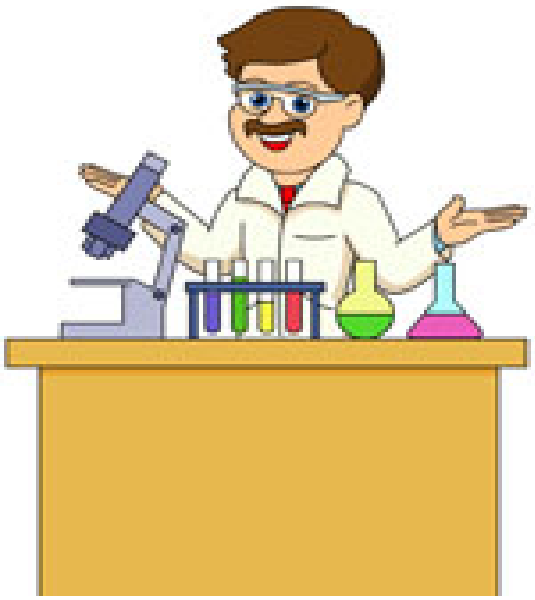
Desert Research Institute



New Employee
Quick Guide to Safety

August 2015

Welcome to the Desert Research Institute!

The New Employee Quick Guide to Safety contains important information about the Desert Research Institute (DRI) environmental, health and safety programs, including, but not limited to, chemical safety, personal protective equipment, emergency response procedures, ergonomics, safe work practices, and hazardous waste disposal. The purpose of the Guide is to provide new employees with pertinent environmental, health, and safety information before they start performing work assignments and to serve as an environmental, health and safety reference document during their employment at DRI.

DRI is committed to providing our employees with a safe and healthy workplace (see policy statement on the reverse side). However, the effectiveness of all safety programs depends upon the active support and involvement of all employees. Please read the Guide on your first day at DRI and bring any questions you may have to your new supervisor's attention.

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GENERAL SAFETY

The **Workplace Safety Plan** (WSP) is DRI's general safety program and it applies to all employees, including graduate students and hourly and temporary workers. This program describes the means, policies and practices DRI will use to prevent occupational injuries and illnesses and lists individual responsibilities for safety. The WSP serves as the "umbrella" safety program, encompassing all other DRI safety programs. More specific safe work practices and procedures have been developed and are detailed in Environmental, Health and Safety (EH&S) Programs, Policies and Procedures. Your supervisor will provide environmental, health and safety information specific to your job and department specific procedures to you. The WSP is posted on the web at http://www.dri.edu/images/stories/DRI_WORPLACE_SAFETY_PLAN.pdf.

As a DRI employee, you have certain responsibilities to ensure a healthy and safe workplace. These responsibilities are the following:

⇒ Performing every job in the safest possible manner;

⇒ Following all safety rules, regulations, programs, policies and procedures and when uncertain, requesting clarification or explanation of proper safe work practices or information regarding the handling and use of materials which you suspect of being hazardous;

⇒ Immediately reporting discovered safety deficiencies to your supervisor or manager or correcting the unsafe condition and reporting the corrective actions taken to your supervisor or manager;

⇒ Reporting all occupational injuries, illnesses and near misses to your supervisor immediately; and

⇒ Attending scheduled safety training programs and department safety meetings.

Your department will hold safety meetings on a regular basis as a means of communicating important safety issues to you. In addition, the DRI safety committees meet regularly to discuss safety issues. Employees are encouraged to bring any safety issues to the attention of EH&S or any of the safety committee members.

EMERGENCY REPORTING

To report any of the following emergencies, dial 911:

⇒ ALL FIRES, SMOKE of undefined origin and EXPLOSIONS
⇒ MEDICAL EMERGENCIES
⇒ BOMB THREAT
⇒ VIOLENCE in the WORKPLACE
⇒ TERRORIST ACTIVITY

Then call the appropriate number listed below depending on the time and location.

