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UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

ORGANIZATIONAL COMMITMENT

ORGANIZATIONAL COMMITMENT

RESPONSIBILITIES

The ultimate responsibility for establishing and maintaining the Occupational Health and Safety Program on campus rests with the Board of Governors of The University of Lethbridge. Basic policies, which govern the activities and limitations of the Health and Safety program, are proposed by the President of The University of Lethbridge and issued under the final authority of the Board of Governors.

The primary responsibility for providing and maintaining a healthy and safe campus environment on a day-to-day basis lies at the operational departmental level. Specific responsibilities of all Facilities staff are directly proportional to their operational authority and are listed below.

The Facilities Department requires that all supervisors and employees adhere to the policies, regulations and procedures set forth in this manual as well as the policies and regulations of The University of Lethbridge and the Alberta *Occupational Health & Safety Regulation and Code.* This manual does not replace the standards set forth by The University of Lethbridge or the Alberta *Occupational Health & Safety Regulation and Code*. Where there are discrepancies the stricter will apply.

Executive Director of Facilities:

It is the responsibility of the Executive Director of Facilities to maintain a healthy and safe working environment within the jurisdiction, to monitor and exercise control over assigned areas and implement the following designated safety-related responsibilities:

- Providing management the support and leadership necessary for the overall planning, implementation and execution of The University of Lethbridge safety policies within their areas of responsibility.
- Incorporating adequate provisions for safe working practices and conditions in operational policies and procedures and in programs and projects.
- Monitoring and evaluating safety performance within their areas of responsibility and recommending measures to bring about improvement.

Superintendents, Managers and Supervisors

All Superintendents, Managers and Supervisors within Facilities are responsible for ensuring that facilities and conditions under their jurisdiction are monitored and maintained in a safe manner at all times. Special emphasis should be given to ensuring that adequate training is provided prior to tasks being assigned. It is expected that preference will be given to following established safe work procedures over expedient hazardous shortcuts in all operations. Further responsibilities include:

- Ensuring compliance with the Alberta Occupational Health and Safety Regulations and Code;

- Planning and executing all activities in a manner that promotes compliance with The University of Lethbridge safety policies.
- Ensuring that individuals in their areas of assignment have been given adequate direction, training and instruction in the safe performance of their work, and that it is performed without undue risk.
- Ensuring that employees are provided with all tools and equipment (including Personal Protective Equipment (PPE) complete with instructions on its proper use), necessary to carry out their duties without jeopardizing their health and safety or the health and safety of others.
- Ensuring that work areas are inspected at regular intervals to prevent the development of unsafe conditions and practices.
- Authorizing the action necessary to correct substandard conditions or procedures.
- Ensuring all incidents and near misses are reported and investigated, and action taken to prevent a recurrence.
- Making every effort to ensure that medical treatment is received for all injuries.

Employees

All Facilities employees are subject to the health and safety requirements established in this manual, to departmental operational procedures and to all other applicable regulatory requirements. Responsibilities of employees include:

- Observing all safety rules and procedures established by the regulatory authorities and The University of Lethbridge.
- Consulting with their Supervisor on the safe way to perform a task which is considered hazardous or is known to be hazardous, prior to beginning the task.
- Performing a Hazard Assessment before commencement of any task, involving the physical environment, to ensure all control measures are in place to safely execute the task without risk to themselves, other employees or the public.
- Wearing Personal Protective Equipment when required to ensure health and safety are not jeopardized.
- Promptly reporting hazardous or unsafe equipment, facilities, conditions, procedures or behavior to a supervisor, making suggestions for their corrective action and taking corrective action where authorized.
- Immediately reporting to a supervisor all work related incidents or injuries and obtaining first-aid treatment without delay.
- Reporting promptly to a supervisor any treatment by a physician following a work related injury.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

HAZARD IDENTIFICATION

HAZARD IDENTIFICATION

A consistent hazard evaluation process was used throughout the Facilities departments for hazard identification of the various job tasks performed, and equipment used. Workshops were conducted to train employees and managers on how to evaluate the hazards associated with their jobs.

