

In this issue of the Environmental Health and Safety (EHS) Listserv – March 10, 2021

1. CUSC Open Forum Zoom Meeting
 2. Introducing the UNL Green Infrastructure Story Map
 3. Ladder Safety Month
 4. Safety Shorts – Using Ladders Safely
 5. Situational Preparedness - Buckle Up Phone Down
 6. EHS Promise and Commitment
 7. Lessons Learned: Fluoride Exposure and Response
 8. Notice the New Slogan?
-

1. CUSC Open Forum Zoom Meeting

The Chancellor's University Safety Committee (CUSC) will host the spring **Open Forum** meeting via Zoom from 3:00 – 4:00 p.m. on Tuesday, March 16, 2021. The campus community is invited to share concerns or just observe the workings of the CUSC. To attend, contact ehs@unl.edu for the Zoom meeting ID and password.

The CUSC is a UNL committee established to assist the Chancellor by making recommendations of methods to reduce safety hazards at UNL. The campus community may contact the CUSC Chair at any time with safety concerns or questions and attend bi-monthly meetings.

The CUSC charter, as well as links to the list of members, upcoming agenda, meeting dates/locations, previous meeting minutes, current year's goal and more, are available online.

Resources

- Chancellor's University Safety Committee
<http://ehs.unl.edu/chancellors-university-safety-committee-cusc#cusc>

2. Introducing the UNL Infrastructure Story Map

EHS is pleased to announce creation of the Stormwater Green Infrastructure GIS Story Map on the UNL Stormwater Management website. To view the story map simply visit the UNL EHS Stormwater Management website (<https://ehs.unl.edu/stormwater-management>) and scroll down to the Media section.

The GIS Story Map details the location and features of each stormwater green infrastructure feature that has been installed at City and East campuses. The Story Map shows the location of each feature, relevant images, and gives a brief

description of how they function. The Story Map also includes a short 15-minute video featuring the 2020 Nebraska Extension Green Infrastructure Tour and interviews with the engineers and landscape architects for two green infrastructure stormwater controls on east campus. A link to the video is also provided below.

The most common Post-Construction Stormwater Controls (at UNL referred to as PCSWCs) on City and East Campus are bioretention basins, permeable pavers, rain gardens, subsurface detention, and green roofs. All of these systems are maintained regularly to manage polluted runoff and protect our nearby receiving water bodies. The list of stormwater structures is expected to grow as we design, remodel, and construct new buildings at UNL. Each new system provides a cost-effective way of managing stormwater by preventing flooding, improving water quality, and promoting public health.

If you see that one of these systems becomes compromised, please alert the EHS department directly (stormwater@unl.edu) or by filling out our Stormwater Pollution Reporter form (link provided below) on the right-hand side of the Stormwater Management webpage.

Resources

- 2020 Nebraska Virtual Green Infrastructure Tour <https://mediahub.unl.edu/media/15322>
- Stormwater Pollution Reporter Form <https://ehs.unl.edu/stormwater-pollution-reporting-form>

3. Ladder Safety Month

The American Ladder Institute (ALI) sponsors National Ladder Safety Month in March. ALI is the American National Standards Institute (ANSI) approved developer of safety standards for the ladder industry. Standards are technical specifications that prescribe rules governing the safe construction, design, testing, care and use of various types of ladders.

Each year, there are more than 164,000 emergency room-treated injuries and 300 deaths in the U.S. that are caused by falls from ladders. Thousands suffer disabling injuries. Most ladder deaths are from falls of 10 feet or less. Many everyday tasks require the use of a ladder or step stool. Step stool hazards are similar to those of ladders, even though step stools generally are of a lower height.

This year there are five key themes for Ladder Safety Month: Choosing Your Ladder; Safety Before the First Step (Inspection and Set Up); Safety While Climbing; Safety at the Top; and Ladder Safety Misconceptions.

To assist workers using ladders, NIOSH (National Institute for Occupational Safety and Health) has developed a free mobile application designed to improve extension and step ladder safety. If you use a ladder or a step stool, review the resources provided to ensure that you do not become a “statistic.”