WHEN	NNSC	STEAD	SNSC	BOULDER CITY	STORM PEAK
During normal work hours	775-742-4867	775-673-7315	702-491-8553	702-862-5400	775-673-1315
After hours and on weekends	775-846-9408	775-742-5811	702-429-4011	702-429-4011	775-846-9408

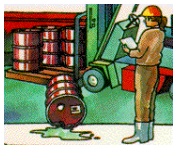
(More information is found in the DRI Emergency Procedures posted throughout DRI facilities and on the web at http://www.dri.edu/ehs-emergency-information)

EMERGENCY ALERTING AND RESPONSE

An evacuation of a building should be initiated if one of the following conditions occurs:

⇒ UNCONTROLLED OPEN FLAME

⇒ UNCONTROLLED COMPRESSED GAS RELEASE or a SIGNIFICANT HAZARDOUS MATERIALS RELEASE



⇒ ANY SITUATION WHICH POSES IMMINENT THREAT TO HUMAN HEALTH OR SAFETY

Any person who knows of (or encounters) any of the preceding conditions must immediately call 911, then call the appropriate in-house emergency number in the table above and request activation of the fire (evacuation) alarm.

EVACUATION PROCEDURES

Your supervisor will advise you of your evacuation route(s). Emergency evacuation maps are also posted throughout DRI buildings.

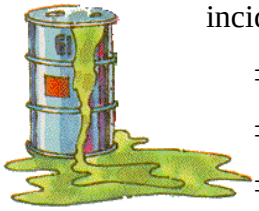
When the alarm sounds, follow the designated evacuation route**. If the designated evacuation route is blocked**, or has a hazardous condition associated with it, **choose an alternate route**. If you have visitors at DRI, ensure they are aware of exit locations and assist them during an evacuation.

Walk, **DO NOT RUN**, during an evacuation. If you are away from your normal work area during an evacuation, use the nearest evacuation route for the area you are in.

Once you have evacuated, remain out of the way of responding emergency vehicles and do not re-enter the building until you hear an announcement from your supervisor or fire, police, or DRI Facilities personnel that you can safely return to your work area.

SPILL PROCEDURES

Follow these procedures if any release of a hazardous material greater than an incidental spill (or unknown spilled material) is encountered:



⇒ Clear the affected area;

⇒ Check for personal contamination; and

⇒ Call or have someone call the EH&S emergency phone (775-742-6330) to report the spill.

CHEMICAL CONTAMINATION and OTHER OCCUPATIONAL INJURIES

Any chemical substance which gets into the eye must be washed out under the nearest eyewash for a minimum of fifteen minutes and then reported to both your supervisor and EH&S. Any clothing that gets saturated with a hazardous material shall be promptly removed. Go to the nearest emergency shower, activate the shower and remove clothing under the running water. If your hair, face or head is contaminated, leave safety glasses/goggles on until you have thoroughly rinsed these areas. Stay under the shower for a minimum of fifteen minutes. Then notify your supervisor and EH&S.

All occupational injuries or illnesses must be reported as soon as possible to the supervisor and to EH&S. Contact DRI's Worker's Compensation coordinator, (775) 673-7325, for any injury or illness which requires medical attention as well as to obtain Worker's Compensation paperwork which must be completed. Paperwork is also posted on the web at http://www.dri.edu/ehs-emergency-information. For life or death situations, call the paramedics, 911, then call the applicable in-house emergency number noted in the table on page 2.

The supervisor will investigate all workplace incidents and applicable corrective actions will be taken to prevent a recurrence. If you experience, or witness, an occupational injury or illness you will be required to participate in the investigation process. In addition, if you experience an occupational injury or illness, you will need to complete the paperwork required by Nevada's Worker's Compensation regulations.

CHEMICAL SAFETY

If you work in an area where chemicals are used in manufacturing processes or during the course of business, you could come into contact with hazardous chemicals, the OSHA Hazard Communication Standard or "Right-to-Know" law applies. (If you work in a research, development or non-manufacturing laboratory you the OSHA Laboratory Standard, discussed further on page 6, applies.)

The Hazard Communication Standard requires a written **Hazard Communication Program** that focuses on seven areas:

- ⇒ hazard determination;
- ⇒ chemical inventory;
- ⇒ handling non-routine tasks;
- ⇒ informing contractors of potential hazards;
- ⇒ labeling of hazardous chemicals;
- ⇒ safety data sheets (SDS); and
- ⇒ employee training.

DRI's Hazard Communication Program is posted on the web (http://www.dri.edu/images/stories/editors/ehs/ehsdocs/Gen_Safety_Haz_Comm_2012_r1.pdf). The program contains information on the practices and procedures listed above. It is important that you review this program to understand DRI's procedures concerning communication of chemical hazards.