***The employees performing the tasks, and operating the equipment conducted all evaluations*.**

HAZARDS

For each job task and piece of equipment evaluated the following OH&S industry standard hazards were taken into consideration:

1. **Falling Objects**
2. **Chemical Exposure**
3. **Exposure to Heat / Cold**
4. **Dust / Vapours**
5. **Light Radiation**
6. **Electrical**
7. **Noise**
8. **Eye Injury**
9. **Repetitive Strain / Motion**
10. **Lifting**
11. **Slips / Falls**
12. **Ice / Docks & Roads**
13. **Rotating Equipment**
14. **Pinch Points**
15. **Cuts**
16. **Eye Strain**
17. **Fire**
18. **Asbestos**
19. **Radioactive Exposure**
20. **Working Alone**
21. **Mould**
22. **Pedestrian / Vehicular Traffic**
23. **Bio-Hazardous Material**
24. **Wildlife Hazards**
25. **Asbestos Awareness Information**

The above list shall be used as a guide in reference to hazards identified throughout this manual.

HAZARD ASSESSMENT

The fundamental principle of a Health and Safety Program is to reduce injury and disease to employees. One of the most important aspects of a health and safety program is hazard assessment. Hazard identification is crucial in the workplace.

Conducting a Hazard Assessment

1. The job tasks are listed.

2. Compile a master list of the jobs.

3. Determine the hazards associated with the jobs. Each hazard is determined as if there are not controls in place. For example, chemical splash without safety goggles.

4. Rank the **exposure**
   1 = unlikely: a person is exposed to the hazard 1x a year or less
   2 = occasionally: a person is exposed to the hazard 1x month or less
   3 = often: a person is exposed to the hazard more than 2x but less than 4x per month
   4 = frequently: a person is exposed to the hazard 1x or 2x per week
   5 = continuous: a person is exposed to the hazard 1x or more per day

5. What is the **probability of occurrence**
   1 = unlikely to occur
   2 = some chance
   3 = could occur
   4 = good chance
   5 = will occur if not attended to

6. What are the **consequences**
   1 = insignificant: a person receives a very minor injury, no damage to property
   2 = first aid or minor property damage: a person administers first aid to self
   3 = injury results in lost time, seeking medical help or significant property damage
   4 = injury results in permanent disability, serious health effects or property damage
   5 = injury results in a fatality, or there is major property damage

7. Add the numbers to reach a total risk rating. A risk rating of:
   Serious (11 – 15) means the hazard must be attended to immediately, prior to the commencement of the job. Controls **must** be put into place. A safe job procedure **must** be in place prior to the commencement of the job.
   Moderate (6 – 10) means the hazard requires attention. Controls **should** be put into place. A safe work procedure **should** be in place prior to the commencement of the job, but could be attended to once the job has commenced. Employees **must** be aware of the hazard. The safe work procedure **must** be in place prior to the completion of the job.
   Low (3 – 5) means the hazard requires monitoring. Controls are recommended. A safe work procedure is recommended.

HAZARD ELIMINATION AND CONTROL

If an existing or potential hazard to workers is identified during a hazard assessment, measures must be taken to:

- eliminate the hazard, or
- If elimination is not reasonably practicable, control the hazard

If reasonably practicable, the hazard must be eliminated or controlled through the use of engineering controls.

If a hazard cannot be eliminated or controlled using engineering controls, administrative controls must be used to control the hazard to a level as low as reasonably achievable.

If a hazard cannot be eliminated or controlled using engineering or administrative controls, then appropriate personal protective equipment must be used.

If a hazard cannot be eliminated or controlled using any one of the above controls, then a combination of these should be used if this would provide a greater level of worker safety.

If emergency action is required to control or eliminate a hazard that is dangerous to the safety or health of workers:

- only those workers competent in correcting the condition, and the minimum number necessary to correct the condition, may be exposed to the hazard, and
- every reasonable effort must be made to control the hazard while the condition is being corrected.

The following are some examples of controls.

Engineering controls

• Design of a workplace
• Automation/material handling devices
• Machine guard, interlocks, lockouts, warning devices
• Isolation/enclosure
• Limitation (safety valves)
• Ventilation (general dilution/local exhaust)
• Storage
• Air monitoring devices
• Communication devices

Administrative controls

• Substitution of a less toxic product
• Purchasing criteria (tools, equipment, chairs, etc)
• Policies and procedures
• Training
• Organizing and planning work
• Rotation of workers
• Safety plan/procedure

Personal Protective Equipment (PPE)

• Hard hat
• Goggles
• Hearing
• Safety boots
• T-shirts with 4 inch sleeves
• Respiratory protective equipment
• Fall protection

JOB TASKS ANALYZED

Safe Work Procedures were written up for jobs tasks evaluated as having Medium or High Hazards associated with them.

