June 3, 2015

UNIVERSITY OF WASHINGTON
UW MEDICAL CENTER
Office Of Risk Management
Po Box 351276
Seattle, WA 98195

Inspection: 317616910
UBI: 178019988
Region: 2-Health
Inspector ID: D4344
Reference: 204376933

Dear Employer:

Enclosed are the results of the safety and health inspection of your workplace. This packet contains:

- **Citation Invoice** – The total assessed penalty is $54,000.00
- **Citation and Notice of Assessment** – Washington Administrative Code (WAC) Violations.
- **Employer Certification of Abatement instruction and form** - Correct all violations and return written verification or additional penalties may result.
- **Employer Appeal Rights** – You have 15 working days to appeal this citation.

You must immediately post this Citation and Notice of Assessment at or near where the violation(s) occurred, where employees can easily find and read it, or where employees normally receive posted information. All postings must remain until you have corrected all violations, or for three working days, whichever is longer. “Working day” means a calendar day, except Saturdays, Sundays and all legal state holidays.

Because this inspection is public information, the result will be posted online 30 days after the above date by the Department of Labor & Industries. You may view it at [https://secure.lni.wa.gov/verify/](https://secure.lni.wa.gov/verify/).

If you have questions, call the compliance supervisor, Mac Davis, at (206) 515-2865.

Respectfully,

Anne F. Soiza
Anne F. Soiza
Assistant Director
Division of Occupational Safety & Health

Enclosure(s)
# Invoice

**Inspection:** 317616910

<table>
<thead>
<tr>
<th>UBI:</th>
<th>178019988</th>
<th>Issued:</th>
<th>June 3, 2015</th>
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<td>Legal Name:</td>
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<td>Opening Conference:</td>
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<td>DBA Name:</td>
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<td>1959 Ne Pacific St, Seattle, WA, 98195</td>
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## Summary of Assessed Penalties Due
The Citation and Notice of Assessment includes a full description of each violation.

<table>
<thead>
<tr>
<th>Violation Item</th>
<th>Violation Type</th>
<th>WAC</th>
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<th>Penalty Amount</th>
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**Total Penalty Due** $54,000.00

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**Payment Information**

*Payment is due 15 working days from receipt of this citation.*

Make check payable to the Department of Labor and Industries.

Write Inspection number 317616910 on the check and mail to:

**Attn:** DOSH Cashier  
Department of Labor and Industries  
PO Box 44835  
Olympia, WA 98504-4835  
Or deliver to: Any L&I office
Message

Operating cooling towers without effective (working) water treatment and regular maintenance poses a significant risk of exposure to Legionnaires' disease bacteria (LDB) for patients, members of the public, and employees. Exposure to LDB can cause Legionnaires' disease, a severe, potentially fatal form of pneumonia, or Pontiac fever, a milder, flu-like illness.
Violation 1 Item 1 Violation Type: Serious
WAC 296-809-20002

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not identify all permit-required confined spaces in the workplace:

INSTANCE ONE: EA mechanical room 2EA000207 HVAC plenum
INSTANCE TWO: EB120 mechanical room 2EP020202 & 2EP020203 HVAC plenums
INSTANCE THREE: EB246 mechanical room 2EN010203 HVAC plenum

NOTE: UW MEDICAL CENTER management and employees were also not aware that the following are permit-required confined spaces, though they are listed as such in the Inventory of Confined Spaces, 2007 survey (revised 2015): pumphouse water intake pit for lake chiller pumps, S1 garage cooling towers (three), EA exhaust air plenum cooling tower, NW133 tower mechanical room cooling tower, and SA loading dock Sanipak autoclave chambers (two).

Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

Definitions:

A permit-required confined space or permit space is a confined space that has one or more of the following characteristics capable of causing death or serious physical harm:

* Contains or has a potential to contain a hazardous atmosphere.
* Contains a material with the potential for engulfing someone who enters the space.
* Has an internal configuration that could allow someone entering to be trapped or asphyxiated by inwardly converging walls or by a floor, which slopes downward and tapers to a smaller cross-section.
* Contains any physical hazard. This includes any recognized health or safety hazards including engulfment in solid or liquid material, electrical shock, or moving parts.
* Contains any other recognized safety or health hazard that could either:

  Impair the ability to self rescue;
  OR
  Result in a situation that presents an immediate danger to life or health.

