless necessary for safety.

Immersion / Trench Foot

- Signs include numbness, tingling, pain, swelling, color change, blisters or bleeding under skin after prolonged wet/cold exposure.
- Remove wet footwear, gently dry and warm, avoid walking, and obtain medical evaluation. Keep feet clean, dry and elevated as directed.

Chilblains and Minor Symptoms

- Repeated cold exposure may cause red, itchy, swollen skin. Stop exposure, warm slowly, keep clean/dry and seek medical advice if blistering, infection or persistent symptoms occur.
- Any worker with cold-stress symptoms stops work and reports immediately; the foreman reassesses coworkers and controls.

Rescue / Transport

- Do not expose rescuers to traffic, water, ice, electrical or weather hazards. Use the site emergency plan and trained resources.
- A severely cold person may be fragile; handle gently and follow EMS instructions. Never assume a cold, unresponsive person cannot be resuscitated.

8. Lightning, Thunderstorms and High Winds

Lightning Planning

- Monitor watches/warnings and thunder/lightning in the work area. Identify substantial enclosed buildings or hard-topped metal vehicles before work; open shelters, tents, bridges, cranes, equipment cabs without proper enclosure, trees and overpasses are not reliable lightning shelters.
- If thunder is heard, lightning is seen/alerted within the site trigger, or the foreman determines danger: stop exposed work and move promptly to designated shelter. Do not wait for rain.
- Remain sheltered at least 30 minutes after the last thunder or lightning alert and until the designated person confirms the threat has passed.

During Lightning

- Stay away from cranes, aerial lifts, piles/rebar, scaffolds, ladders, water, open fields, high points, fences/guardrails, corded equipment and isolated trees.
- If no safe shelter is immediately available, spread out and minimize exposure while moving to shelter; crouching is a last resort, not a safe shelter.
- Call 911 after a strike. Once the area is safe, victims do not retain electrical charge and may be touched; provide CPR/AED/first aid if trained.

High Wind

- Follow manufacturer and engineered limits for cranes, aerial lifts, personnel platforms, scaffolds, formwork/falsework, temporary supports, marine work and material handling. Use the most restrictive limit.
- Account for gusts, wind funneling around structures, sail area, load shape, elevation and tag-line control. An anemometer reading at ground level may not represent boom/deck elevation.
- Stop when wind causes loss of footing, visibility, communication or load/material control, or when debris/temporary systems cannot be secured.

Secure and Restart

- Lower/land booms and loads where safe, stow aerial platforms, secure signs/forms/tarps/materials, remove loose objects and establish exclusion zones.
- Afterward inspect equipment, temporary works, access, power lines, traffic controls and work surfaces before restart.

9. Tornadoes, Severe Storms, Rain and Flooding

Alerts and Decisions

- Distinguish a watch (conditions possible) from a warning (occurring or imminent). Increase monitoring and prepare on a watch; take immediate protective action for a warning or observed threat.
- Foreman identifies shutdown time needed for elevated work, cranes, marine operations, traffic control and remote crews; act early enough to reach shelter.

Tornado / Severe Storm Shelter

- Preferred shelter is a designated sturdy building, lowest level or interior room away from windows. Site trailers, vehicles, tents, bridges and equipment are generally poor tornado shelters.
- If no substantial shelter exists, the site plan shall name the best available alternative and evacuation time; obtain local emergency-management/project guidance before work.
- Account for all employees/visitors at the assembly or shelter location. Do not leave shelter until the all-clear from a reliable source and authorized person.

Heavy Rain and Flooding

- Stop when rainfall, runoff or rising water threatens excavations, cofferdams, falsework, slopes, access, electrical systems, traffic control, water rescue or structural stability.
- Never walk, drive or operate equipment through floodwater of unknown depth/current. Keep employees from drainage structures, washouts, undermined shoulders and energized/downed lines.
- Competent persons reinspect excavations and affected protective/temporary systems after rain before entry. Dewatering does not authorize entry when stability or water-control capacity is uncertain.

Hail / Falling Debris

- Seek shelter from hail, broken limbs, unsecured materials and flying debris. Stop cranes/elevated work and control access.
- Inspect hard hats/PPE, glass, rigging, platforms, traffic devices, structures and equipment for impact damage before reuse.

Emergency

- Call 911 for injury, collapse, entrapment, electrical contact or uncontrolled flooding. Do not attempt trench, water, structural or electrical rescue without trained/equipped responders.

10. Snow, Ice, Visibility and Wildfire Smoke

Snow and Ice

- Treat slick bridge decks, ladders, scaffolds, equipment steps, forms, steel, walkways and roads before use; remove accumulation without creating falling-object, traffic, electrical or overexertion hazards.
- Use three-point contact, suitable traction/footwear and slower movement. Do not chip ice where material can strike traffic/people or damage systems.
- Evaluate snow/ice loading on temporary structures, roofs, forms, barges and equipment with a qualified person where capacity may be affected.

Visibility

- Stop or modify work when fog, snow, rain, smoke, dust, glare or darkness prevents drivers/operators/workers from seeing people, signals, traffic controls, edges, loads or escape routes.
- Add approved illumination, high-visibility apparel, spotters/positive communication and traffic-control devices, but do not continue if controls cannot provide adequate sight distance.

