



Accelerator ES&H Newsletter

Summer 2007 Edition

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Tornado Safety...

What you need to know NOW!

Listen to NOAA Weather Radio or commercial radio/television for tornado warnings and instructions. If you hear a "Tornado Warning" or a storm threatens, seek safety immediately in a pre-designated shelter or basement.

Indoors:

Abandon mobile homes, since they offer little protection even when tied down.

- Go to a basement or interior room on the lowest floor (bathroom or closet without windows, under stairs). Get under a sturdy piece of furniture.
- Cover yourself with a mattress or blanket

If you have time:

Put bicycle helmets on kids

- Put on sturdy shoes
- Find your purse/wallet and keys; keep them with you
- Put infants in carseats
- Put collars and ID tags on pets

DO NOT open your windows.



In a vehicle:

- If the roads and traffic permit free movement, it is almost always possible to outrun a tornado.
- If you can see the tornado and can tell which way it is moving, drive perpendicular to its movement.
- If there is time, abandon your car and get into a permanent building.
- DO NOT hide under overpasses - they provide no shelter and increases your danger.
- Lie flat in a ditch (last-resort).

Outdoors:

- Find a **culvert or cave**.
- Find something to **hang onto**.
- Lie flat in a **ditch**.
- **Cover** your head.

The Division Head's Corner

Why Sweat the Small Stuff?

By Roger Dixon & Paul Czarapata

Have you ever had one of those dreams where world peace is achieved and engineers learn how to run cars on seawater. Everyone goes to the park to celebrate these wonderful achievements. The air is filled with balloons and laughter when suddenly the brilliant, blue sky is ignited by the most enormous welding torch ever struck on planet earth. It scorches a path across the fertile landscape leaving a path of cinders. Moments later the source of the intense arc, a huge chunk of molten debris

from a cosmic recipe gone terribly awry, punctures the earth's crust spilling out the essence of our fragile orb.

This is the second worst accident I can imagine. We could ask what would the lessons learned be after such an incident? Always carry a good pair of welding goggles in your hip pocket? Of course not. It would be too late to learn a lesson in the event of such a calamity. Yet we could learn something ahead of time by observing (Continued on page 3)

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Revised Fermilab ES&H Manual Chapter on Hazard Analysis for Employees

In case you missed it, FESHM Chapter 2060 on the use of hazard analysis for work done by Fermilab employees has been revised. The chapter is called Work Planning and Hazard Analysis and the June 2007 revision can be found [here](#).

New Fermilab ES&H Manual Chapter on UV Exposure

A new chapter has been added to FESHM to address exposure to ultraviolet (UV) radiation in the workplace. Chapter 5067 can be found [here](#). The chapter addresses exposure from UV LEDs and other UV light sources, as well as UV exposure from welding and outdoor work.



Safe @ Home

News, Information, and Suggestions
To Improve Health and Safety
Off-the-Job and On-the-Road



Looking for a fun way to teach weather safety to your young children or grandchildren? The National Oceanic and Atmospheric Administration (NOAA) has created a series of coloring books to make weather facts and safety information accessible to young people. Below are links to these NOAA books.

**Billy
and
Maria**



a series of
Coloring Books
for Children
who want to learn
more about
Weather

- [95-01 Billy and Maria Visit the National Weather Service](#)
- [95-02 Billy, Maria and the Thunderstorm](#)
- [95-03 Billy and Maria Learn About Tornado Safety, part 1](#)
- [95-04 Billy and Maria Learn About Tornado Safety, part 2](#)
- [95-05 Billy and Maria Learn About Tornado Safety, part 3](#)
- [95-06 Billy and Maria Learn About Winter Weather, part 1](#)
- [95-07 Billy and Maria Learn About Winter Weather, part 2](#)
- [95-08 Billy and Maria Learn About Winter Weather, part 3](#)



Why Sweat the Small Stuff?

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the asteroids that zoom past the earth every month—near misses so to speak.

Paul Czarapata makes the following observations:

"H. W. Heinrich, a noted pioneer in the scientific approach to accident prevention, developed the Iceberg model of accidents and errors. The part of an iceberg above the water represents errors that cause major harm; below the water are no-harm events, events that cause only minor injuries, and near misses. After studying automobile accidents for many years,

Heinrich suggested that for every one event that causes major injury, there are 29 that cause minor injury and 300 that result in no injuries. A near miss is defined as an error process that is caught or interrupted (i.e., someone intervenes to prevent the error).

Has mishap analysis been validated in practice? Has the extra effort to better avert risks been worth it?

According to Colonel David L. Nichols, in Mishap Analysis: An Improved Approach to Aircraft Accident Prevention:

'In 1970 Pacific Air Forces Command suffered 60 major accidents and 1739 minor accidents and reportable incidents. Thus for every major accident there

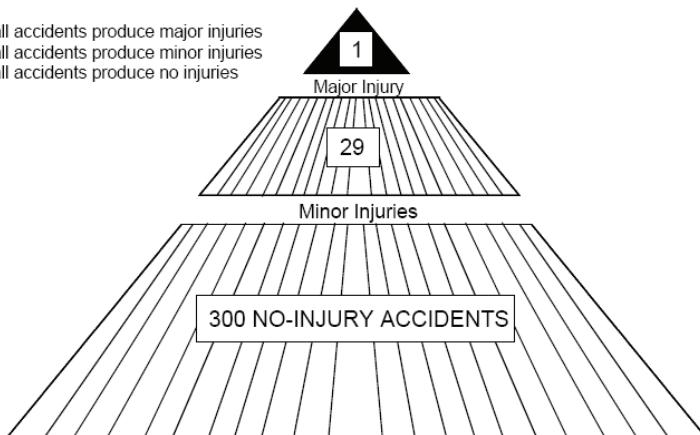
Heinrich and the Air Force are compatible as far as the top blocks of the pyramid are concerned...the mishap analysis program appears to relate to all segments of the pyramid. The twenty months of data collected in one wing revealed three major accidents, 87 reportable incidents, and 885 non-reportable. This is a rela-

ous accident or injury is around the corner.