It is very important to understand and adhere to all signs, placards, and product warning labels. Labels provide important information about the chemical with which you are working, such as the chemical's physical hazards (fire, explosivity, reactivity, etc.) and health hazards (such as

toxicity, carcinogenicity, etc.) Health hazards can be short-term (acute) effects such as skin burns and/or long term (chronic) effects, such as cancer.

A Safety Data Sheet (SDS) is required for every hazardous chemical in use at DRI

(there are some exceptions for chemicals received by non-manufacturing laboratories, see the **Chemical Hygiene Program** (http://www.dri.edu/ehs-programs/ehs-lab-safety/chemical-hygiene-plan). The SDS provides the most detailed information concerning the hazards of the chemicals with which you work.

Although there is no single mandatory format for the SDS, the following specific information must be included on the form by the manufacturer or importer:

- what it is;
- who makes it or who sells it;
- where they are located;
- why it is hazardous;
- how you can be exposed to the hazard;
- what conditions could increase the hazard;
- how to handle the substance safely;
- what protection to use while working with it;
- what to do if you are exposed; and
- what to do if there is a spill or emergency.

Before you start any job using a hazardous chemical, read and obtain an understanding of the information found on the SDS. Then, use the necessary personal protective equipment and follow the safe work practices given in your employee training. If you have any questions or cannot locate a specific SDS, check with your supervisor or contact EH&S.

Before you start working with (or will otherwise be potentially exposed to) a chemical, your supervisor will inform you of the potential hazards of the chemical and how to protect yourself. You have the right to be informed of these hazards and to have access to information regarding these hazards.

You also have the following responsibilities for your safety under the Standard:

⇒ Requesting information and clarification from your supervisor on any suspected hazard before using, handling, or storing the material or engaging in a process with potential hazards;

⇒ Understanding the hazard information available to you;

⇒ Requesting that any unclear information be explained to your satisfaction;

⇒ Reporting any newly discovered or suspected hazardous materials or processes in the work place and requesting clarification or explanation of the associated hazards; and

⇒ Utilizing available hazard information whenever necessary to protect your own health and safety and that of your coworkers.

The Laboratory Standard is a hazard communication type program that applies

specifically to research and development laboratories and their use of many different chemicals in small (lab-scale) quantities. It requires a written **Chemical Hygiene Plan** (located on the web at http://www.dri.edu/ehs-programs/ehs-lab-safety/chemical-hygiene-plan). This plan goes beyond just communicating the physical and health hazards of the chemicals in use. The plan and employee training must also discuss the following:

⇒ Standard operating procedures for laboratory chemicals and laboratory operations/experiments;

⇒ Selection, use and maintenance of personal protective equipment;

⇒ Criteria for implementation of control measures including air sampling, designating chemical use areas for highly toxic materials, developing housekeeping practices, identifying and procuring safety and emergency equipment and engineering controls;

⇒ Employee information and training;

⇒ Medical consultation and examinations;

⇒ Special precautions for working with allergens, embryotoxins, chemicals of moderate or high acute toxicity, high chronic toxicity, etc.;

⇒ Record keeping; and

⇒ Chemical spills, releases and accident procedures.

PERSONAL PROTECTIVE EQUIPMENT

OSHA regulates personal protective equipment (PPE) in 29 CFR 1910.132-138.

The law covers eye and face protection, respiratory protection, head protection, foot protection, electrical protective equipment and hand protection. Hearing conservation (protection) is also regulated by OSHA 29 CFR 1910.95.

Each job that you perform must undergo a safety assessment to determine what, if any, personal protective equipment is needed. In addition, you will receive training on the proper selection, use, and care of personal protective equipment required for your job. PPE related documents can be found in the EH&S Programs, Policies and Procedures. Ask your supervisor about what PPE is required for you to perform your new job safely. If you have any questions concerning the use of personal protective equipment, contact your supervisor.

In general, **Eye Protection** shall be worn whenever there is a risk of receiving eye injuries from punctures, abrasions, contusions, or burns as a result of contact with flying particles, hazardous substances, projectiles, or injurious light rays. Plano (non-prescription) glasses are available from your supervisor. If you need prescription* safety glasses, contact your supervisor for information on how to obtain the glasses.

Foot protection must be worn when there is a hazard that could cause foot injuries, such as hot surfaces, injurious substances, or falling objects. If your job requires safety shoes*, contact your supervisor for information on how to obtain safety shoes.