A nonpermit confined space is a confined space that does NOT contain actual hazards or potential hazards capable of causing death or serious physical harm.

The list of permit-required confined spaces (PRCSs) identified in violation instance descriptions is not exhaustive and is meant to be representative of the types of PRCSs which may exist at UW MEDICAL CENTER. It is recommended that UW's Environmental Health and Safety Department is consulted during development of a comprehensive confined space program.

Correct by: 6/16/2015
Citation and Notice of Assessment
Inspection: 317616910

Assessed penalty: $4,500.00
Violation 1 Item 2  
Violation Type: Serious 
WAC 296-809-20004(1) 

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not inform affected employees about the existence, location, and danger of permit-required confined spaces in its workplace by posting warning signs or using any other equally effective means to inform employees. Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

INSTANCE ONE: Pumphouse water intake pit for lake chiller pumps
INSTANCE TWO: S1 garage cooling towers (three)
INSTANCE THREE: EA exhaust air plenum cooling tower
INSTANCE FOUR: NW133 tower mechanical room cooling tower
INSTANCE FIVE: SA loading dock Sanipak autoclave chambers (two)
INSTANCE SIX: EA mechanical room 2EA000207 HVAC plenum
INSTANCE SEVEN: EB120 mechanical room 2EP020202 & 2EP020203 HVAC plena
INSTANCE EIGHT: EB246 mechanical room 2EN010203 HVAC plenum

The employer must provide information about confined spaces as follows:

* Make available to affected employees and their authorized representatives all information and documents required by this chapter.
* Inform affected employees about the existence, location, and danger of any permit-required confined spaces in the workplace by:

Posting danger signs; or
Using any other equally effective means to inform employees.

****NOTE****
A sign reading 'Danger-Permit Required Confined Space, DO NOT ENTER' or using pictures or other similar wording employees can understand would satisfy the requirement for a sign.

The list of permit-required confined spaces (PRCSs) identified in violation instance descriptions is not exhaustive and is meant to be representative of the types of PRCSs which may exist at UW MEDICAL CENTER. It is recommended that UW's Environmental Health and Safety Department is consulted during development of a comprehensive confined space program.

Correct by: 6/16/2015  
Assessed penalty: $4,500.00
Violation 1 Item 3  
Violation Type: Serious

WAC 296-809-30002

UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not develop a written permit required confined space (PRCS) program that describes the means, procedures, and practices used for the safe entry of permit-required confined spaces, as required by this chapter. Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

The following elements must be included, when applicable, to your confined space entry program:

- Documentation of permit entry procedures.
- Documentation used for alternate entry procedures.
- How to reclassify permit-required confined spaces to nonpermit spaces.
- Designation of employee roles, such as entrants, attendants, entry supervisors, rescuers, or those who test or monitor the atmosphere in a permit-required space.
- Identification of designated employee duties.
- Training employees on their designated roles.
- How to identify and evaluate hazards.
- Use and maintenance of equipment.
- How to prevent unauthorized entry.
- How to coordinate entry with another employer.
- How to rescue entrants.

Correct by: 6/16/2015
Assessed penalty: $4,500.00
Violation 1 Item 4  
Violation Type: Serious

WAC 296-809-40002

UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not provide training to employees involved in permit-required confined space activities, so that they acquire the understanding, knowledge and skills necessary to safely perform assigned duties. Entry into permit-required confined spaces without adequate training can result in serious injury or death.

You must:

* Provide training to each employee involved in permit-required confined space activities, so they acquire the understanding, knowledge and skills necessary to safely perform assigned duties.

Establish employee proficiency in their confined space duties.
Introduce new or revised procedures as necessary.

Note:
* Employers can determine employee proficiency by:

Observing employee performance during training exercises that simulate actual confined space conditions.
A comprehensive written examination; or
Any other method that is effective for the employer.

You must:

* Provide training at the following times:

Before an employee is first assigned to duties covered by this chapter.
Before there is a change in an employee's assigned duties.
When there is a permit-required confined space hazard for which the employee has not already been trained.
If you have reason to believe that there are either:

Deviations from your procedures for permit-required confined space entry;
or
Employee knowledge or use of your procedures is inadequate.

