Air Force Research Laboratory
Wright-Patterson AFB, Ohio

Environmental, Safety and Occupational Health (ESOH) Newsletter

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The 10 Most Dangerous Jobs in America

By Kim Khan

The workplace death rate continued to fall in 2002, but some jobs remain staggeringly risky. Loggers and fishermen faced the most daunting odds of dying at work in 2002, but the highways remained the most dangerous place for American workers. On-the-job accidents and homicides claimed the lives of 5,524 Americans last year, down 6.6% from 2001. The Bureau of Labor Statistics says the workplace death rate is the lowest it has seen since recordkeeping began in 1992.

Of that 5,524, only 104 were timber-cutters, but those fatalities represent a death rate nearly 30 times that of a typical workplace. Loggers died at a rate of 117.8 per 100,000 workers, the BLS said, with most of them killed by falling trees. The death rate for American workplaces as a whole was 4 per 100,000. (That's among occupations with more than 30 fatalities in 2002 and more than 45,000 employed.)

Fishing was the second most dangerous occupation, with 71.1 deaths for every 100,000 workers, followed by pilots and navigators, 69.8, structural metal workers, 58.2, and, perhaps surprisingly, drivers-sales workers, which include pizza delivery drivers at 37.9.

Roofing is another dangerous job, with 37 deaths for every 100,000 workers. Electric power installers, farm occupation, construction laborer and truck drivers also made the top 10.

The 10 most dangerous jobs

Occupation	Fatalities per 100,000
Timber cutters	117.8
Fishers	71.1
Pilots and navigators	69.8
Structural metal workers	58.2
Drivers-sales workers	37.9
Roofers	37
Electrical power installers	32.5
Farm occupations	28
Construction laborers	27.7
Truck drivers	25

Source: Bureau of Labor Statistics; survey of occupations with minimum 30 fatalities and 45,000 workers in 2002

Mining tops list of dangerous industries

Going underground is still one of the most dangerous jobs. Mining is the most perilous industry as a whole to work in, according to the BLS. There were 23.5 deaths in mining for every 100,000 workers in 2002, the BLS said. That was just slightly ahead of agriculture, forestry and fishing, where there were 22.7 deaths for every 100,000 workers. But deaths in mining are still down 22% from the 2001 rate.

Overall, the number of deaths occurring in the workplace dropped 6.6% from the year before to 5,524, the lowest number since the workplace fatality census was started in 1992, excluding the Sept. 11 attacks. Following mining and agriculture, construction saw 12.2 deaths per 100,000 workers. Transportation, which includes trucking and air travel, saw 11.3 work-related deaths per 100,000 workers.

“In addition to the new all-time lows in total workplace fatalities and fatality rates, it is especially encouraging to see a 6% decrease in fatalities among Hispanic workers after seeing increases every year since 1995,” Labor Secretary Elaine Chow said. “The Department's outreach efforts, such as the Hispanic Task Force on Worker Safety, our Spanish-language Web sites and hiring of Spanish-speaking OSHA employees, will continue to make Hispanic workers safer.”

On-the-job killers

Type of incident	2002 deaths
Aircraft accidents	192
Caught in running equipment	110
Drowning	60
Electrocution	289
Exposure to substances	98
Falls from ladder	126
Falls from roof	143
Fires/explosions	165
Highway collisions	635
Assaults/violence	840
Jackknifed or overturned truck	312
Overturned farm/industrial equipment	164
Struck by falling/flying object	506
Struck by vehicle	356
Suicides	199

Workplace murders fall

Homicides in the workplace fell to 609 in 2002. The total is slightly lower than the 643 in 2001, but well below the high of workplace homicides of 1,080 in 1994. Nearly nine out of 10 retail cashiers who died on the job last year were murdered.

Restaurant and hotel management also saw a high percentage of workplace murders, with homicides accounting for 80% of workplace deaths. Cab and limousine drivers were also targeted. Fifty-nine percent of drivers and chauffeurs killed on the job were murdered, much higher than the percentage killed in highway accidents.

But highway accidents were the biggest overall killer in 2002, accounting for a quarter of all worker deaths. Falls killed 13%. Men were still, by far, the most likely to be killed on the job. Ninety-two percent of all workplace fatalities were male.

Among the 441 women who died on the job, though, the chief cause of death was homicide.

How can you make sure your job doesn't show up on the most dangerous jobs list?

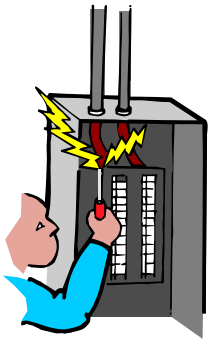
Operational Risk Management (ORM)

Let's apply ORM to performing maintenance on a piece of laboratory machinery that uses hydraulic fluid.