Resources

- American Ladder Safety Institute
<http://www.americanladderinstitute.org/>
- National Ladder Safety Month <https://www.laddersafetymonth.com/>
- NIOSH “FALLS IN THE WORKPLACE- NIOSH Ladder Safety App”
<https://www.cdc.gov/niosh/topics/falls/mobileapp.html>
- EHS **Ladder Safety** SOP <https://ehs.unl.edu/sop/s-ladder.pdf>
- EHS **Portable Ladder Safety** Web-Based Training
<https://ehs.unl.edu/web-based-training#PortableLadder>
- Ladder & Step Stool Safety for Everyone (October 2018 colloquium)
<https://ehs.unl.edu/training/Colloquium>

4. Safety Shorts – Using Ladders Safely

This series features links to short safety resource(s). Provided this month are resources related to ladder safety.

- **Ladders and Falls – Safety Training Video – Prevent Fatal Accidents on Ladders** (Safety Memos, 1.58 minutes)
https://www.youtube.com/watch?v=Tc8mtVt_VA8
- **Single and Extension Ladder Safety** (AmericanLadderInst, 10:35 minutes)
<https://www.youtube.com/watch?v=sWuOBu3GjHw&t=42s>

NOTE: Resources are provided for informational purposes only. Publication does not in any way endorse a particular company or product or affect current UNL policies and procedures.

5. Situational Preparedness – Buckle Up Phone Down

Situational preparedness is so important that we will be looking at various aspects over time, as well as providing resources to assist you to “be prepared” for whatever situations you may encounter while driving, bicycling or walking. Traffic injuries and fatalities in Nebraska are increasing. In 2019, 248 people died and 17,198 were injured in traffic crashes. In Nebraska, one collision occurs every 15 minutes! To help reduce this trend, the Nebraska Safety Council (NSC) is partnering with the Nebraska Department of Transportation Highway Safety Office to promote a challenge for all to protect themselves, their family, and others on the roadway.

Vehicles are dangerous. Drivers and passengers have a responsibility to keep themselves and others safe while travelling. Buckling up and putting your phone down are two of the most impactful actions any driver can take to prevent crashes and reduce injury if a crash should occur.

The Nebraska Safety Council encourages all drivers to “Accept the Challenge” personally and share resources provided in their Buckle Up Phone Down Toolbox: <https://nesafetycouncil.org/index.php/driving/buckle-up-phone-down>. Take the challenge for yourself, your family, your neighbors, and your community. Whenever you get into your vehicle, regardless of the distance you plan to travel, buckle up and put your phone down.

Resources

- NSC Fact Sheet: Seatbelts – Why Do They Matter?
<https://dot.nebraska.gov/media/114171/buckle-up-phone-down-seatbelt-fact-sheet.pdf>
- NSC Fact Sheet: Phone Distraction While Driving – It Can Wait
<https://dot.nebraska.gov/media/114170/buckle-up-phone-down-cell-phone-use-fact-sheet.pdf>
- NSC “Sorry You’re Not” posters (set of 6)
<https://dot.nebraska.gov/media/114173/bupd-sorry-youre-not-posters.pdf>
- NSC “Seat Belt” posters (set of 2)
<https://dot.nebraska.gov/media/114172/bupd-seat-belt-posters.pdf>

6. EHS Promise and Commitment

In February 2020, the University of Nebraska N2025 Strategic Plan was unveiled (<https://www.unl.edu/chancellor/n2025-strategic-plan>). That Plan lays out six aims for the University, to be accomplished over the next five years. Each aim is further detailed with associated strategies, expectations, and targets. All departments at the University are expected to contribute to achievement of the vision laid out in the N2025 Strategic Planning document.

The EHS strategic planning process, like other units in Business and Finance, is intended to result in our unique plan for how we can contribute in meaningful ways to the vision for the Institution as a whole. The EHS Promise, Values we Create, and How We Create It, as depicted below, forms the foundation for the EHS Strategic Planning Process. Another foundational piece is the Business and Finance Inclusive Excellence statement, <https://bf.unl.edu/strategic-plan#inclusive>.

OUR PROMISE:

We exist to design and administer highly reliable and practicable programs to achieve occupational safety, bio-safety, radiation safety, and environmental protection.

VALUE WE CREATE



Hazard Mitigation

Protection of human and physical resources, the environment, and institutional reputation.



Compliance

High level of compliance with regulatory requirements and reduced regulatory burden for the campus community.



Informed Stakeholders

Competent and accessible staff that provide meaningful and expert guidance, information, and feedback to campus stakeholders.

HOW WE CREATE IT



Collaboration

We collaborate with stakeholders to identify solutions that are responsive to their needs.



