RULE-MAKING ORDER

CR-103 (June 2004)
(Implements RCW 34.05.360)

Agency: Department of Labor and Industries

☒ **Permanent Rule**
☐ **Emergency Rule**

Effective date of rule:
Permanent Rules
☒ 31 days after filing.
☐ Other (specify) _____ **(If less than 31 days after filing, a specific finding under RCW 34.05.380(3) is required and should be stated below)**

Effective date of rule:
Emergency Rules
☐ Immediately upon filing.
☐ Later (specify) _____

Any other findings required by other provisions of law as precondition to adoption or effectiveness of rule?
☐ Yes ☒ No If Yes, explain:

Purpose: See Attachment 1

Citation of existing rules affected by this order:
Repealed: 0
Amended: 0
Suspended: 0

Statutory authority for adoption: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060

Other authority : None

PERMANENT RULE ONLY (Including Expedited Rule Making)
Adopted under notice filed as WSR 08-07-098 on March 19, 2008.
Describe any changes other than editing from proposed to adopted version: See Attachment 2

If a preliminary cost-benefit analysis was prepared under RCW 34.05.328, a final cost-benefit analysis is available by contacting:

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EMERGENCY RULE ONLY
Under RCW 34.05.350 the agency for good cause finds:
☐ That immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.
☐ That state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this finding:

Date adopted: June 4, 2008

NAME (TYPE OR PRINT)
Judy Schurke

SIGNATURE
Judy Schurke

TITLE
Director

CODE REVISER USE ONLY

OFFICE OF THE CODE REVISER
STATE OF WASHINGTON
FILED

DATE: June 04, 2008
TIME: 11:00 AM

WSR 08-12-109

(COMPLETE REVERSE SIDE)

Note: If any category is left blank, it will be calculated as zero. No descriptive text.

Count by whole WAC sections only, from the WAC number through the history note. A section may be counted in more than one category.

The number of sections adopted in order to comply with:

Federal statute:	New	0	Amended	0	Repealed	0
Federal rules or standards:	New	0	Amended	0	Repealed	0
Recently enacted state statutes:	New	0	Amended	0	Repealed	0

The number of sections adopted at the request of a nongovernmental entity:

New 7 Amended 0 Repealed 0

The number of sections adopted in the agency's own initiative:

New 7 Amended 0 Repealed 0

The number of sections adopted in order to clarify, streamline, or reform agency procedures:

New 7 Amended 0 Repealed 0

The number of sections adopted using:

Negotiated rule making:	New	0	Amended	0	Repealed	0
Pilot rule making:	New	0	Amended	0	Repealed	0
Other alternative rule making:	New	7	Amended	0	Repealed	0

Purpose:
The sections below describe the information utilized by the Department of Labor and Industries (L&I) to determine the necessity for a rule.

A. Legal Requirements
The Washington State Constitution mandates that "[t]he legislature shall pass laws for the protection of persons working in mines, factories, and other employments dangerous to life or deleterious to health."[1] In enacting ch. 49.17 RCW, Washington Industrial Safety and Health Act (WISHA), the Washington Legislature found "that personal injuries and illnesses arising out of conditions of employment impose a substantial burden upon employers and employees in terms of lost production, wage loss, medical expenses, and payment of benefits under the industrial insurance act. Therefore, in the public interest for welfare of the people of the state of Washington and in order to assure, insofar as may be reasonably possible, safe and healthful working conditions for every man and woman working in the state of Washington, the legislature…in keeping with the mandates of Article II, section 35 of the state Constitution, declares its purpose by the provisions of this chapter to create, maintain, continue, and enhance the industrial safety and health program of the state…"[2]

WISHA mandates that the Director of L&I shall "[p]rovide for the promulgation of health and safety standards and the control of conditions in all work places concerning…harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity."[3]

In *Rios v. Dept. of L&I*, the Washington Supreme Court concluded that L&I must consider rulemaking for recognized work place hazards.[4]

B. Evaluation of Current Rules
On July 18, 2005, a farm worker collapsed while cutting weeds with a machete in hop fields near Yakima. He died, and the coroner ruled that the cause of death was heat stroke. L&I investigated the death and later cited and fined the company for an inadequate safety program, not providing drinking water, and lack of training for workers. The safety program should have included a plan to prevent heat stress by

[1] Wash. Const. art. 2 § 35.
[2] RCW 49.17.010.
[3] RCW 49.17.050(4).
[4] *Rios v. Department of Labor & Industries*, 145 Wn.2d 483, 500, 39 P.3d 961 (2002)

providing rest breaks, shade, worker hydration and administrative controls such as a work-rest regimen.