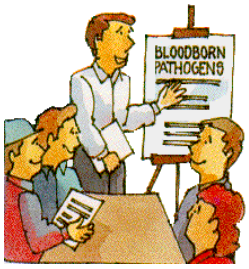
Respiratory Protection is another type of personal protective equipment. If engineering controls are not feasible or practical in controlling a hazard, you may be required to wear a respirator if air-monitoring results indicate excessive levels of a hazardous material are present. You will need to obtain a medical evaluation prior to issuance of respiratory protection. EH&S will provide training on the limitations, use and care of your respirator, select the proper type of respirator for your job, and fit test you for your respirator. ***IMPORTANT:*** *Always contact EH&S for respiratory protection assistance.* ***Never select your own respirator or wear a coworker's respirator.***

Hearing protection must be worn in areas where noise levels exceed the OSHA exposure limit. If you are working in an area where hearing protection is required, you will be placed in the DRI's **Hearing Conservation Program** and be provided with annual hearing tests and training on the effects of noise and the use and care of hearing protectors.

Note: Personal protective equipment necessary to protect you from on-the-job hazards will be provided at no charge to the employee. Budget for the purchase of this equipment is the responsibility of the PI, project manager and/or division director.

BLOODBORNE and other PATHOGENS

Bloodborne pathogens are microorganisms present in human blood that can cause disease in humans. They include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). There is a very little potential for exposure to bloodborne pathogens at DRI. Operations where exposure to bloodborne pathogens is a potential include custodial services and employees who are designated to respond to medical emergencies (first aid responders).



Before working in a job where there is a potential exposure to bloodborne pathogens, you will be offered the Hepatitis B vaccination series (three shots). You will be required to sign a declination statement should you chose not to receive the vaccine. You will also be educated annually on bloodborne pathogens. The training will include a discussion of the DRI's **Exposure Control Plan** http://www.dri.edu/images/stories/editors/ehs/ehsdocs/Biosafety_Exp_Control_Plan_BBP_2014_Rev4.pdf Universal precautions, engineering and work practice controls, personal protective equipment, waste disposal, etc.

Depending on your job assignment, you may also have potential exposure to other human pathogens, such as Hanta Virus, Bubonic Plague, Lyme Disease, Rocky Mountain Spotted Fever, and Histoplasmosis. The potential for exposure to biological hazards is identified as part of the Pre-Hazard Assessment (PHA) process. If these kinds of hazards are present, you will receive training on how to protect yourself from exposure.

RADIATION SAFETY

In a few of DRI's operations, there is a potential for exposure to radioactive materials. These operations include experiments that use radioactive markers, radiologically contaminated soils or waters and the use of radioactive sealed sources, such as those found in soil moisture and density probes.

All radioactive isotope and radiation producing equipment use must approved by the Nevada Radiation Control Program, which means new users or changes in isotopes used will require an amendment to the DRI Radioactive Materials License. If your new job includes using these materials you will be required to attend annual training on radiation safety. You might also be required to wear a personal dosimeter and/or to participate in bioassays for radioactive material exposure monitoring. For more information, consult the **DRI Radiation Safety Manual**, http://www.dri.edu/Rad_Safety_RS_Manual_2015.pdf, or ask your supervisor.

Additional radiation safety training may be required for DOE work on the Nevada National Security Site or off-site locations. This training will be outlined in the Radiological Work Permit for the project and will be provided by the Radiation Safety Prime Contractor (RSPC). For more information, contact your DRI DOE task manager.

LASERS

Lasers or laser systems are devices which emit intense electromagnetic radiation (light) that has the potential for causing irreparable damage to human skin and eyes. They also pose a hazard associated with the electrical power supplies or other ancillary equipment used in conjunction with these devices.

If you will be working with or around lasers, you will receive training on Laser Safety (provided by the UNR Radiation Safety Office). You will also need to familiarize yourself with work-area specific laser safety procedures and DRI's **Laser Safety Program**, which is on the web at http://safety.dri.edu/Programs/lasersafety.pdf. And don't forget to ask your supervisor about any additional work area specific procedures.

If the lasers in your work area are the more powerful Class 3b or Class 4 devices, you may also be advised to have an initial eye examination. Cost for this exam comes out of your project budget. Contact your supervisor for more information.