Wildfire Smoke / Air Quality

- Monitor official Air Quality Index (AQI) and PM2.5 information when smoke is present. Consider visible smoke, odor, irritation, strenuous work and worker symptoms; local conditions may differ from regional monitors.
- Prioritize postponing/relocating work, reducing exertion/duration, enclosed filtered air and clean-air breaks. Close doors/windows only when heat and carbon-monoxide hazards remain controlled.
- Respirator use shall follow the Respiratory Protection Policy. Voluntary filtering-facepiece use requires Appendix D information; required use requires medical evaluation, fit testing, training and program administration.
- Stop and obtain medical help for chest pain, severe shortness of breath, confusion, fainting or other serious symptoms; call 911 for an emergency.

Downed Lines and Winter Travel

- Treat every downed line as energized; keep away, warn others and contact utility/911. Remain in vehicle after line contact unless fire forces exit; follow electrical emergency procedure.
- Inspect routes and vehicles; adjust speed, stopping distance and following distance. Suspend travel when road/visibility conditions exceed safe operation.

11. Training, Stop Work, Records and Review

Training

- Before exposure and at least annually as company practice, train on heat/cold/weather hazards, site controls, acclimatization, water/rest/shade, clothing, symptoms, buddy response, shelter, alerts and emergency actions.
- Retrain after policy/task/location change, incident/near miss, observed deficiency or when understanding is inadequate. Provide information in a language and vocabulary employees understand.
- Toolbox talks reinforce but do not replace required first-aid, operator, qualified/competent-person, respirator or equipment training.

Immediate Stop-Work Triggers

- Any heat/cold symptom, altered behavior, collapse or coworker concern; missing water/cooling/warming/shelter; lightning trigger; warning requiring shelter; wind/equipment limit; uncontrolled flooding; unsafe visibility; downed line; failed communication/emergency access.
- Unexpected change in PPE/workload, instrument alarm, monitoring failure, damaged temporary work or weather-related near miss.

Restart

- Only after the threat passes, workers are accounted for, affected people receive care, equipment/site/temporary works are inspected, controls are restored and the authorized foreman reassesses/rebriefs.
- Medical clearance or work restrictions shall be followed after a significant heat/cold illness.

Records

- Retain weather-plan/checklist, monitoring and alerts, work/rest/acclimatization decisions, training, inspection, incident/near-miss, medical/exposure records as applicable and corrective actions.
- Keep confidential medical information separately with access limited as required.

Program Review

- Review at least annually and after illness, severe-weather event, near miss, regulatory change or control failure. Update site triggers and resources from lessons learned.
- Printed copies are uncontrolled unless formally issued. More protective law, owner, project, manufacturer or engineered requirements govern.

Enforcement

- Defeating controls, refusing mandatory breaks/shelter, ignoring warnings or directing work past a stop trigger is subject to corrective action.

12. Field Weather Plan / Checklist

VERIFY	EXPECTATION
Forecast / alerts	Heat, humidity, WBGT need, wind/chill, storms, rain/flood, snow/ice, AQI and visibility checked
Work factors	Workload, direct sun/radiant heat, PPE, elevation, water, traffic, access and duration assessed
People	New/returning workers identified; acclimatization, buddy and close monitoring assigned
Heat controls	Cool potable water, cooling/shade, breaks, schedule/pacing, emergency cooling available
Cold controls	Layers/dry replacements, warm shelter/breaks, wind protection and heater controls available
Weather shelter	Lightning/tornado shelter, travel time, alert method and accountability confirmed
Equipment	Wind limits, securement, shutdown time and post-weather inspection assigned
Flood / ice	Drainage, excavations/cofferdams, slips, roads, electrical and access controls reviewed
Air / visibility	AQI/smoke, illumination, sight distance, traffic and respirator program needs reviewed
Emergency	911 caller, exact location/access, responder meet point, first aid/AED and communication confirmed
Stop / restart	Triggers, authority, all-clear source, inspection and rebrief requirements understood

PROJECT / LOCATION:	DATE / SHIFT:
FOREMAN / MONITOR:	FORECAST / SOURCE / TIME:
CREW / ACCLIMATIZATION NOTES:	SHELTER / EVACUATION:
READINGS / CONTROLS / BREAK PLAN:	CHANGES / CORRECTIVE ACTIONS:

13. Test Your Knowledge

Circle the best answer. Review missed questions with your foreman before performing this work.

1. Which best describes current federal OSHA heat rule status? A. A final fixed-temperature standard B. A proposed rule; recognized hazards still must be controlled C. No employer duty exists	2. What should happen when a worker becomes confused in heat? A. Call 911 and begin rapid cooling B. Give a salt tablet and wait C. Send the worker home alone
3. What is the Rule of 20 Percent used for? A. Lightning distance B. Wind speed C. Gradual heat acclimatization	4. When should lightning-exposed work resume? A. When rain slows B. At least 30 minutes after the last thunder/alert and authorized all-clear C. Immediately after one quiet minute
5. Which is a cold-stress risk? A. Wet clothing and wind B. Dry layers and warm breaks C. Buddy monitoring	6. What is appropriate for suspected frostbite? A. Rub with snow B. Apply direct flame C. Protect, warm safely and obtain medical care
7. What must govern crane/aerial-lift operation in wind? A. The schedule B. Manufacturer/engineered limits and actual conditions C. Ground-level feel alone	8. What should workers do with floodwater of unknown depth/current? A. Stay out B. Cross with a spotter C. Drive through slowly
9. When smoke requires respirator use, what applies? A. Any mask is acceptable B. Fit testing is never needed C. The Respiratory Protection Policy and applicable OSHA requirements	10. Who may stop work for unsafe weather conditions? A. Only management B. Every employee C. Only the weather monitor

EMPLOYEE: _____

DATE: _____

ANSWER KEY: 1-B | 2-A | 3-C | 4-B | 5-A | 6-C | 7-B | 8-A | 9-C | 10-B