1) **IDENTIFY THE MISSION OR PROBLEM**

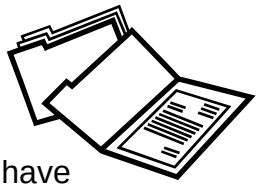
I have to replace a worn part on this piece of machinery. Since my research has to get done without delay, I have to get the equipment back up and running quickly. I have the replacement part in my hand but what do I do now?

2) **ASSESS THE "RISKS"**



My equipment is run by electricity. It has moving parts and also contains lubricating oil. There are machine guards I must remove to get to the worn part. If I stick my hand in this machine to remove that worn part, could the machine move in such a way as to crush my hand or arm? Will I be exposed to sharp edges? Am I exposed to high voltage? Is there a chance of a hydraulic fluid leak during maintenance? What about flying objects? What tools are needed? Do I even know how to replace this part myself? What will be the impact to the mission schedule if I can't repair the part quickly?

3) ANALYZE RISK CONTROL MEASURES



After prioritizing the things that could go wrong, I determine that the highest risks come from the possibility of crushing my arm and receiving a shock. To eliminate the risk of electrocution, the machine must be de-energized and any residual energy must be dissipated. Machine guards must be removed so it is important to have a plan of how to safely perform the operation. Preparations must be made to ensure oil does not leak and create a spill. Personal protection equipment should be worn. If these control measures are put in place, the risks of performing the maintenance should decrease considerably.

4) MAKE CONTROL DECISIONS and 5) IMPLEMENT RISK CONTROL

To reduce the biggest concerns of injury to the arms and electrocution, I need to see if there are written maintenance procedures that include lockout/tagout. I do find written maintenance procedures but they don't include much detail in the area of lockout/tagout. I contact my supervisor and unit safety rep and together we discuss how to lock out the equipment and ensure residual energy has been bled. I review the maintenance procedures to familiarize myself with how to perform the work, identify what tools are needed, and how to avoid leaks. I review our site-specific spill plan so if there is a leak, I'll know where spill equipment is located, where any floor drains are, what PPE may be required, and who to contact. I wear safety glasses and well-fitting gloves to protect my hands from cuts. I notify a co-worker who is going to help with the maintenace, since two heads are better than one. Finally, we are ready to replace the worn part. We put locks and tags in place, ensure any residual energy is released, put on our PPE, put down some absorbent mats, and begin our work.

6) SUPERVISE AND REVIEW

During and after we complete our task, we review our progress and take note of any problems that arise during the maintenance. Did we have adequate safeguards in place or were there a couple "near misses"? Did everything run smoothly or did we forget something? Did we have all the tools and skill required for the task? We use our newfound knowledge and write down clear maintenance procedures, including lockout/tagout, and post them near the equipment for the next time similar work needs to be performed.

For the best results, practice ORM as a team!

On the Road for the Holidays?

Warning signs of drowsiness & fatigue:

If you…

- can't remember the last few miles driven
- have wandering or disconnected thoughts
- experience difficulty focusing/keeping eyes open
- have trouble keeping your head up
- drift from lanes or hit a rumble strip
- yawn repeatedly
- tailgate or miss traffic signs
- find yourself jerking your vehicle back into lane

…then you may be suffering from drowsiness or fatigue. Continuing to drive in this condition puts you at serious risk of being involved in a fatigue-related crash. You should pull over in a safe place and get some rest before resuming your trip.

What you can do to stay alert while driving:

- The best approach is to **get adequate rest beforehand**, share the driving with a passenger or take a break every two hours or every 100 miles. It helps to take a nap, stretch, take a walk or get some exercise before resuming your trip.
- **Sleep/take naps**: Your best bet is to get enough sleep every day. If you must stay up late, afternoon naps are a great way to get more sleep. If you feel drowsy while driving, a 15-minute nap can be very effective. Make sure to pull over in a safe place.
- Caffeine: **Avoid caffeine** during the last half of your workday as it may contribute to sleeping problems. You can gain short-term alertness by drinking coffee or other caffeine sources if driving, but it usually takes 30 minutes to take affect and wears off after a few hours.
- **Regular stops:** You should stop every 100 miles or 2 hours. Switch drivers if you can.
- **Avoid Alcohol:** If you have been drinking, please don't drive! In addition to being illegal, alcohol makes you sleepy and amplifies your fatigue.

Thanks to 374 AMDS/SGPT for the preceding information. For more great info on fatigue and its effect on job performance, contact the Human Performance Training Team at DSN 225-2457.

Fight Fat If You Eat This Every Day

Eat breakfast if you want to stay healthy and slim.

A new study from Harvard University suggests that people who eat breakfast daily may be less likely to succumb to obesity, diabetes, and cardiovascular disease, reports Reuters. Why? Eating breakfast regularly helps control your appetite throughout the day, which means you're less likely to overeat later. In addition, a good breakfast helps regulate the body's blood sugar.