The job tasks listed below for Motor Vehicles Pool were found to have the corresponding hazards associated with them through the Hazard Assessment process as mentioned.

Conducted by: Grant Perepeluk, Bill Platt, Jayne Yates — **Date**: February 2001

Reviewed/Revised: Doug Smith, Jayne Yates — **Date**: September 2008

General Repairs

- #10 Lifting (11)

Mounting / Demounting / Balancing Tires

- #13 Rotating Equipment (11)
- #14 Pinch Points (11)

Oil Changes

- #10 Lifting (12)

Pressure Washer

- #6 Electrical (11)
- #17 Fire (12)

Welding & Fabrication Shop

- #4 Dust / Vapours (10)
- #5 Light Radiation (10)
- #6 Electrical (10)
- #8 Eye Injury (14)

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

HAZARD CONTROL

SAFE WORK PROCEDURES OVERVIEW

Throughout Facilities, assessments were conducted on the various existing job tasks and equipment operated to determine the hazards employees may be exposed to. The assessment system used can be found in the previous section of this manual.

Safe Work Procedures were written for specific tasks having high or extreme hazards associated with them. Throughout the Safe Work Procedures, reference is made to various Safe Work Practices as found in Appendix 'A' of these manuals. The Safe Work Procedures vary from the Practices, in that the Procedures are a step by step outline on how to carry out a specific task, whereas the Practices are general safety measures / precautions for tools, equipment, or general work practices which can be applied to a number of Safe Work Procedures.

The Safe Work Procedures were designed to ensure that any information pertaining to the task could be found on the form prior to commencing work. Any hazards associated with the task, along with control measures for these hazards, specific tools or equipment required for the job, as well as references to supplementary material are all listed on the form.

A copy of the Safe Work Procedures Template can be found in this section. This form and the previously mentioned Hazard Analysis System are used whenever new responsibilities or equipment are added to a department.

GENERAL REPAIRS

GENERAL / BRIEF DESCRIPTION OF TASK:

- Repair worn and malfunctioning systems on all vehicles and Grounds equipment.

FREQUENCY OF TASK PERFORMED:

- Daily – vehicles and equipment are scheduled for regular maintenance and check ups on a rotating basis.
- On demand for repairs.

HAZARDS IDENTIFIED:

#9 – Repetitive Strain / Motion
#10 - Lifting

P.P.E. REQUIRED:

- Safety Boots
- Gloves

SPECIAL TOOLS REQUIRED (if any):

Various Hand Tools & Shop Equipment

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Work may be done on vehicle hoist, or on the ground with vehicle / equipment jacked in the air stabilized with jack stands, jacks or chain hoists.
- Refer to Safe Work Procedure for "**Hoist Lifting / Lowering Procedure**" as found in this section.
- Refer to Safe Work Practice for "**Jacks and Jack Stands**" as found in Appendix 'A'.
- Refer to Safe Work Practice for "**Use of Non-Powered Hand Tools**" as found in Appendix 'A'.
- Refer to Safe Work Practice for "**Use of Power Tools**" as found in Appendix 'A'.
- Refer to Safe Work Practice for "**Electrical Safety**" as found in Appendix 'A'.
- Refer to Safe Work Practice for "**Use of Electrical Extension Cords**" as found in Appendix 'A'.
- Refer to Safe Work Practice for "**Proper Lifting Techniques**" as found in Appendix 'A'.
- Refer to Safe Work Practice for "**Use of Compressed Air**" as found in Appendix 'A'.
- Determine problem.
- Order necessary parts needed.
- Repair / replace worn or malfunctioning parts.
- Clean work area after repairs.
- Refer to Safe Work Practices for "**Housekeeping**" as found in Appendix 'A'.
- Record all repairs and parts used.

HOIST LIFTING / LOWERING PROCEDURE

GENERAL / BRIEF DESCRIPTION OF TASK:

- Lift vehicle to inspect / repair underside.

FREQUENCY OF TASK PERFORMED:

- As needed.