Correct by: 6/16/2015
Assessed penalty: $4,500.00
Violation 1 Item 5  

WAC 296-809-50002

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not implement procedures for entry permits for entry into permit-required confined spaces:

INSTANCE ONE: Pumphouse water intake pit for lake chiller pumps
INSTANCE TWO: SA loading dock Sanipak autoclave chambers (two)
INSTANCE THREE: EA mechanical room 2EA000207 HVAC plenum
INSTANCE FOUR: EB120 mechanical room 2EP020202 & 2EP020203 HVAC plenums
INSTANCE FIVE: EB246 mechanical room 2EN010203 HVAC plenum

Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

You must:

* Identify and evaluate, before employees enter, potential hazards from:

The permit-required confined space; and
The work to be performed.

* Complete an entry permit before entry is authorized, documenting that you have completed the means, procedures and practices necessary for safe entry and work.
* Make sure that entrants or their representatives have an opportunity to observe any monitoring or testing, or any actions to eliminate or control hazards, performed to complete the permit.
* Identify the entry supervisor.
* Make sure the entry supervisor signs the entry permit, authorizing entry, before the space is entered.
* Make the completed permit available to entrants or their authorized representatives at the time of entry.

Do this by either posting the completed permit at the entry location, or by any other equally effective means.

* Make sure the duration of the permit does not exceed the time required to complete the assigned task or job identified on the permit.
* Note any problems encountered during an entry operation on the permit. Use the information to make appropriate revisions to your program, entry operations, means, systems, procedures and practices.

Correct by: 6/16/2015
Assessed penalty: $4,500.00
**Violation 1 Item 6**  
Violation Type: Serious  

WAC 296-809-50004

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not ensure that permits were used for entry into permit-required confined spaces:

INSTANCE ONE: Pumphouse water intake pit for lake chiller pumps  
INSTANCE TWO: SA loading dock Sanipak autoclave chambers (two)  
INSTANCE THREE: EA mechanical room 2EA000207 HVAC plenum  
INSTANCE FOUR: EB120 mechanical room 2EP020202 & 2EP020203 HVAC plenums  
INSTANCE FIVE: EB246 mechanical room 2EN010203 HVAC plenum

Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

You must:

* Make sure your entry permit identifies all of the following that apply to your entry operation:
  
The space to be entered.  
Purpose of the entry.  
Date and the authorized duration of the entry permit.  
Hazards of the space to be entered.  
Acceptable entry conditions.  
Results of initial and periodic tests performed to evaluate and identify the hazards and conditions of the space, accompanied by the names or initials of the testers and by an indication of when the tests were performed.  
Appropriate measures used before entry to isolate the space, and eliminate or control hazards.

Examples of appropriate measures include the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit-required confined spaces.

- Names of entrants and current attendants:

Other means include the use of rosters or tracking systems as long as the attendant can determine quickly and accurately, for the duration of the permit, which entrants are inside the space.

The current entry supervisor.  
A space for the signature or initials of the original supervisor authorizing entry.  
Communication procedures for entrants and attendants to maintain contact during the entry.  
Equipment provided for safe entry, such as:

Personal protective equipment (PPE).  
Testing equipment.  
Communications equipment.  
Alarm systems.
Rescue equipment.

Rescue and emergency services available, and how to contact them. Include equipment to use, and names and contact information.

Other information needed for safety in the particular confined space.

Additional permits issued for work in the space, such as for hot work.

Correct by: 6/16/2015
Assessed penalty: $4,500.00
Violation 1 Item 7

WAC 296-809-50010

In at least the following instance, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not ensure that proper equipment was provided, maintained, and used for permit-required confined space entry: employees were not provided with fall protection equipment, a ladder for ingress and egress, and/or a personal flotation device while entering the pump house water intake pit.

NOTE: other equipment may include non-entry rescue equipment. During entry of HVAC plenums, proper equipment may include lock bars or blocks for blocking HVAC fans subject to rotation due to air movement through a plenum, fall protection equipment, etc.

Uncontrolled entry into permit-required confined spaces can result in serious injuries and loss of life.

You must:

* Provide the equipment in Table 2, when needed and at no cost to employees.
* Make sure that employees use provided equipment properly.
* Maintain the provided equipment.