The citation was issued December 23, 2005, and the subsequent appeal was affirmed with a negotiated penalty of $3,000. L&I did not seek criminal sanctions since the violations cited were not considered willful (a prerequisite for a referral to a County Prosecuting Attorney).

Immediately following this workplace death, L&I heard from farm worker advocates that they were very concerned about this fatality and that they wanted an emergency rule issued similar to California's emergency heat-stress rule. L&I responded by issuing a hazard alert to the agriculture industry, and then proceeded with a study[5] to determine what was needed to protect workers for the 2006 summer season.

L&I reviewed the workers' compensation injury and illness claims from 1995 through 2005 and found that one other person had died from heat stress in Washington (a lawn-service employee working in the Yakima area). The study also found approximately 450 workers' compensation claims for heat-related illness during the same time period. These fatalities may have been prevented with rules that are more protective of workers.

Based on this information, L&I evaluated its existing rules to determine if they adequately addressed heat-related illness. These rules are available in Appendix 1: Pertinent Rules for Heat-Related Illness. After this evaluation, L&I believed that these fatalities and illnesses may have been prevented by adopting a consolidated set of rules specifically addressing heat-related illness issues.

C. Petition for Rulemaking

On January 27, 2007 the Department received the following petition - "Petition for Rulemaking: Permanent Rules Protecting Outdoor Employees From Heat Illness."

The petitioner, Erasto Garcia, and his attorneys, Candelaria Murillo and Daniel G. Ford of Columbia Legal Services, petitioned the Department to adopt permanent rules protecting outdoor workers from heat illness.

They argued permanent rules on heat illness are necessitated by: "(i) the severity of the health effects associated with occupational heat illness, including three documented heat-related illness deaths in Washington State in the last three summer seasons; (ii) the threat of exposure inherent in working outdoors during the hotter months in

[5] Bonauto D, Anderson R, Rauser E, Burke B. (2007). "Occupational Heat Illness in Washington State, 1995-2005," *American Journal of Industrial Medicine*. A summary of the article is provided below.

Washington; and (iii) the significant risk of heat illness among farm workers and other outdoor workers."[6] As set forth more fully below, an estimated 6 million workers in United States are exposed to occupational heat stress.

In addition, the petitioner argued that heat illness prevention is feasible, has been determined to be effective in reducing outdoor workers' exposure to heat illness, and has been mandated in California. The petitioner further argued the Washington Industrial Safety and Health Act (WISHA) requires L&I to adopt feasible and necessary rules to protect the health and lives of Washington workers.

The petitioner provided a suggested draft rule for L&I's consideration. L&I responded by clarifying that a CR-101 (Preproposal Statement of Inquiry) had been filed communicating L&I's intention to initiate a permanent rulemaking.

D. Health Effects Associated with Heat-Related Illness

Heat-related illness is a hazard recognized by the Occupational Safety and Health Administration (OSHA), National Institute for Occupational Safety and Health (NIOSH), Center for Disease Control (CDC), as well as industry associations and employee representatives. The numbers of employees potentially exposed to heat-related illness hazards include many industries and regional areas of the State. L&I also considered the severity of the hazard. Heat-related illness can cause serious injuries including death. The extract below explains the health effects of heat-related illness:

[6] Petition for Rulemaking: Permanent Rules Protecting Outdoor Employees from Heat Illness, p. 1, ¶ 1.2.

Minor heat illnesses include heat cramps and heat exhaustion. Major heat injuries include EHI, exertional rhabdomyolysis, and heat stroke. The diagnostic categories of heat exhaustion, EHI, and heat stroke have overlapping features and should be thought of as different regions on a continuum rather than discrete disorders, each with its own distinct pathogenesis.