HAZARDS IDENTIFIED:

#14 – Pinch Points

P.P.E. REQUIRED:

- Safety Boots
- Coveralls

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Inspect hoses and cables on hoist prior to driving vehicle onto ramps.
- Slowly drive vehicle onto ramps of hoist.
- When parked, ensure emergency brake is on.
- Slowly raise the hoist, watching overhead clearance to avoid contact with above fixtures.
- Follow hoist procedures as posted on beam beside controls.
- When inspection/ repair is completed, ensure nobody is under vehicle prior to lowering.
- Remove any obstacles / tools that are underneath hoist and slowly lower vehicle down.

JACKS & JACK STANDS

GENERAL / BRIEF DESCRIPTION OF TASK:

- Using jacks / jack stands to raise a vehicle / piece of equipment to inspect / repair underside.

FREQUENCY OF TASK PERFORMED:

- As needed.

HAZARDS IDENTIFIED:

#1 – Falling Objects
#14 – Pinch Points

P.P.E. REQUIRED:

- Safety Boots
- Coveralls

SPECIAL TOOLS REQUIRED (if any):

Chock Blocks

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Visually inspect jack / jack stands prior to use to ensure no cracks or other defects are present.
- Ensure proper operation of ratchet of jacks in order to support load.
- Never exceed the rated load capacities of jacks / jack stands.
- Ensure emergency brake is engaged on vehicle (if applicable) prior to hoisting.
- Always chock wheels on axle not being raised.
- Ensure footing / placement of jacks / jack stands are stable prior to hoisting.
- Ensure vehicle is stable prior to working directly under.

LATHE

GENERAL / BRIEF DESCRIPTION OF TASK:

- Use of Lathe for machining of parts etc.

FREQUENCY OF TASK PERFORMED:

- As needed.

HAZARDS IDENTIFIED:

#8 – Eye Injury
#13 – Rotating Objects

P.P.E. REQUIRED:

- Safety Glasses / Face Shield

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Safety Glasses / Face Shield must be worn when operating Lathe.
- Ensure no loose clothing in order to prevent getting caught in any rotating / moving parts.
- Ensure guards are properly in place prior to starting.
- Lathe is hard wired into system. Ensure that it is always turned off when not in use.
- ***Only formally trained workers are to operate Lathe.***
- Always clean equipment and area after use.

MOUNTING / DEMOUNTING TIRES FOR SMALL TRUCKS & CARS

GENERAL / BRIEF DESCRIPTION OF TASK:

- Remove tire from vehicle, safely remove tire from rim, repair and replace back onto rim, inflate and install on vehicle.

FREQUENCY OF TASK PERFORMED:

- As needed.

HAZARDS IDENTIFIED:

#13 – Rotating Equipment
#14 – Pinch Points

P.P.E. REQUIRED:

- Safety Boots
- Safety Glasses

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Remove tire from vehicle.
- Ensure vehicle is properly secured from falling or rolling ahead.
- Follow necessary precautions specific to means of hoisting (hoist, jacks, jack stands etc).
- Once tire is removed from vehicle, deflate tire and remove wheel weights.
- Place tire on wheel change table, ensuring locking pin is protruding through a lugbolt hole.
- Spin the locking cone down the center post making sure it is centered in hub hole. Lock down hand tight.
- Lift up the arm of the bead breaker and place it on the tire roughly ½ " back of the rim.
- Slowly press down on the bead breaker pedal until the breaker blades make contact with the rim. Break the beads by pressing the pedal all the way down.
- Place the tip of the mount / demount tool under the upper bead of the tire. Pull the tool until the knob on the end of the tool hooks the rim and place slotted end over center post.
- While holding the end of the tool, press the mount / demount pedal. The tool will rotate prying the tire off the rim.
- Ensure no loose clothing is worn to avoid being pulled into tire machine.
- Repeat procedure for bottom bead.

OIL CHANGES

GENERAL / BRIEF DESCRIPTION OF TASK:

- Change engine oil in vehicles and equipment as per schedule.

FREQUENCY OF TASK PERFORMED:

- On each vehicle, every 5000 km or 6 months.
- Small grounds equipment in the summer months (May – October) can require monthly changes.
- Isolated Cases (ie. Sanding Truck) – Equipment is used for limited operations for a limited amount of time. Time between oil changes may extend past the 6 months under the discretion of the Mechanic.