Table 2

Equipment Provided to Employees at No Cost

Type of equipment
Testing and monitoring equipment
For
Evaluating permit-required confined space conditions

Type of equipment
Ventilating equipment
For
Obtaining and maintaining acceptable entry conditions

Type of equipment
Communication equipment
For
Effective communication between the attendant and the entrants and to initiate rescue when required

Type of equipment
Personal protective equipment (PPE)
For
Protecting employees from hazards of the space or the work performed
Type of equipment
Lighting equipment
For
Employees to see well enough to work safely and to exit the space quickly in an emergency

Type of equipment
Barriers or shields, such as pedestrian, vehicle or other barriers
For
Protecting employees from hazards outside of the space

Type of equipment
Ladders
For
Safe entry and exit by entrants

Type of equipment
Rescue and emergency equipment, except for equipment provided by the rescue service provider
For
Safe and effective rescue

Type of equipment
Any other equipment
For
Safe entry into and rescue from permit-required confined spaces

Correct by: 6/16/2015
Assessed penalty: $4,500.00
**Violation 1 Item 8**

**Violation Type:** Serious

WAC 296-809-50014(1)

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not ensure that adequate rescue and emergency services were available for entry into permit-required confined spaces:

- **INSTANCE ONE:** Pumphouse water intake pit for lake chiller pumps
- **INSTANCE TWO:** SA loading dock Sanipak autoclave chambers (two)
- **INSTANCE THREE:** EA mechanical room 2EA000207 HVAC plenum
- **INSTANCE FOUR:** EB120 mechanical room 2EP020202 & 2EP020203 HVAC plenums
- **INSTANCE FIVE:** EB246 mechanical room 2EN010203 HVAC plenum

Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

You must:

(1) Make sure you have adequate rescue and emergency services available during your permit-required confined space entry operations.

* Evaluate and select rescue teams or services who can:

  - Respond to a rescue call in a timely manner. Timeliness is based on the identified hazards. Rescuers must have the capability to reach potential victims within an appropriate time frame based on the identified permit space hazards.
  - Proficiently rescue employees from a permit-required confined space in your workplace. Rescuers must have the appropriate equipment for the type of rescue.
  - Make sure that at least one member of the rescue team or service holds a current certification in first aid and cardiopulmonary resuscitation (CPR).

* Inform each rescue team or service about the hazards they may confront when called to perform rescue.
* Provide the rescue team or service with access to all permit spaces from which rescue may be necessary.

This will allow them to develop appropriate rescue plans and to practice rescue operations.

Note: What will be considered timely will vary according to the specific hazards involved in each entry. For example, chapter 296-842 WAC, Respirators, requires that employers provide a standby person or persons capable of immediate action to rescue employee(s) for work areas considered to contain an IDLH atmosphere.

**Correct by:** 6/16/2015  
**Assessed penalty:** $4,500.00
Violation 1 Item 9  

WAC 296-809-50018

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not ensure that entry supervisors perform their responsibilities and duties for entry into permit-required confined spaces:

INSTANCE ONE: Pumphouse water intake pit for lake chiller pumps
INSTANCE TWO: SA loading dock Sanipak autoclave chambers (two)
INSTANCE THREE: EA mechanical room 2EA000207 HVAC plenum
INSTANCE FOUR: EB120 mechanical room 2EP020202 & 2EP020203 HVAC plenums
INSTANCE FIVE: EB246 mechanical room 2EN010203 HVAC plenum

Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

You must:

* Make sure that an entry supervisor:
  
Authors the entry into a permit-required confined space by signing the entry permit.
Oversees entry operations.
Knows about the hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure.
Verifies and checks all of the following:

The appropriate entries have been made on the permit.
All tests specified by the permit have been conducted.
All procedures and equipment specified by the permit are in place before approving the permit and allowing entry to the space.

Terminates the entry and cancels the permit when:

The assigned task or job has been completed.
A condition in the space that is not covered by the entry permit is discovered.

Verifies that rescue services are available and that there is a way to contact them.
Removes unauthorized individuals who enter or attempt to enter the permit-required confined space during entry operations.
Determines that entry operations remain consistent with the terms of the entry permit and acceptable entry conditions are maintained:

Whenever responsibility for a permit-required space entry operation is transferred; and
At regular intervals dictated by the hazards and operations performed within the space.
Note:
* Make sure entry supervisors have the required knowledge and proficiency to perform the job duties and responsibilities required by this chapter.
* The entry supervisor may also perform other duties under this chapter, such as attendant or entrant, if they are trained and proficient in those duties.
* The responsibility of the entry supervisor may be passed from one supervisor to another during an entry operation.