"Our results suggest that breakfast may really be the most important meal of the day," research leader Dr. Mark A. Pereira told BBC News Online. The study examined 2,681 adults between the ages of 25 and 37 for eight years.

People who reported eating breakfast every day--as opposed to twice a week or less--had a 35 to 50 percent reduced chance of becoming obese or developing insulin resistance syndrome, a precursor to diabetes in which the body experiences a loss of sensitivity to insulin. Insulin is a hormone that is key to regulating blood sugar.

What you eat is just as important as making sure you eat, notes Reuters. The best breakfast foods are whole grain cereals. Refined grain cereals and bacon and eggs had no effect on reducing the risk of obesity and diabetes.

Here's a trick from the American Heart Association to tell if a cereal is whole grain: The first item in the ingredient list must be a whole grain or bran and have at least 2 grams of fiber per serving.

One of the best whole grain cereals may be oatmeal. A study reported last year in The Journal of Family Practice concluded that oat cereals work so well at lowering blood pressure that people who are taking hypertension medication can actually use a lower dosage if they eat an oatmeal breakfast every day. Other studies have shown that oatmeal will lower cholesterol.

The study was presented at the American Heart Association's 43rd Annual Conference on Cardiovascular Disease Epidemiology and Prevention.

--Cathryn Conroy

Reader Comments:

I wanted to learn more about the various recycling codes for plastics and happened upon a nice chart that you may find interesting. Just thought I'd pass it along.

http://americanplasticscouncil.org/benefits/about_plastics/resin_codes/resin.html

http://www.plasticsresource.com/s_plasticsresource/sec.asp?TRACKID=&CID=139&DID=244

John M. Helton
Environmental Analyst
Modern Technologies Corp.
AFRL/MLOF/IMMO

Thanks John! These are both interesting sites to learn more about recycling.

What Should be Recycled on WPAFB?

Co-mingle the following items together in Beverage Recycling Bins:

Plastic (#1 & 2 only), Aluminum, Glass, Bi-Metals

Please remove and dispose of lids first.
For pickup, contact the Recycling Center at 74889.

ALL of the following items should be placed TOGETHER in your "Under-the-Desk" Blue Bin:

- white typing paper
- white writing paper
- white photocopy paper
- white scratch paper
- index cards
- computer printout paper
- shredded paper
- file folders
- white inserts from junk mail
- envelopes including plastic windows
- outdated manuals
- phone books
- blueprint paper
- newspaper
- magazines
- books
- colored paper
- post-it notes

Note: Staples do NOT have to be removed. For security reasons, remember to shred all material generated at WPAFB and then recycle.

ESOH Training

RCRA Hazardous Waste Training: Mandatory for all employees who generate hazardous waste. Issue Point (IP) Managers, Hazwaste generators, primary and alternate Initial Accumulation Point (IAP) managers, Unit Environmental Coordinators (UECs), and supervisors of all these individuals must take annual RCRA training.

PLEASE SCHEDULE AFRLALL RCRA HAZARDOUS WASTE TRAINING with Susan Dilworth at 77454 or

Initial Training: 20 Nov 03
CLICK HERE to schedule electronically

Annual Refresher Training - AFRL Only
13 Nov 03
contact Mary Shelly @ 59000 or via email to schedule

Annual Refresher Training - Organizations other than AFRL
18 Dec 03
CLICK HERE to schedule electronically

Environmental Compliance, Assessment and Management Program (ECAMP) Training
(ENV220)

This course is designed to give students knowledge to successfully plan and execute an internal or external compliance assessment (such as ECAMP), prepare required reports, and direct the follow-up actions. For more information on the course see AFIT's website. http://cess.afit.af.mil/

Sign up for the course through your Training Focal Point (TFP). Contractor registration should be coordinated through their assigned organization's TFP. Additional paperwork is required for contractors to attend this course. **For more information contact Karen Thompson, 88 ABW/EMO at 75899**

Environmental, Safety and Occupational Health (ESOH) Awareness Training

CLASS RESCHEDULED TO 19 NOV 03

Hospital Auditorium 0800-1200

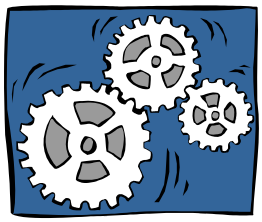
Sign up with 88 ABW/ EM, Treva Bashore, 76391

This course covers a broad range of topics and requirements that apply to all of us at Wright-Patterson, including mandatory training requirements. This course is highly recommended for all employees on Base, including contractors. Supervisors are highly encouraged to attend.

CPR Training

Required for electrical and confined space workers per 29 CFR 1910.151. The American Heart Association recommends CPR refresher training every two years and the American Red Cross recommends CPR refresher training every year. CPR training (per the American Heart Association) is **taught at the Base Hospital every Tuesday** provided that there are enough students.