What implications do Paul's comments have for my dream? For one thing, we might conclude that it is possible to predict when world peace and limitless fuel are likely to be achieved. This is a rather humorous conclusion, and like much humor it depends on faulty logic. What Paul's comments do provide is insight on how to achieve my dream that every person who comes to work at Fermilab, leaves each day without injury. The world is a risky place with hazards around every corner. By staying awake and paying attention to the tasks at hand to prevent the no-

The Foundation of a Major Injury

0.3% of all accidents produce major injuries
88.8% of all accidents produce minor injuries
90.9% of all accidents produce no injuries



Source: H. W. Heinrich, *Industrial Accident Prevention*, 1950, p. 24.

were 28.9 accidents of lesser damage. Heinrich says there should be 29. Also in 1970, the Air Force experienced 200 major accidents and 5800 minor accidents and reportable incidents. This represents exactly 29 accidents of lesser degree for every major accident. In other words, the findings of

tionship of 295 accidents with no damage or injury and 29 accidents with little damage for each major accident.'

It is due to studies like this that the laboratory tracks even the smallest "no-injury" accidents or incidents. They can be indicators that a much more seri-

injury accidents will go a long way to help prevent the more serious injuries.





Protect Yourself from the Sun - Important Advice from OSHA for Outdoor Work

Sunlight contains ultraviolet (UV) radiation, which causes premature aging of the skin, wrinkles, cataracts, and skin cancer. The amount of damage from UV exposure depends on the strength of the light, the length of exposure, and whether the skin is protected. There are no safe UV rays or safe suntans.

Sun exposure at any age can cause skin cancer. Be especially careful in the sun if you burn easily, spend a lot of time outdoors, or have any of the following physical features: Numerous, irregular, or large moles. Freckles. Fair skin. Blond, red, or light brown hair.

It's important to examine your body monthly because skin cancers detected early can

almost always be cured. The most important warning sign is a spot on the skin that is changing in size, shape, or color during a period of 1 month to 1 or 2 years.

Skin cancers often take the following forms:
Pale, wax-like, pearly nodules.
Red, scaly, sharply outlined patches.

Sores that don't heal.
Small, mole-like growths - melanoma, the most serious type of skin cancer.
If you find such unusual skin changes, see a health care professional immediately.

Block Out UV Rays
Cover up. Wear tightly-woven clothing that blocks out light. Try this test: Place your hand between a single layer of the clothing and a light source. If you can see your hand through

the fabric, the garment offers little protection.

Use sunscreen. A sun protection factor (SPF) of at least 15 blocks 93 percent of UV rays. You want to block both UVA and UVB rays to guard against skin cancer. Be sure to follow application directions on the bottle.

Wear a hat. A wide brim hat (not a baseball cap) is ideal because it protects the neck, ears, eyes, forehead, nose, and scalp.
Wear UV-absorbent shades. Sunglasses don't have to be expensive, but they should block 99 to 100 percent of UVA and UVB radiation.

Limit exposure. UV rays are most intense between 10 a.m. and 4 p.m. If you're unsure about the sun's intensity, take

the shadow test: If your shadow is shorter than you, the sun's rays are the day's strongest.

Preventing Skin Cancer
For more information about preventing, detecting, and treating skin cancer, check out these sources:

American Cancer Society
www.cancer.org 1-800-ACS-2345

Centers for Disease Control and Prevention
www.cdc.gov/ChooseYourCover 1-888-842-6355

The Skin Cancer Foundation
www.skincancer.org 1-800-SKIN-490

(Adapted from:
<http://www.osha.gov/Publications/OSHA3166/osh3166.html>)

Consumer Product Safety Commission Recalls - *Good things gone bad*

Every month, the U.S. Consumer Product Safety Commission (CPSC) issues around two dozen recall notices for various products. The products recalled span a wide range of items, from chain saws and sprinkler heads to children's jewelry and toys (especially important at this time of year). We may hear about these recalls in stores or

directly from a manufacturer, but often we don't hear a thing.

Fortunately, the CPSC has addressed this problem and provided a way for all of us to get timely notification of recalls - by e-mail.

Go to the CPSC website

(<http://www.cpsc.gov/index.html>) and sign up to receive recall notices as they are issued. The notices tell what products are involved, what the hazards are, where the items were sold, and what to do if you have one of the recalled items. The service is free and all it takes to subscribe is an e-mail address.

Recent Recalls from the CPSC Website

- [Polaris ATVs](#)
- [Gateway Laptop Batteries](#)
- [Fireworks](#)
- [And More Fireworks](#)
- [Cummins Generators](#)
- [Cannondale Bicycles](#)



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