FORKLIFTS

If your job requires you to drive a forklift or other powered industrial truck (PIT), you must first obtain a PIT driver's license. DRI has in-house trainers for powered industrial truck training. They conduct a training class that includes a discussion of DRI's **Powered Industrial Truck Safe Operating Procedure** (http://www.dri.edu/images/stories/editors/ehs/ehsdocs/Occ_Safety_Pow_Ind_Trucks_1999.pdf), a written examination and a driving evaluation for each type of powered industrial truck you will use on the job. In order to obtain your license, you will need to contact one of them to arrange for the training class.

LOCKOUT/TAGOUT

The control of hazardous energy standard (lockout/tagout, LOTO), covers the servicing and maintenance of equipment where the unexpected energization or start-up of equipment could injure employees. Before working in situations involving repair and replacement work, renovation work, and modifications or other adjustments to energized equipment, you must lock out all energy sources, including sources of stored energy.

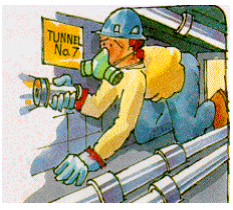
DRI's **Energy Control Program** (see the document at http://www.dri.edu/images/stories/editors/ehs/ehsdocs/Occ_Safety_Lockout_Tagout_2010.pdf) discusses our lockout/tagout procedures. In addition, departments must develop specific lockout/tagout procedures for their equipment which falls under this standard. If your job requires you to work on equipment as described above, you will receive training on this program. Contact your supervisor or the Facilities Supervisor at your site if you have any questions regarding how this program applies to your new job.

ELECTRICAL SAFETY

In many of DRI's operations, there is a potential for exposure to electricity or electrical equipment. If your new job involves working on, with or near electrical circuits or electrical equipment, you will receive training in electrical safety. In addition, your department will have specific work procedures which must be followed to assure the safety of you and your coworkers. Contact your supervisor for more information.

CONFINED SPACES

A confined space is a space that 1) is large enough for an employee to enter and perform assigned work, 2) has a limited or restricted means of entry or exit, and 3) is not designed for continuous employee occupancy.



These spaces may include, but are not limited to underground vaults, tanks, storage bins, pits and diked areas, vessels and silos.

Confined spaces can be dangerous because of presence of chemical and physical hazards. For example, dangerous vapors and gases can accumulate in these spaces and fires and explosions can occur. Therefore, if work is to be conducted in confined spaces that may pose a safety or health hazard, a written Confined Space Program which outlines institute procedures, including training requirements and the use of entry permits for access of these spaces is required. A permit-confined space is one that meets the definition of a confined space and has one or more of the following characteristics:

- ⇒ Contains or has the potential to contain a hazardous atmosphere;
- ⇒ Contains a material that has the potential for engulfing the entrant;
- ⇒ Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section; and/or
- ⇒ Contains any other recognized serious safety or health hazard.

Besides the sewer and storm drain manholes, DRI has identified the following confined spaces:

- ⇒ the grease trap (or clarifier)
- ⇒ sewage ejection sump
- ⇒ air handlers
- ⇒ electrical vaults
- ⇒ vendor controlled telephone, water and power vaults
- ⇒ Maxey utility tunnel
- ⇒ Evaporative coolers

Before conducting work in any confined spaces, the employee and/or his/her supervisor must evaluate the space to determine if a safety or health hazard may exist making it is a permit required confined space. The current policy at the DRI is that **no employee may enter <u>any</u> permit required confined space**. Any work that needs to be conducted in permit-confined spaces must be contracted out to a company that has a confined space entry program, trained personnel and the appropriate equipment and emergency response personnel to do the job safely.

Once identified, Permit Required Confined Spaces must be labeled with the following sign:

DANGER
"PERMIT-REQUIRED
CONFINED SPACE,
DO NOT ENTER"

FIELD SAFETY

Conducting field research may present a myriad of hazards to the researcher. Field conditions will vary widely depending on the time of year and locale for the project, therefore pre-planning for the expected conditions as well as the hazards the research itself might present is critical. Some project sponsors require specific safety plans be created prior to the commencement of field research. One example of this requirement is the pre-hazard and hazard assessments, site specific health and safety plans (SSHASPs), and other documents required for field work on the Nevada National Security Site (NNSS). For those projects where the sponsor does not have specific forms for safety planning, DRI has developed a Field Health Assessment and Mitigation Plan (HAMP) that can be used to identify the hazards and how to protect against them.