HAZARDS IDENTIFIED:

#10 – Lifting

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Coveralls

SPECIAL TOOLS REQUIRED (if any):

Oil & Filter
Grease Gun
Filter Clamp

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Drive vehicle onto hoist.
- Follow hoist procedures as posted on support beam beside controls.
- Refer to Safe Work Procedure for "**Hoist Lifting / Lowering Procedure**" as found in this section.
- Place oil drain under plug and remove plug to let oil drain. Remove oil filter.
- Gloves should be worn if oil plug or oil is hot.
- Grease vehicle on all grease nipples throughout vehicle.
- Inspect undercarriage for any repairs needed.
- Replace plug and put on a new filter once oil is drained.
- Dispose of used oil into assigned barrel.
- Refer to Safe Work Practices for "**Proper Lifting Techniques**" as found in Appendix 'A'.
- Fill motor with specified amount of oil.
- Check all levels within motor.
- Inspect all lights.
- Road test.
- Record mileage and any repairs needed.

WELDING, CUTTING, BURNING

GENERAL / BRIEF DESCRIPTION OF TASK:

- Welding, cutting, and burning tasks are generally carried out in our welding shop. From time to time these tasks may be performed in other locations (this includes areas in the garage not designated as the welding area ie. welding on a vehicle on the hoist).
- **If so, a Hot Work Permit is required**.

FREQUENCY OF TASK PERFORMED:

- Approx. 5 hours per week – year round.

HAZARDS IDENTIFIED:

#4 – Dust / Vapours
#5 – Light Radiation
#6 – Electrical
#8 – Eye Injury
#17 - Fire

P.P.E. REQUIRED:

- Welder's Helmet
- Welder's Gloves
- Safety Work Boots
- Fire-proof Welders Smock or Coveralls
- Hearing Protection
- Welder's Fume Hood or Vacuum System
- Protective Curtain

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Refer to Safe Work Practice for "**Welding, Cutting, and Burning**" as found in Appendix 'A'.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

ORIENTATION & TRAINING

EMPLOYEE TRAINING OVERVIEW

The Supervisor of Grounds Maintenance oversees the work conducted in the Motor Vehicle Pool, and is committed to properly training its employees to safely, and effectively perform the duties required from each employee according to their job designation.

ORIENTATION

The Supervisor of Grounds Maintenance ensures new employees within the Motor Vehicle Pool are oriented within their first week. It is during this time that the employee is familiarized with the campus, specific department policies and procedures, and is introduced to the various people within their own department, as well as other personnel within Facilites that they will be dealing with in direct relation to their job.

The guideline on the following pages is used to orient the new employee. Once the orientation is complete, the last page must be signed and dated by both the new employee and the supervisor. A copy of this sheet must be kept in the employee's file as part of the Employee Training & Tracking program.

EMPLOYEE TRAINING & TRACKING PROGRAM

Mechanic

The Mechanic is the only employee within the Motor Vehicle Pool and is hired as a Licensed Journeyman Mechanic. The Mechanic is trained on the proper operation of any new shop equipment acquired for the garage at the University. In addition to this, the Mechanic is trained in various safety courses required for the conditions of the job.

The Supervisor of Grounds Maintenance conducts yearly evaluations on the employee in the Motor Vehicle Pool to ensure that any problem areas that may exist for the employee are identified, so that further training can provided as required by their job demands.

ON-GOING TRAINING

From time to time employees are sent on various training courses to keep up with industry trends and job demands. A complete updated list including any expiration dates of the courses taken by each employee is kept on the employee's individual file for record purposes.

ORIENTATION INDEX

- Campus Map
- Appearance & Dress
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- MSDS Binder
- Work Alone Policy

Appearance and Dress

- The majority of the work conducted by the Motor Vehicles Pool is carried out in the Garage. Appropriate clothing should be worn to allow for temperature changes when work is performed with the overhead doors open.
- While performing outdoor job related duties, University of Lethbridge employees and contractors are to adhere to the protective clothing policy where no muscle shirts, tank tops, or mesh shirts are to be worn. Sleeves must measure a minimum of 4" in length.
- Refer to "Info Sheet" for Sun Protection located in the Safety Manual.

Keys

- Keys are issued to employees for access of buildings corresponding with their jobs.

Security of Buildings

- Under no circumstances should an employee unlock a door upon request. Explain that under University policy you are not authorized. Refer the individual to Security.