Figure 4-1 depicts the spectrum of heat casualties in terms of severity and categories of physiological dysfunction (hyperthermia, dehydration, nephropathy, cell lysis, encephalopathy). Whatever category is diagnosed, all are related to elevation of body core temperature and the metabolic and circulatory processes (including change in fluid and electrolyte balance) that are brought about by heat strain from exercise, environment and the body's thermoregulatory response.

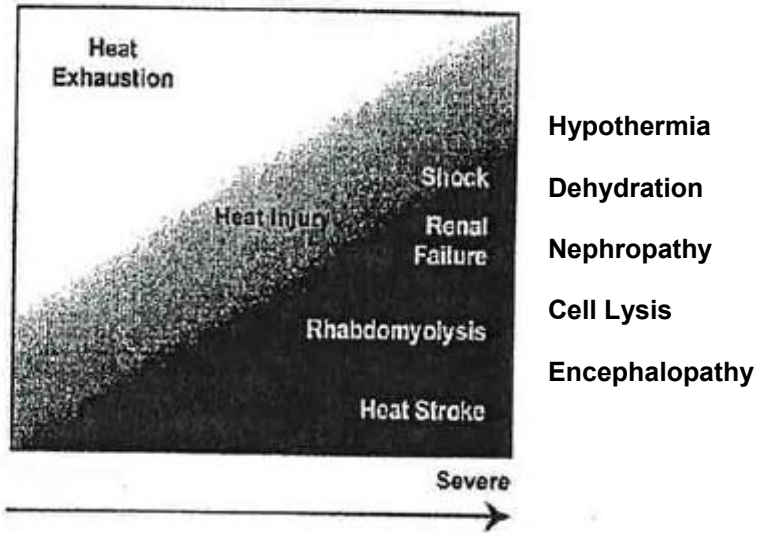

Figure 4-1. Spectrum of heat casualties, encompassing the continuum of mild (heat exhaustion) to sever (heat stroke) with association categories of physiologic dysfunction.[7]

E. Fatality Summaries

During the review of occupational heat-related illness claims in Washington State, L&I discovered four fatalities that occurred as a result of heat-related illness. A summary of these fatalities is presented below.

[7] Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.

Yakima, WA – May 1997
A 35-year old male, previously employed indoors, died of heat stroke during his first day of employment outdoors mowing lawns on May 12, 1997. The patient's internal temperature was 111°F. The high temperature for that day was 88°F. The employee had been mowing lawns and in the afternoon he was feeling tired and he was told to go to the company truck to rest. When another employee checked on him, he was talking to himself and would not respond to his co-worker. His brother was called over and he could not get a response so 911 was called. He died shortly after arriving at the hospital after going into full cardiopulmonary arrest. The official cause of death was listed as hyperthermia. His brother stated that the employee did not drink fluids readily since the water that he had brought had become hot.

Vancouver, WA – July 2004
A 39-year old male roofer was working on a roof in the sun doing tar work when he collapsed on July 12, 2004. The day's temperature was about 90 degrees at the time of the incident. The employee was minimally responsive when medics arrived and had a rectal temperature of 108 degrees when measured at the hospital. The employee had an underlying alcoholism problem and went through alcohol withdrawal while in the hospital. The diagnoses were heat stroke with dehydration, shock liver, and alcoholism. He was released from the hospital on July 16, 2004 but had on going problems with feeling weak and bloated, dizziness, short-term memory lapses and multiple medical problems related to his liver disease and associated problems. He entered an alcohol treatment program and was diagnosed with severe preexisting liver disease that was exacerbated by the industrial injury. The employee was placed on a liver transplant list. On May 18, 2006 the employee passed away from liver disease complications.