Guidance on field safety topics is on line at http://www.dri.edu/ehs-programs/field-safety. Some of the topics discussed there include:

⇒ DRI Field Safety Policies and Programs
- Backcounty Winter Safety Policy
- Drill Rig Safety Program
- Fieldwork Safety Checklist
- Working On or Over Water Safety Policy
- HAZWOPER A-D Protection/PPE

⇒ DRI Field Safety Guidelines
- Altitude Sickness
- ATV Safety
- Avalanche Safety
- Battery Use
- Clothing and Equipment for Winter Fieldwork
- Common Winter Injuries
- Electrical Safety Guide for Temporary Setups
- Heat Stress Fact Sheet
- Kayaking Safety
- Lightning Safety
- Rattlesnake Safety
- Safe Boating
- Safety Considerations for Driving on Rural Roads
- Safety Guide for Operations on Ice
- Shelter from the Storm
- Snowmobile Safety
- Spiders and Snakes Safety
- Tower Safety
- Wildlife Safety
- Winter Driving Tips
- Winter Weather Terminology

⇒ Links to DOE Safety Documents

⇒ Links to other Field Safety Guidelines (from agencies and universities)

OFFICE SAFETY

Everyone assumes that the office setting is totally safe when in fact that may not necessarily be the case. Offices could be safer than they really are in many instances, if only everyone would apply common sense to their work in these areas.

Here are some "common sense" **General Office Safety Tips:**

⇒ When handling electrical cords, be sure to hold the plug and not the cord to connect and disconnect the electrical circuit. Arrange electrical cords in a safe place. **Do not** use extension cords in place of fixed wiring. **Do not** daisy chain electrical cords or use octopus (multiple) plugs. **Do not** run cords under carpeting.

⇒ Metal desks, filing cabinets and bookcases may have sharp, rough edges. Use caution to avoid cuts. Notify Facilities of any rough edges that need filing down or padding.

⇒ Be careful of door swings, especially when approaching doors without window glass and/or those subject to a lot of through traffic.

⇒ **Do not** open more than one file drawer at a time to prevent tip-over. (While newer cabinets have stops to prevent opening more than one drawer, older cabinets may not. In addition, the stops may fail.) **Do not** leave a file drawer open unattended where another person could run into it.

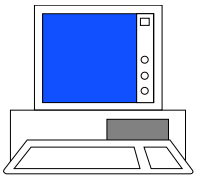
⇒ Climbing on chairs, upturned wastebaskets, stools with casters, or on other improvised supports is strictly prohibited. If climbing is necessary, safety ladders or step stools must be used.

⇒ Lifting things improperly or lifting objects too heavy or too bulky is an easy way to acquire a hernia or back injury. Use the principles of good lifting. (See page 15 of this Guide.)

⇒ Avoid the use of exacto knifes and razor blades and be careful with scissors to avoid cuts. **Do not** reach blindly into desk drawers that may contain these and other sharp objects. **Do not** leave the blade up on paper cutters. Dispose of razor blades and broken glass in a sharps-keeper container and not in trashcans handled by custodial staff.

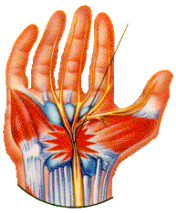
⇒ Turn off office equipment when changing ribbons, paper rolls, etc. to avoid the potential of unexpected start up (moving parts) and/or electrical shock. Be especially careful of hot parts when clearing jams in copiers, printers, etc.

ERGONOMICS

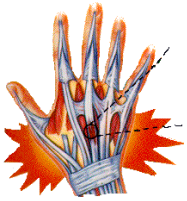


Ergonomics is the study of the relationship between people and the work they perform. One of the major causes of lost-work time is ergonomic related injury. The goal is to fit <u>your</u> job to you, not you to <u>your</u> job. In doing so, ergonomic risk factors, which are the leading contributing causes of cumulative trauma disorders, can be eliminated. Cumulative trauma disorders, also known as CTDs or repetitive motion injuries (RMIs) are injuries caused by regularly repeated movements. Besides constant repetition, other risk factors involve force, awkward postures, and lack of rest pauses.

Some common types of RMIs are:



⇒ **carpal tunnel syndrome** (CTS)--where repeated flexing of the fingers causes tendons in the wrist to swell and put pressure on nearby nerves.

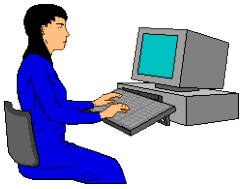


⇒ **tendinitis**--tendons are inflamed by repeated tensing of muscle and tendon ("tennis elbow" is a good example).