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<th>Correct by:</th>
<th>6/16/2015</th>
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<td>$4,500.00</td>
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Violation 1 Item 10

WAC 296-809-50020

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not ensure that a designated and trained attendant was provided outside the permit-required confined space during entry operations:

INSTANCE ONE: Pumphouse water intake pit for lake chiller pumps
INSTANCE TWO: SA loading dock Sanipak autoclave chambers (two)
INSTANCE THREE: EA mechanical room 2EA000207 HVAC plenum
INSTANCE FOUR: EB120 mechanical room 2EP020202 & 2EP020203 HVAC plenums
INSTANCE FIVE: EB246 mechanical room 2EN010203 HVAC plenum

Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

IMPORTANT:

* The number of attendants assigned should be tailored to the requirements of the space and the work performed.
* You need to assess if it is appropriate or possible to have multiple permit spaces monitored by a single attendant, or have an attendant stationed at a location outside each space. Video cameras and radios are examples of tools that may assist an attendant monitoring more than one space.
* Attendants may be stationed at any location outside the permit-required confined space if the duties described in this section can be effectively performed for each space that is monitored.

You must:

* Provide at least one attendant outside the permit-required confined space during entry operations.
* Make sure each permit-required confined space attendant:

  Understands the hazards that may be faced during entry, including the mode, signs or symptoms, and results of exposure to the hazards.
  Is aware of the behavioral effects of exposure to the hazard.
  Continuously maintains an accurate count of entrants in the space.
  Maintains an accurate record of who is in the permit-required confined space.
  Communicates with entrants as necessary to monitor their status or alert them of the need to evacuate the space.
  Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space.
  Orders entrants to evacuate the space immediately if any of the following conditions occur:

A prohibited condition.
The behavioral effects of hazardous exposure in an entrant.
A situation outside the space that could endanger entrants.
The attendant cannot effectively and safely perform all the duties required in this chapter.
Takes the following actions when unauthorized persons approach or enter a space:

Warn unauthorized persons to stay away from the space.
Tells the unauthorized persons to exit immediately if they have entered the space.
Informs entrants and the entry supervisor if unauthorized persons have entered the space.

Performs nonentry rescues as specified by your rescue procedure.
Has the means to respond to an emergency affecting one or more of the permit spaces being monitored without preventing performance of the attendant's duties to the other spaces being monitored.
Carries out no duties that might interfere with their primary duty to monitor and protect the entrants.
Calls for rescue and other emergency services as soon as entrants may need assistance to escape from the space.
Monitors entry operations until relieved by another attendant or all entrants are out of the space.

Correct by: 6/16/2015
Assessed penalty: $4,500.00
Violation 1 Item 11  

WAC 296-809-50022

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not ensure that permit-required confined space entrants knew the hazardous conditions and their duties during entry operations:

INSTANCE ONE: Pumphouse water intake pit for lake chiller pumps  
INSTANCE TWO: SA loading dock Sanipak autoclave chambers (two)  
INSTANCE THREE: EA mechanical room 2EA000207 HVAC plenum  
INSTANCE FOUR: EB120 mechanical room 2EP020202 & 2EP020203 HVAC plenums  
INSTANCE FIVE: EB246 mechanical room 2EN010203 HVAC plenum

Uncontrolled entry into confined spaces can result in serious injuries and loss of life.

You must:

* Make sure that all entrants:

Know the hazards they may face during entry, including the mode, signs or symptoms, and results of exposure to the hazards.  
Use equipment properly.  
Communicate with the attendant as necessary so the attendant can:

Monitor entrant status.  
Alert entrants of the need to evacuate.  

Alert the attendant whenever either of these situations exist:

A warning sign or symptom of exposure to a dangerous situation such as, behavioral changes, euphoria, giddiness potentially from lack of oxygen or exposure to solvents.  
A prohibited condition.

Exit from the permit-required confined space as quickly as possible when one of the following occurs:

The attendant or entry supervisor gives an order to evacuate.  
The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.  
The entrant detects a prohibited condition.  
An evacuation alarm is activated.

Correct by: 6/16/2015  
Assessed penalty: $4,500.00
**Violation 1 Item 12**  
**Violation Type: Serious**  
WAC 296-800-16040

In at least the following instances, UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not require employees to use necessary personal protective equipment (PPE) on the job:

INSTANCE ONE: Employees performing screen cleaning in the pumphouse were not provided with personal fall arrest or restraint systems when climbing into the water intake pit. A fall in the water intake pit could result in serious injury or death.