Moxee, WA - July 2005
A 64-year old male, cutting in a hop field where he had reportedly worked for 40 years, was found unconscious. It is unknown how long he was down before he was discovered. Approximately 8 to 10 minutes later the EMTs arrived and found no vital signs. The EMTs revived a heart rhythm while he was being transported to the hospital where he died several hours later. The death was recorded as heat stroke. The high temperature that day was 99°F. He arrived 5 – 10 minutes late for work that day, uncharacteristic for him, due to not feeling well. He had brought 2 gallons of water with him that day but had drank all of it by lunchtime. The workers normally brought their own water to work. The foreman had not brought water for the employees that morning. The employees would work down rows individually and would check in with each other at the end of a row. The employees were allowed to take breaks whenever they needed one. The employees were paid by how many rows they completed versus being paid by time. Each row was approximately 350 feet long (a little longer than a football field). The decedent had completed one row already that day. He was found approximately 1/3 down a row between 11:15 and 11:30 a.m. The employees had taken a break right

before he was found. The employer did not provide heat stress training. The employer did place a reminder sticker to increase fluid intake in hot weather on the paychecks.

Carson, WA – June 2006
A 27 year old male was working with a utility contractor laying an underground water line along a public road on June 26, 2006. The employee was working in the trench with the pipe placement plus jumping out to retrieve tools and materials. Between 2:30 and 3:00, the individual became disoriented and was told to rest in the shade. Soon after, he lost consciousness. He never regained consciousness and died on July 1, 2006. His date of hire was June 16, 2006. The temperature ranged from 82 to 105 degrees Fahrenheit that day and the employee's temperature was 107 degrees when taken by EMS upon arrival.

F. Hospitalization Summaries
During L&I's review of heat-related illness claims in Washington State, many cases of hospitalization were discovered. The summaries below provide an overview of 2 cases that were brought to L&I's attention during the rulemaking process.

Seattle, WA – June 2000
A 47-year old male firefighter suffered heat-related illness and lost consciousness on a ladder while conducting a training exercise. The patient was holding a weighted dummy. A fellow firefighter tried to hold him up on the ladder but was unsuccessful. The patient fell approximately 35 feet to the ground below. Although the patient did not pass away from his injuries, he was determined to have a permanent partial disability as a result of the incident and was unable to return to work in his current position.

Southwestern Washington – August 1999
A 23-year old male suffered heat stroke during his first day of employment as a choker setter for a logging operation on August 23, 1999. His body temperature at the time he was admitted to the hospital was 106.7°F. Reports suggested that he had been prevented by his supervisor from drinking water. Severe dehydration, reduced ability of the body to cool itself due to heavy protective clothing, and a high metabolic (work) heat load combined to overwhelm this individual's thermoregulatory responses. Although the patient survived, he continued to suffer from liver dysfunction and other chronic health issues resulting from the incident. The high temperature on the date/place of occurrence could not be determined.

G. Injury and Illness Claim Review

L&I reviewed accepted claims resulting from heat-related illness. Although L&I believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors L&I considered when evaluating the need to initiate rulemaking to address this hazard. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders).

The Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims in Washington State. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.

This report has been published as follows: Bonauto D, Anderson R, Rauser E, Burke B. (2007). "Occupational Heat Illness in Washington State, 1995-2005," *American Journal of Industrial Medicine*. A summary of the article is provided below.

An analysis of HRI cases utilizing workers' compensation data has not been previously reported. Authors used both ICD-9 and ANSI Z16.2 codes with subsequent medical record review to identify accepted Washington State Fund workers' compensation HRI during the 11-year study period. NAICS industries with the highest workers' compensation HRI average annual claims incidence rate were Fire Protection 80.8/100,000 FTE, Roofing Construction 59.0/100,000 FTE, and Highway Bridge and Street Construction 44.8/100,000 FTE. HRI claims were associated with high outdoor ambient temperatures.

Exertional heat stroke occurs sporadically in individuals with high metabolic output rates and is most prevalent during hot and humid weather. Exertional HRI results from high metabolic demands often in combination with hot environmental conditions.

HRI claims were identified by a two step process. First, workers' compensation claims were identified using data systems definitions (selected ICD-9 codes and ANSI-Z16.2 codes). Identified claims underwent physician review to determine if the claim was filed for a HRI. This study was restricted to State Fund claims because ICD-9 codes are not available for self-insured claims.

Of the 946 claims identified using the HRI ICD-9 codes or ANSI Z16.2 type code 151, 492 were HRI claims after medical review of the electronic claim text fields and medical records. Subtracting out employers with a physical location outside of Washington identified 480 HRI claims occurred during the study period.