Effective Liaisons

We are effective liaisons with external regulators.



Expertise

We are skilled at interpreting and applying regulatory requirements to operations and activities unique to UNL.



Agility

We utilize our resources to maximize our agility in meeting shifting demands of the campus community and stakeholders.

7. Lessons Learned - Fluoride Exposure and Response

Laboratory research can expose workers to a wide variety of chemical hazards. Researchers must not only conduct their own risk assessment but must remain aware of the research of others in the lab and potential hazards associated with their research.

Hydrofluoric acid (HF) is a hazardous chemical for which education is critical. Delays in treatment, improper treatment, and delay of symptoms result in serious consequences. HF is very corrosive to human tissue and is a powerful systemic toxin, directly destroying skin, eye, bone, and tendon tissue. Acute fluoride poisoning can cause death.

In any concentration the HF molecule can be drawn through the skin. Decontamination to mitigate damage from exposure must be prompt and specific to address both the corrosive and toxic aspects of exposure. A summary of an event occurring at a subsidiary laboratory of the Department of Energy, illustrates the dangers of HF.

What Happened? Late on a Friday afternoon a researcher was performing a microwave acid digestion. The samples were in digestion vessels, loosely capped, on an unsecured tray. During transfer one of the unsecured microwave vessels was knocked over. This led to a chain reaction with 4 vessels spilling and landing in the lap of the researcher.

The seated researcher was not wearing a face shield. They went to a sink where another researcher wearing only nitrile gloves assisted with flushing the individual's face and mouth. Calcium gluconate was applied to the area of contact while emergency personnel were summoned.

What Was the Cause? At the time of the incident each researcher had taken an HF hazard safety course and illustrated in a laboratory setting their understanding of components of safe laboratory-specific HF work.

Issues uncovered:

- A fume hood was not used.
- A secondary container to prevent and contain spills provided insufficient support to prevent vessels from tipping and insufficient volume to hold spills.
- PPE, the least effective control, was relied upon with bypass of engineering controls (fume hood). The face shield required for HF use was not used.
- The laboratory procedure of requiring two persons on site during HF work was not followed. Another researcher passing through the lab at the time of incident was fortuitous.
- Personnel turnover resulted in little overlap between the researcher and their predecessor resulting in less on-the-job training than desirable.
- Tidiness and space were issues on lab countertops.

What Corrective Actions Were Taken? A number of changes were implemented including but not limited to:

- HF hazard training updated and clarified.
- On-the-job training intensified.
- Administrative procedures were put into place regarding hours during which HF work may be performed.
- PPE was reviewed, improved, and a multilayered protection plan put into place.
- This incident was presented as a case study to others in the department.

The article referenced below lists recommendations to ensure safe utilization of HF in a laboratory setting, provides quick action tips for HF exposure, and additional exposure tips.

Understanding the dangers of what you are working with, having safety protocols in place, following those protocols, and knowing how to respond in the case of an accident are steps that save lives. Learning from not just your history, but also lessons learned from others, can lead to simple improvements in procedure and response which can reduce the potential consequences of an incident.

Resources

- Benjamin W. Juba, Curtis D. Mowry, Raymond S. Fuentes, Adam S. Pimentel, and Jessica K. Román-Kustas. "Lessons Learned-Fluoride Exposure and Response." *ACS Chemical Health & Safety*, American Chemical Society, 28 Jan. 2021, pubs.acs.org/doi/10.1021/acs.chas.0c00108.
- EHS Safe Operating Procedure **Hydrofluoric Acid** <https://ehs.unl.edu/sop/s-hfacid.pdf>
- EHS Chemical Safety Posters <https://ehs.unl.edu/safety-posters/chemical-safety-posters>

8. Notice the New Slogan?

The new slogan immediately below should give you something to think about. Safety isn't just a word it should be a way of life/work. You do NOT want to become a statistic!

THINK SAFETY – DON'T LEARN BY ACCIDENT!

Environmental Health and Safety

University of Nebraska-Lincoln

3630 East Campus Loop

Lincoln, NE 68583-0824

(402) 472-4925

<http://ehs.unl.edu>

~To SUBSCRIBE and get your own copy if you received this from someone else or UNSUBSCRIBE, send an e-mail to LISTSERV@LISTSERV.UNL.EDU . In the Message (not Subject) field enter SUBSCRIBE EHSINFO or UNSUBSCRIBE EHSINFO