Contact Marcia Wilson at 79347 or Karen Turner 48384 (Bldg 675 Area B)



Operational Risk Management (ORM)

To sign up, contact Chuck Swankhaus at 43390

ORM is a tool anyone can use to help with planning and decision-making in order to reduce or eliminate potential risks and increase efficiency. The Safety Office (ASC/SEG) has made two ORM briefings available over the Internet. Click on the following links to learn more about ORM:

Awareness Level ORM Training:

https://www.asc.wpafb.af.mil/asc/safety/orm/exec_training.ppt

Level II ORM Training:

https://www.asc.wpafb.af.mil/asc/safety/orm/orm_level_ii_training.ppt

Public Health Training for 2003

All Training will be held at 1400 in the Public Health Classroom in building 675, located in Area B. If needed, more classes will be added to the schedule. To sign up for training or work specific education, please contact Public Health at 255-2515.

Hazardous Communication (HAZCOM)

Contact Public Health at 52515 for future dates

This course is a Train-the-Trainer course that provides mandatory HAZCOM training to supervisors and safety reps responsible for their organization's HAZCOM program. Must have previously had general Hazcom training. Per 29 CFR 1910.1200, Hazcom training is required for all employees who use, handle, or may be exposed to hazardous materials upon initial assignment to that job (if not already receiving Chemical Hygiene Training per 29 CFR 1910.1450). HAZCOM refresher training is required whenever a new chemical or hazardous process is introduced into the work area or it is evident an employee needs refresher training. Otherwise, there is no "annual" requirement for HAZCOM training.

Ergonomics Training

21 Nov 03

Open to all interested DOD and military workers. Focus will be on Repetitive Motion Illnesses. If you would like in-depth ergonomic training that is more job specific, Public Health is available to do that on a one-to-one basis.

Reproductive Hazards in the Workplace

7 Nov 03

Open to workplace supervisors, safety reps, and any interested Base personnel.

Laser Hazards

12 Dec 03

Open to workplace supervisors or Safety Reps.

Asbestos Awareness

5 Dec 03

Mandatory for all building managers and CE personnel.

Hearing Conservation (General)

14 Nov 03

Open to all base employees, recommended for all employees routinely exposed to noise.

OTHER PUBLIC HEALTH TRAINING AVAILABLE UPON REQUEST

- Cadmium
- Cold Stress
- Lead
- Respiratory Protection
- Formaldehyde
- Carbon monoxide
- Heat Stress
- Personal Protective Equipment
- Benzene
- Universal Precautions/ Bloodborne Pathogens

Health and Wellness Center (HAWC) Traveling Show Hits the Road

Looking for an informative presentation for your next commander's call, off-site, or training session? Let the Health and Wellness Center take the pressure off your scheduling worries! The HAWC has a variety of programs and classes to make your next event a hit. To schedule a presentation, all you need is at least 15 participants and the necessary audiovisual equipment, and the HAWC will come to you. At least three weeks' advance notice is requested.

Here are some of the many topic areas:

Stress Management

dealing with difficult people, surviving change, surviving the holidays, resolutions….

Tobacco Cessation

tobacco use and options for quitting

Nutrition

fad diets, winning at losing, healthy eating for a healthy heart, eating on the run…

Fitness

exercise after 40, starting an exercise program, hypertension and exercise, cholesterol and exercise…

To get the latest schedule of classes or schedule a presentation please call 904-WELL.

WPAFB ESOH WEBSITES:

ENVIRONMENTAL MANAGEMENT: http://www.abwem.wpafb.af.mil/em/
The Office of Environmental Management (88 ABW/EM) has changed their phone numbers. For a complete listing, please see their website:
https://wrigem.wpafb.af.mil/EM/staff/index.cfm?fuseaction=main&obj_id=93

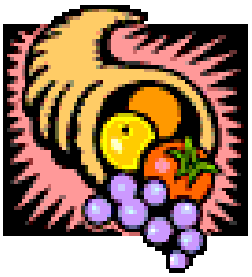
SAFETY: https://www.asc.wpafb.af.mil/asc/safety/index.html

PUBLIC HEALTH: https://wpmc3.wpafb.af.mil/amds/ph/index.htm

BIOENVIRONMENTAL ENGINEERING: https://www.bio.wpafb.af.mil/

HEALTH AND WELLNESS CENTER (HAWC):
http://wpmc1.wpafb.af.mil/pages/hawc/

CAP OFFICE: (6-2860) https://www.afmc-mil.wpafb.af.mil/ESC/MM/CAP/



If you have any suggestions for this newsletter or if you would like to be added / removed from the distribution list, please contact Mary Shelly via email or at 59000.

Unit Safety Reps: please post this ESOH newsletter on your safety bulletin boards.