Of the 480 HRI claims 442 (92.1%) were classified as "non-compensable" (medical only) and 38 (7.9%) were considered "compensable" (greater than 3 lost work days).

The average age of an HRI claimant was 35 years old and the median age was 34 years. The proportion of HRI claimant under 25 years old was significantly more than the proportion of all State Fund claimants under 25 years old. The average age of the worker with an HRI compensation claim was 41 years which is comparable to the average age for all State Fund compensable claimants at 39 years old.

The cumulative cost for the 11-year period for all HRI claims was $895,196 and ranged form $0 to $216,449. Thirty-four claims received time loss compensation ranging from 1 to 659 days.

HRI claim incidence rates by industry sector were highest in Construction at 12.1 per 100,000 FTE, Public Administration at 12.0 per 100,000 FTE, Forestry, Fishing, and Hunting at 5.2 per 100,000 FTE. The distribution of HRI claims differs from that of all State Fund accepted claims with an excess proportion of claims occurring mostly in construction and Public Administration.

Of the 480 claims, 377 (78.5%) occurred as a result of outdoor work. In construction16/159 (10.1%) claims were compensable (lost work days greater than 3 days), while in Agriculture, Forestry and Fishing 7/33 (21.2%) claims were compensable. None of the 85 claims in the Public Administration Sector were compensable.

NAICS Industries with the highest annual claim incidence rates include Fire Protection at 80.8 per 100,000 FTE, Roofing Construction 59.0 per 100,000 FTE and Highway, Street and Bridge Construction at 44.8 per 100,000 FTE. In Roofing Construction, 18.5% (5/27) of the claims were compensable.

HRI claim rates for the third quarter, the reporting period matching the greatest level of exposure to elevated environmental temperatures, far exceed the annual HRI claim incidence rate. The highest third quarter rates by NAICS Industry were for Roofing Construction at 161.2 per 100,000 FTE and for Fire Protection at 158.8 per 100,000 FTE.

Compensable claims were most common in Roofers and Miscellaneous Agricultural workers were 5 of 23 (21.7%) and 4 of 20 (20%) were compensable, respectively.

The average number of HRI claims per year was 44 and the annual number of claims ranged from 28 to 73. From May through September, 456 (95.0%) HRI claims

occurred. However, 82.7% of the HRI claims occurred during the 3 months of June, July, and August.

Eighty-eight days during the study period had multiple HRI claims, a cluster, and represent 260 claims or 54.2% of all claims. Eighty-three of the 88 days with a cluster of HRI claims were in June through August. The number of HRI claims in a cluster ranged form 2 to 15 claims. Fifty-five of the 103 (53.4%) indoor claims and 205 of the 377 (54.4%) outdoor claims were part of a cluster.

There were 415 individual employer accounts with an accepted HRI claim during the study period. The number of claims per employer ranged from 1 to 8. Forty employer accounts had more than one HRI claim during the study period. Only two employer accounts had multiple HRI claims in a single day.

Hour of injury was determined for 399 of the 480 claims. Of the 399 claims, 358 (89.7%) occurred between 10 am and 6 pm and 80.4% were from heat exposure outdoors. Approximately 24% of all State Fund workers' compensation claims occur in Eastern Washington but the area accounted for 220 (45.6%) of the HRI claims.

The daily max temperature interquartile range for all HRI claims was 77- 94°F (i.e. 25% of the HRI claims occurred below 77°F, 25% occurred with temperatures above 94°F and the remaining 50%, the interquartile range, were between those two temperatures). The average maximum temperature for the 308 days in which an HRI claim occurred was 80.8°F.

The geographic distribution of claims, Eastern Washington compared to Western Washington, on days with multiple HRI claims compared to days with a single HRI claims did not significantly differ. However, there was a statistically significant difference between the average max temperature for days in which a single claim occurred (Tmax average 80.4°F) and the average Tmax for days with multiple HRI claims (Tmax avg. 88.5°F). When reviewing the daily Tmax for the 3 days preceding the HRI claim, 200 of the 480 HRI claims (41.7%) were noted to have a 10 degree increase in the Tmax.