Cell Phones

- Full time employees will be assigned a cell phone if they constantly work alone.
- Some employees purchase their own phones and use for work as well as personal use.
- A list of all phone numbers will be provided and may be keyed into the cell phone.

Lateness / Absenteeism

- High priority is placed on your being at work consistently and on time. However, if for some valid reason you will be late or absent it is your responsibility to inform your Supervisor.
- Call 329-2653 or 317-0733 at the beginning of your shift.

Illness

- If you are absent from work for more than 3 consecutive days, you will require a doctor's certificate in order to return.

Campus Tour

- The new employee will be taken on a tour of the campus. Points of general interest will be addressed, making reference to the various buildings on campus.

The following points of specific interest to Motor Vehicle Pool will be addressed:

Boneyard
- Cold Frame Area
- Equipment Storage

Service Buildings

U Hall Level 4 / Student's Union
- Materials lift & Garbage Compactor

Bus Service to the University

- Bus drop off / pick up areas are as follows:
  - UH level 6, North door
  - SU Level 2, South door
  - North entrance to the University Campus (Intersection of University Drive and Valley Road)
  - Along Valley Road.
  - Refer to campus map for locations.

Parking

- Parking is available in the West, Far West, Exploration Place, and Northwest lots upon purchase of a U of L Parking Permit (Plug or Non-Plug). Permanent Full Time and Permanent Part Time Employees are eligible for payroll deduction of parking permits.
- Vehicles must be parked in the applicable areas. The East, North, and South lots are for special permit parking. Applications for parking in these lots can be made at the Security Office.
- Temporary permits are available at Security (LINC), Service Centre (SB #2), and roadside dispensers at each campus entrance.

Food Services

- UH – Cafeteria, Fresh Express
- SUB – Food Court
- LINC – The Station

Security

- Office located in L911
- Emergency phone 2345
- Lost & Found office located in L911. Local: 2549

Introduction to Employees

- Introduction to co-workers and welcoming to take place during coffee break or lunch time.

Time Sheets

- Time sheets are filled out to track the daily activities of each employee. These are to be completed on-line and submitted at the end of the month. The Superintendent of Grounds will then verify and authorize the entries through the on-line system at the end of each month.

Introduction to Safety Manual / Program

- Location of Manual and how to reference the contents.
- Review of PPE policy, and issuance of PPE.
- Review of Safe Work Procedures.

MSDS Binder

- Show where to find the MSDS binders and how to read the MSDS sheets.

Work Alone Policy

- Refer to department Work Alone Policy ensuring that the employee understands the policy and the importance of the compliance.

EMPLOYEE ORIENTATION

This is to recognize that the employee listed below has completed the Orientation Process for Motor Vehicle Pool. The employee is aware of Department and University Policies and has been provided with the necessary information to proceed with the Job Training Program.

Supervisor	Date
Employee	Date

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

FORMAL INSPECTIONS

INFORMAL INSPECTIONS

Currently within the Facilities Departments an effective ongoing informal inspection program is carried out on a daily basis by all employees.

All Facilities employees are responsible for reporting any visible deficiencies that they come across while performing their regular assigned duties.

Deficiencies that are reported using the on-line service request form. The Administrative Support in the Service Centre and in Utilities, process the requests into work orders. The departments Managers schedule the work orders to their employees.

A work order request form is accessible on the Facilities website under the Administration directory of the University of Lethbridge home page. This form allows all members of the University of Lethbridge to report deficiencies or request services in their respective areas.

All work orders are tracked in a data base system, which is accessible to Facilities Staff only. When an employee has corrected the deficiency, the work order is then returned to the support staff in their respective areas to be closed out.

FORMAL INSPECTIONS

Within Facilities, the employees in each of the departments carry out an effective formal inspection program on a monthly basis. This system is in the form of a preventative maintenance program.

Each month, a series of Preventative Maintenance (PM) work orders are issued to the Mechanic, for various equipment, vehicles and machinery for the University.

For the Motor Vehicles Pool, the University Vehicles are routinely serviced on a rotating basis with each vehicle being fully serviced every 6 months or 5000 kms, and oil changes are conducted every 3 months or 5000 kms (whichever occurs more frequently) on top of the demand maintenance / repairs required. The Grounds equipment is regularly maintained (once a month) and complete engine servicing is performed on the Grounds machinery once a year. This is in addition to the regular repairs performed on equipment / tools for the Grounds department and the machinery and tools in the Garage.