⇒ **circulation problems**--caused by repeated pressure or vibration that can limit blood flow in the area.

⇒ **tenosynovitis**--caused by repeated movements that can inflame a tendon's covering ("trigger finger," for example).

Proper posture plays an important role in reducing the risk of CTDs. The best posture, called the 'neutral position', is one that puts the least amount of stress on the body. In this position, the arms are below shoulder level, the spine maintains its natural 'S' shape position, elbows are close to the body without the forearms rotated inward or outward, and the hands and wrists act as a natural extension of the forearm. The wrists should be neither extended upward nor flexed downward.



In order to prevent a repetitive motion injury associated with <u>your</u> job, you can do the following:

⇒ Request an ergonomic assessment from your supervisor.

⇒ Warm-up with stretching exercises prior to performing <u>your</u> job. EH&S has brochures on stretching and muscle relaxing exercises.

⇒ Avoid repeating actions, as much as possible. If several different movements are possible, switch from one to another from time to time.

⇒ Adjust your chair, work surface, keyboard or other objects to a height that puts your body in a more neutral position.

⇒ Take breaks to give your body time to recover. The rule of thumb is to perform an alternate task for a minimum of fifteen minutes for every forty-five minutes of performing a repetitive task.

⇒ Change your posture or work position frequently to help reduce stress in a single area of the body. Avoid static positioning.

⇒ Keep your elbows at a right angle (90^o angle). Adjust your chair or work surface so that your elbows form roughly a 90^o angle. This produces less stress on tendons and nerves.

⇒ Keep your wrists as straight as possible. A bent wrist, especially when combined with pressure, increases stress on the wrist tendons. Arrange your work accordingly.

⇒ Pad corners and use cushioned tools and other devices. Softening the contact between body tissue and a hard surface makes you work more comfortable and an RMI less likely.

Report any of the following symptoms to your supervisor, to DRI's Worker's Compensation coordinator, (775-673-7325) and to EH&S:

⇒ numbness in your fingers, hands or arm (especially at night);

⇒ tingling in your hand or arm;

⇒ swelling or tenderness in your fingers, hand, or arm; and/or on-going ache in your hand or arm.

(**NOTE*:** *Injured temporary workers must also notify their agency and follow the agency's procedures for obtaining medical assistance and Worker's Compensation benefits*.)

BACK SAFETY

Lower back injuries are another form of cumulative trauma disorder. Most injuries are the result of years of poor posture and improper lifting techniques. The back is the foundation for the entire body and operates at a 10-to-1 ratio with the waist acting as the fulcrum point. This means that when you bend at the waist to pick up an object, the weight is magnified ten times on the lower back. Since the weight of your upper body is included, bending at the waist to pick up a piece of paper can put over a 1,000-pound stress on your lower back. Therefore, the amount of weight being lifted is not the main problem, it is usually the manner and frequency in which the lift is performed that cause most back injuries.

The following procedures are recommended for proper lifting and handling objects:

⇒ When manually handling material, maintain the natural 'S' curve of the back. In order to maintain this curve, keep your stomach muscles tight.

⇒ Stand close to the object and stagger your feet for better balance.

⇒ If the object is down low or on the floor, bend your knees and squat down to pick it up.

⇒ Keep the load close to your body.

⇒ If it is an unbalanced object, keep the heavier end closest to your body.

⇒ Avoid twisting with your upper body when carrying a load; use your legs and feet to turn.

Follow these same procedures when setting the object down.

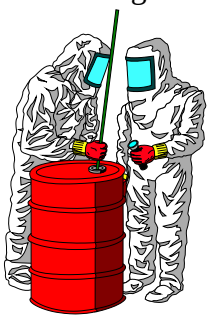
Back Belts

At this time there are no definitive studies on wither the beneficial or harmful effects of wearing back belts. However, there is some research showing that workers believe they can lift more when wearing a back belt. If workers falsely believe they are protected, they may subject themselves to even greater risk by lifting more weight that they would have without a belt. Therefore, no employee may wear a back belt without receiving proper training in safer lifting techniques and in how to properly use a back belt. Contact EH&S for more information.

ACCESS TO MEDICAL and EXPOSURE RECORDS

In addition to Safety Data Sheets (SDSs) you have the right to see and copy your medical records and records of exposure to toxic substances or harmful physical agents. You may also have access to the exposure records of other DRI employees with work conditions similar to yours.