INSTANCE TWO: Employees changing belts and greasing bearings on the EA000204 HVAC fan in the EA mechanical room were not provided with personal fall arrest or restraint systems while working at a height greater than eight feet. A fall from the access platform could result in serious injury or death.

Per WAC 296-800-16020, you must:

* Provide PPE wherever hazards exist from:
  - Processes or the environment
  - Chemical hazards
  - Radiological hazards or
  - Mechanical irritants that could cause injury or impairment to the function of any body part through absorption, inhalation, or physical contact.

* Provide necessary PPE to employees at no cost to the employee if the PPE:
  - Will be used to protect against hazardous materials or
  - Is the type that would not reasonably or normally be worn away from the workplace, such as single use or disposable PPE.

Note:

* Examples of PPE that the employer must provide are:
  - Boots or gloves that could become contaminated with hazardous materials in the workplace.
  - Safety glasses, goggles, and nonprescription protective eye wear.
  - Goggles that fit over prescription eye wear.
  - Hard hats.
  - Full body harnesses and lanyards.
  - Single use or disposable PPE such as plastic type gloves used in the food service or medical industries.

* Examples of PPE that the employer may not have to provide are:
  - Coats to protect against inclement weather.
- Leather boots, with or without steel toes, that will not become contaminated on the job.
- Prescription protective eye wear (except as part of a full face piece or hooded respirator).

Provide bump caps to machinery mechanics to prevent cuts to head while working on/under beds and gurneys potentially contaminated with bloodborne pathogens or other potentially infectious materials.

Correct by: 6/16/2015  
Assessed penalty: $4,500.00
**Violation 2 Item 1**

WAC 296-800-14005

UW MEDICAL CENTER, located at 1959 NE Pacific Street, in Seattle, Washington, did not develop a formal Accident Prevention Program (APP), tailored to the needs of its particular workplace or operation and to the types of hazards involved, in that procedures for water treatment and regular cleaning and maintenance of cooling towers to reduce amplification of Legionnaires' disease bacteria (LDB) were not developed and implemented.

Dolphin water treatment systems serving S1 cooling towers were found not to have been regularly maintained and to be non-functioning during the inspection. Operations and Maintenance employees were not adequately trained regarding potential LDB hazards and did not take adequate measures, including donning of PPE, to protect themselves while working in and around cooling towers. Operating cooling towers without effective (working) water treatment and regular maintenance poses a significant risk of exposure to LDB for patients, members of the public, and employees. Exposure to LDB can cause Legionnaires' disease, a severe, potentially fatal form of pneumonia, or Pontiac fever, a milder, flu-like illness.

***NOTE***
The Accident Prevention Program must contain at least the following elements:
1) A safety orientation, including:
   - A description of your total safety and health program.
   - On-the-job orientation showing employees what they need to know to perform their initial job assignments safely.
   - How and when to report on-the-job injuries including instruction about the location of first-aid facilities in your workplace.
   - How to report unsafe conditions and practices.
   - The use and care of required personal protective equipment (PPE).
   - What to do in an emergency, including how to exit the workplace.
   - Identification of hazardous gases, chemicals, or materials used on-the-job and instruction about the safe use and emergency action to take after accidental exposure.

2) A Safety and Health Committee (WAC 296-800-130).
For information on treating cooling tower water and testing for legionella, refer to manufacturer instructions and consensus documents and/or policies from the following organizations: OSHA (see Technical Manual, Section III, Chapter 7), Center for Disease Control (CDC), Joint Commission on Accreditation of Healthcare (JCAHO), American Society for Healthcare Engineering (ASHE), etc.

* Please also refer to the following position papers/statements by professional organizations:
* "Legionellosis Guideline: Best Practices for Control of Legionella", 2008, Cooling Technology Institute (CTI) [excerpt: "These best practice recommendations focus on chemical control parameters. Halogens serve as the primary disinfectants in these recommendations. Sources of halogens include chlorine gas, hypochlorites, chlorine dioxide and stabilized halogen donors. It must be recognized, however, that chemical treatment is only one aspect of risk minimization. Design, operation, and maintenance practices are also crucial to reducing health risks associated with cooling systems."
]