There were 106 (22.1%) HRI claims here medication use or a medical condition may have played a contributing role to the development of the HRI. Twenty workers reported a history of a previous HRI or treated dehydration but no HRI claimant had filed multiple HRI claims during the study period.

Of the 480 HRI claims, 308 had information on the duration of employment. Of the 308, 43 (14%) claimants reported employment of 1 week or less. For all State Fund claims,

the proportion of claimants reporting employment of 1 week or less before their day of injury was 3.3%.

Industries with the highest claim rates reflect those with increased outdoor work exposure. Claims occurring in an indoor environment also were common during the summer months, suggesting a relationship with outside temperatures.

The most apparent risk factor for increased Washington incidence of HRI is higher outdoor temperatures experienced from May through September. It was found that 95% of total HRI claims occurred during these months. Similar results are apparent for other occupational and military studies. July is the month associated with the highest incidence rates for all three studies.

Data suggests a dose-response effect of environmental ambient temperature on HRI claims incidence. The hottest parts of the day, 10 am to 6 pm, coincided with the greatest number of HRI claims. Other data suggest that high exertion levels, alone or in conjunction with high ambient temperatures, increase the risk for HRI. Lack of acclimatization is a well known risk factor for HRI. This data indicates HRI claims occurring within 1 week of employment occurred more than four times as frequently as workers suffering injuries from all causes within that time period.

Cases associated with a cluster of claims were more likely associated with variation in temperature during the days preceding the injury. Thus poor acclimatization may play a larger role in occupational HRI cases than can be measured using the data available.

Awareness of the medical conditions, medications or personal risk factors that place an individual at risk for HRI should be a required component of a training program.

The limitations to this descriptive study include the likely under reporting of HRI to the workers' compensation system and the under recognition of HRI by workers, employers and the medical community. There is a possibility of misclassification of HRI workers' compensation claims to other diagnosis if the injury was poorly described on the workers' compensation claim form.

The current study and work of others indicate that increased summer time outdoor temperatures are associated with higher exertional HRI incidence rates. Consequently, education, planning, and resources aimed at prevention should be in place prior to significant seasonal exposure.

Intervention studies suggest the value of anticipating high temperatures, assessing environmental conditions, and implementing preventative changes that reduce metabolic heat loading when necessary. Current military HRI prevention practices

include considerations such as heat illness recognition and prevention training; WGBT based environmental assessment, guidelines for work/rest cycles, and guidelines for water intake.

Optimally, employers should have a comprehensive heat stress prevention program that identifies heat stress hazards, assess the hazards in terms of severity and probability, implements the appropriate controls, and continuously evaluates the effectiveness of these controls. Thus, components of an employers' written comprehensive heat illness prevention program will include engineering controls, appropriate work practices for environmental conditions, employee training, personal protective equipment, and preventive medical practices.

The most apparent association for exertional HRI is exposure to increased ambient temperatures during summer months. Personal risk factors including co-morbid medical conditions, medications, illicit drug and alcohol use and limited acclimatization were present in some cases. Incorporation of prevention programs into the workplace may increase recognition and promote the prevention of HRI.

H. Chronological Summary of Outdoor Heat Exposure Rulemaking Project

July 2005	65 year-old male dies cutting weeds in a hop field near Yakima on July 18, 2005. Temperature was in the 90's.
	Representative Phyllis Kenney and Mexican Consulate work with L&I Director Gary Weeks on responsive action to death.
December 2005	Department distributes first draft HRI rule for stakeholder comment.
January 2006	Department meets with stakeholders to discuss draft rule language.
February 2006	Department discusses the HRI draft with the WISHA Advisory Committee.
March 2006	Department distributes an updated HRI draft and works with stakeholders on language.
June 2006	Department adopts an emergency rule on June 1, 2006. The emergency rule changes language in an existing rule in WAC 296-62-09013 to apply the requirement to the outdoor environment. The rule is in effect for 120 days.
May 2006	41 year-old male dies after experiencing heat stroke in July 2004. His death was determined to be a result of the heat stroke event.