HAZARDOUS WASTE



As a generator of hazardous waste, DRI must comply with EPA regulations regarding the collection, accumulation, storage, and handling of hazardous wastes. Each department that generates hazardous waste is responsible for ensuring that their wastes are managed properly. Wastes are collected monthly in the north and as needed in the south and disposed of through a licensed treatment, storage and disposal vendor. Waste disposal requires cradle-to-grave tracking. Disposal request forms are available from EH&S and on the DRI intranet at http://www.dri.edu/ehs-forms.

If you have questions regarding what is considered a hazardous waste, how to handle these materials, etc., contact DRI EH&S.

UNIVERSAL WASTE

A waste must be a hazardous waste before it can be considered a universal waste and it must be something that is widespread, commonly found in medium to large volumes, and exhibits only low-level hazards or be easily managed. Currently fluorescent lamps, thermostats (mercury switches), pesticides and rechargeable batteries qualify as universal wastes. If your work projects generate these items contact EH&S for more information.

USED OIL and ANTIFREEZE

Used oils and antifreeze (ethylene and propylene glycols) are recyclable materials and if handled in that manner, do not count as hazardous waste generation. If your work or project will generate these materials, contact EH&S for more information.

ELECTRONIC WASTE (e-waste)

Computers and other electronics may contain heavy metals in their components. Most notably computer monitors contain about 8 pounds of lead. Working or repairable electronics should be considered for resale. If not suitable for resale, electronics may be recyclable.

AIR PERMITS

Currently DRI has air permits for several pieces of facilities equipment and recently was required to obtain a permit for solvent emissions from the Organic Analysis Lab (OAL). It is important that our activities do not adversely affect air quality. If you are going to be working on a process or piece of equipment that could release a significant amount of pollutants to the air, be sure that you have investigated abatement opportunities as well as determined that an air permit is not required. Contact EH&S at 775-673-7329 if you have questions.

INDUSTRIAL WASTEWATER PERMITS

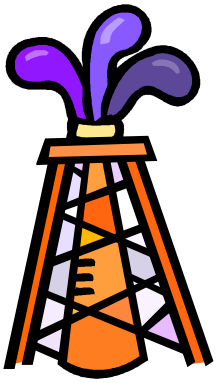
Both the SNSC and NNSC are required to comply with EPA discharge limits to waste water. Each facility has specific discharge conditions that must be met. Waste water is monitored continuously for pH at the SNSC. Never pour any chemical or chemical containing materials to any sink, floor drain or other connection to the sewer. Lab sinks are marked "Do Not Dispose of Chemicals." . If you have any questions about the wastewater discharge limits or how to dispose of liquids containing chemicals, ask your supervisor, or contact DRI EH&S.

STORM DRAINS

All storm drains have been stenciled with **"No Dumping"** warnings labels. No substance (hazardous or non-hazardous) shall be placed in or near any of these drains. Chemicals stored outside, must be in secondary containment and protected from contact from rain or snow. If you have any questions, ask your supervisor or contact DRI EH&S.

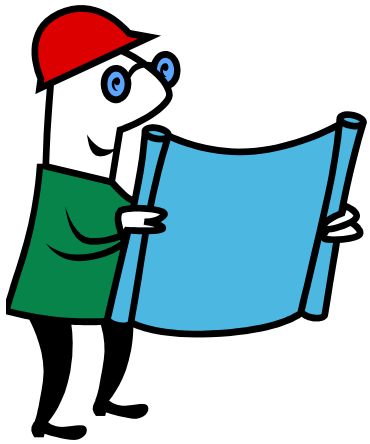
SPILL PREVENTION, CONTROL & CONTINGENCY PLAN (SPCC)

The amount of petroleum based products used and stored at the NNSC requires an SPCC. As DRI grows, the SNSC may soon need to have a plan also. While this plan applies primarily to Facilities equipment and operations, it also includes uses of petroleum based products in laboratory operations. The plan calls for spill materials to be available near places where petroleum products are used or stored, protocols for the transfer of fuels and monthly inspections of affected storage areas. If you will be working on a project that will use petroleum based products be sure to notify EH&S before ordering materials to ensure you are in compliance.



Note: a spill > 25 gallons of petroleum product requires immediate notification to the NDEP.

Desert Research Institute
New Employee
Quick Guide to Safety



Appendix

(emergency phone numbers and floor plans for the NNSC and the SNSC

August 2015