* "Legionella 2003: An Update and Statement", Association of Water Technologies (AWT) [excerpt: "AWT supports that prudent operational and water treatment practices for cooling towers, evaporative condensers and other recirculating water systems, are consistent with reducing Legionella contamination within them and include:
•Corrosion, scale and deposit control programs that promote operational efficiency and system cleanliness and reduce microorganism-breeding areas.
•Dispersant, biodispersant and antifoulant programs that reduce biofilm, sludge, debris and dirt accumulations that further reduce microorganism-breeding areas.
•Biocide programs, including oxidizing and non-oxidizing treatments that are applied according to proper labeling, to control microbiological growth and proliferation.
•Maintaining best available mist elimination technology in evaporative systems and eliminating or minimizing stagnant (dead-leg) zones and areas.
•A minimum annual (twice annual preferred) thorough wash-out and cleaning of cooling towers and evaporative condenser cooling water systems - including an oxidizing disinfection before and after each cleaning."
]

* "ASHRAE Position Document on Legionellosis", approved 1998, reaffirmed 2012, American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) [excerpt: "Periodic or routine monitoring is never an effective program if done in the absence of a maintenance program. MORE EMPHASIS SHOULD BE PLACED ON CLEAN EQUIPMENT IN EXCELLENT REPAIR THAN ON PERIODIC TESTING WITH CONCURRENT SYSTEM NEGLECT {bold type in original}. Refer to Section 4.2, Amplifiers, and Section 4.3, Aerosolization, for specific measures to manage amplifiers and aerosols."].

Correct by: 7/6/2015
Assessed penalty: $0.00
What you must do now:

- Check the correction due date(s) shown on the enclosed Employer Certification of Abatement Form. You must fully correct the hazards by these dates.
- Describe on the form how you corrected each hazard, rather than what you intend to do in the future. Examples:
  
  **Right:** All staff have received the required training.
  
  **Wrong:** All staff will receive the required training next week.

Use attachments if you need more space. Submit additional documentation of hazard correction if requested in the citation packet.
- Fill in the date you corrected the hazard and sign.
- Post a copy of the completed form for at least three working days, or until you have corrected all violations, whichever is longer. It must be posted near the hazard location or in a place that is readily accessible by affected employees and their representatives.
- Send your completed form to the address provided.

**Note:** If we do not receive written confirmation you have corrected the hazards, we will take follow-up action, which may include additional penalties. If you provide us with false information, you may face criminal penalties.

If you are unable to fix the hazard(s) by the correction due date(s):

We must receive your written request for an extension before the correction due date(s) listed for the hazard(s). Correction due dates are shown on the enclosed Citation and Notice of Assessment and on your Employer Certification of Abatement Form(s).

Extensions are not automatically granted. To be considered for an extension, you must provide the following:

- Inspection number, employer name, telephone number, and site address.
- Violation and Item number for each requested extension.
- Correction due date on the citation and additional time needed.
- Steps taken to fix the hazard by the correction due date.
- Why you cannot correct the hazard by the correction due date.
- How you will protect your employees until you fix the hazard.

For more information, contact: Mac Davis, Compliance Supervisor
Or call: (206) 515-2865
Department of Labor and Industries
315 5th S., Ste. 200
Seattle, WA 98104

You must post all documentation associated with your request for extension with your citation packet. All postings must remain until you have corrected all violations, or unless you have appealed and received and posted your hearing notice.
Employer Certification of Abatement Form
Inspection: 317616910

UBI: 178019988
Legal Name: UNIVERSITY OF WASHINGTON
DBA Name: UW MEDICAL CENTER
Site Address: 1959 Ne Pacific St, Seattle, WA, 98195

Issued: June 3, 2015

You must complete this form and return it to: Christopher Jacomme, Department of Labor & Industries
315 5th Avenue South, Suite 200, Seattle, WA 98104-2607
Or Fax to: (206) 515-2879

I certify that the hazards described in this Employer Certification of Abatement Form have been corrected as described above.
Affected employees and their representatives have been informed of the correction activities. I am aware that knowingly providing false information may result in criminal penalties (RCW 49.17.190(2)).