July 2006	27 year-old male dies after experiencing HRI on June 26, 2006 laying pipe in near Vancouver, WA. Temperature was approximately 100ºF.
September 2006	The 2006 emergency rule expires on September 28, 2006.
November 2006	Department meets with stakeholders to discuss 2006 emergency rule.
December 2006	The Department files a CR-101 (preproposal) on December 19, 2006.
January 2007	Department receives a petition for rulemaking from Columbia Legal Services.
February 2007	Department meets with stakeholders to discuss draft HRI rule.
April 2007	Department distributes draft emergency rule to stakeholders on April 16, 2007. Training materials and the training course schedule was also distributed.
June 2007	Emergency rule is adopted on June 5, 2007 with enforcement delayed until June 18, 2007 and July 1, 2007. The rule is in effect for 120 days.
August 2007	Department begins to solicit comments of the emergency rule language.
September 2007	Department holds stakeholder meetings on the draft language around the state.
October 2007	The 2007 emergency rule expires on October 3, 2007.
November 2007	Department meets with a business-labor committee to discuss draft rule language.
March 2008	Department files a proposed HRI rule on March 19, 2008 and begins accepted written comment on the proposed language.
April 2008	Department holds a public hearing in Tumwater, WA on April 28th.
	Department holds a public hearing in Bellingham, WA on April 29th.
	Department holds a public hearing in Yakima, WA on April 30th.
	Department holds a public hearing in Richland, WA on April 30th
May 2008	Department holds a public hearing in Spokane, WA on May 1st.
	Department holds a public hearing in Seattle, WA on May 2nd.

	Department extends comment period from May 2, 2008 to may 9, 2008.
June 2008	Department adopts a permanent outdoor heat exposure rule.

Rule Requirement of the Proposed Rule Compared to the Adopted Rule

The table below provides a summary of the changes made from the proposed version of the rule to the adopted version.

	Proposed rule	Recommendations for adoption
Scope	• Applied to employers with outdoor employees and exempts employees working outdoors for 15 minutes or less in an hour over the entire work-shift (incidental exposure). • Provided temperature triggers for when the requirements for drinking water and responding to signs and symptoms apply.	• Updates the language to limit application of all of the rule requirements when the temperature action levels are met or exceeded. • Adds language limiting the application of the rule from May 1 through September 30 annually. • Removes half of the temperature action levels to streamline application. • Adds language to clearly exempt employees with incidental exposure from the rule requirements. • Clarifies language as a result of comments received.
Definitions	• Provided definitions of “environmental risk factors,” “heat-related illness,” “heat-related illness hazard,” “incidental exposure,” “outdoor environment,” and “personal factors…”	• Removes definitions of “heat-related illness hazard,” “incidental exposure,” and “personal risk factors…” • Adds definitions of “double-layer woven clothing,” and “vapor barrier clothing.” • Updates the definition of “drinking water” to clearly allow the use of electrolyte beverages. • Clarifies language as a result of comments received.
Employer and employee responsibility	• Required a specific written program to address HRI if employees work outdoors. • Provided specific elements that the program must address.	• Changes language to allow employers to address HRI in their Accident Prevention Program (currently required). • Removes requirements for specific elements of the written program. • Clarifies language as a result of comments received.
Drinking water	Required employers to provide 1 quart of water per hour per employee when the temperature triggers are met or exceeded.	Clarifies language as a result of comments received.
Responding to signs and symptoms…	• Applied to employers with employees working in the outdoor environment for more than 15 minutes in an hour. • Required employees showing signs or demonstrating symptoms of HRI to be relieved from duty when temperature triggers are met or exceeded.	• Applies to employers with employees working in the outdoor environment for more than 15 minutes in an hour and temperatures meet or exceed the temperature action levels in Table 1. • Removes language providing examples which caused confusion.
Information and training	• Applied to employers with employees working in the outdoor environment for more than 15 minutes in an hour. • Required annual training on HRI if employees work outdoors. • Provided training topics for employees and supervisors.	• Applies to employers with employees working in the outdoor environment for more than 15 minutes in an hour and temperatures meet or exceed the temperature action levels in Table 1. • Streamlines the training topics by removing topics that are covered by other rules or will have less impact on HRI prevention. • Clarifies rule language as a result of comments received.