<table>
<thead>
<tr>
<th>Violation, Item &amp; Group#</th>
<th>Type of Violation</th>
<th>WAC# Violated</th>
<th>Correction Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1</td>
<td>Serious</td>
<td>296-809-20002</td>
<td>6/16/2015</td>
</tr>
</tbody>
</table>

Violation Summary: Identify PRCSs  How you corrected the hazard

Date you corrected the hazard

| 1-2                     | Serious          | 296-809-20004(1) | 6/16/2015           |

Violation Summary: Provide information about confined spaces  How you corrected the hazard

Date you corrected the hazard

| 1-3                     | Serious          | 296-809-30002   | 6/16/2015           |

Violation Summary: Develop written confined space program  How you corrected the hazard

Date you corrected the hazard

| 1-4                     | Serious          | 296-809-40002   | 6/16/2015           |

Violation Summary: Provide confined space training

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How you corrected the hazard ➔

Date you corrected the hazard ➔

1-5    Serious    296-809-50002    6/16/2015
Violation Summary: Implement entry permit procedures
How you corrected the hazard ➔

Date you corrected the hazard ➔

1-6    Serious    296-809-50004    6/16/2015
Violation Summary: Provide PRCS permits
How you corrected the hazard ➔

Date you corrected the hazard ➔

1-7    Serious    296-809-50010    6/16/2015
Violation Summary: Provide proper equipment for PRCS entry
How you corrected the hazard ➔

I certify that the hazards described in this Employer Certification of Abatement Form have been corrected as described above. Affected employees and their representatives have been informed of the correction activities. I am aware that knowingly providing false information may result in criminal penalties (RCW 49.17.190(2)).

Signature

Name

Title    Date    Phone No.

DOSH USE ONLY

DOSH Reviewer's Signature  Date
Employer Certification of Abatement Form
Inspection: 317616910

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<td>Ensure PRCS rescue availability</td>
<td></td>
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<tr>
<td>No entry supervisor</td>
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Violation Summary: Entrant not knowledgeable
How you corrected the hazard ➔

Date you corrected the hazard ➔

Violation Summary: Require EEs to use necessary fall protection PPE
How you corrected the hazard ➔

Date you corrected the hazard ➔

I certify that the hazards described in this Employer Certification of Abatement Form have been corrected as described above. Affected employees and their representatives have been informed of the correction activities. I am aware that knowingly providing false information may result in criminal penalties (RCW 49.17.190(2)).

Signature

Name

Title
Date
Phone No.

DOSH USE ONLY

DOSH Reviewer's Signature
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For Employers

If you are cited for a violation of Occupational Safety and/or Health rules, you have the right to appeal the citation. **You have 15 working days from the date you receive this citation to appeal.** (RCW 49.17.140(1)) “Working day” means a calendar day, except Saturdays, Sundays and all legal state holidays. Your appeal must be in writing. It may be mailed, faxed, or personally delivered.

For violations classified as serious, willful, repeat serious, or failure to abate serious, an employer must correct the violations by the date listed on the Citation and Notice / Employer’s Certification of Abatement form unless a stay of abatement date is requested in the appeal as described on this page. A stay of abatement date means the employer’s requirement to abate or correct the hazard is put on hold until the appeal is resolved. All general and repeat general violations under appeal automatically have stay of abatement dates until a final order on those violations has been issued. If you only need an extension of an abatement date, please see the above section entitled, “If you are unable to fix the hazard(s) by the correction due date(s)”.

**Your appeal must include:**
- Name, address, telephone number, and fax number if available of the employer who is appealing, and for the employer’s representative, if any, such as an attorney or interpreter.
- Inspection Number (You will find this nine-digit number in the top right corner of this page.)
- Statement explaining:
  1. What you think is wrong with the citation and any related facts.
  2. How you think the citation should be changed.
  3. What relief you are seeking and why.

If you are requesting a stay of abatement date for serious, willful, repeat serious or failure to abate serious, you must also include:
- Each violation and item number for which a stay of abatement date is requested; and
- The reason for the stay of abatement date request.

**Posting requirement:**
You must post your appeal documents (along with this citation packet) until the appeal is resolved. You must also post all other documents related to this appeal.

For Employees or Their Representatives

If your employer is cited, you may only appeal the correction due date(s).

**Your appeal must include:**
- Your name, address, telephone number, and fax number if available and the same information for anyone who is representing you, if any.
- Inspection number.
- Statement explaining why the correction due date should be changed.

**Send all appeals to:**

| Assistant Director for DOSH |
| Attn: Appeals Program |
| PO Box 44604 |
| Olympia, WA 98504-4604 |
| Fax to: (360) 902-5581 or deliver to: Any L&I office |

For more information call the Appeals Program: (360) 902-5486.