Each piece of equipment has its own maintenance / repairs directive in the Manufacturer's Owner's Manual. The directive outlines the points of inspect particular to that piece of equipment or tool. These guidelines are used in combination with the Mechanic's formal training and experience when servicing. Copies of these manuals can be found in the Mechanic's office located in Service Building #1.

Once a PM is complete, the form is returned to the Service Centre to be closed out.

If any deficiencies are found in the areas or equipment examined, it is corrected at this time and the information pertaining to the work is recorded on the form.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

EMERGENCY RESPONSE PLANNING

University of Lethbridge

Interoffice Memorandum

Date: August 05, 2010

To: APO Managers

From: B. Sullivan

Re: **Procedures for After Hour Occurrences**

From time to time a situation may arise that requires the notification and/or call out of management and/or staff of the Facilities Department.

Generally, the protocol for a routine after-hours incident would be for Security to call the manager of the affected department(s). From time to time however, there may be situations, which require notification of other senior Facilities staff or senior university administration.

Security Services usually receives the initial information concerning an incident. Routine incidents will be communicated via the immediate supervisor and up through the normal channels.

Significant incidents however, must be communicated to the Office of the President/Vice Presidents via telephone or personal contact. The actual notification will be done by Director of Security Services, Director Facility Operations & Maintenance, Associate Director of Facilities, or the Executive Director of Facilities, or in their absence, a senior Facilities manager. When determining whether or not the incident is "significant", the guiding principle is: **it is better to inform than not to inform**.

It is important that the senior administration of the University are apprised of major incidents. Significant incidents are those which:

- Seriously affect the safety of persons on campus
- Affect the integrity and reputation of the University
- Have the potential to attract the attention of the media

All media contact concerning any incident will be via the Communications Office, unless otherwise directed by the President or his designate.

The attached document outlines the process for notification in the event that the Director of Security Services, Director Facility Operations & Maintenance, Associate Director of Facilities, or the Executive Director of Facilities are not available.

Facilities managers have the discretion to call upon other department staff to deal with emergencies if they are unable to get a hold of the manager involved or the Associate Director of Facilities or Executive Director of Facilities.

The attached back up document also provides phone numbers of senior department staff that can be called upon in an emergency basis, to deal with situations that affect health and safety of campus users.

Brain Sullivan

Brian Sullivan
Associate Director
Facilities

BS:sh

Attachment: Emergency Response Callout List
Emergency Contact Numbers

cc. D. Parker
N. Walker

SPILL RESPONSE

Developed by: Bill Hudgins – Caretaking
Bill Platt – Grounds
John Federkeil – Utilities
Jayne Yates – Facilities

Date: September 2001

Throughout Facilities various chemicals are used for cleaning, and operational purposes, and the types of chemicals used vary from department to department.

Each department within Facilities is responsible for ensuring that the MSDS Sheets provided by the supplier for all of the chemicals used within their own department, are readily available to all of their employees. All employees must have WHMIS training.

Spills Within Facilities

Known Substance

- If the substance spilled is known, immediately obtain the MSDS.
- If the known substance is deemed to be **Non-Hazardous**, and conditions surrounding the spill do not pose any danger, follow the cleanup and disposal procedures as outlined on the MSDS.
- If the known substance is deemed to be **Hazardous**, or conditions surrounding the spill are hazardous (ie. can it become airborne; is there a source of spark nearby etc.) **immediately contact Security at local 2345.**
- The following information must be relayed to Security:
    - Your name.
    - There is a spill.
    - Location of the spill.
    - Location of spill kit.
    - Wait outside the location until Security arrives and do not let anyone else enter the area.

Unknown Substance

- If a spill found is of an unknown substance **immediately contact Security at local 2345**.

- The following information must be relayed to Security:
    - Your name.
    - There is a spill.
    - Location of the spill.
    - Location of spill kit.
    - Wait outside the location until Security arrives and do not let anyone else enter the area.

Identifiable Area

- If a spill is found in an identifiable area (ie. Janitor Room, Grounds Shed) immediately contact the head of that department to attend the location of the spill. The department representative is then responsible for determining if the substance is known or unknown and to follow the necessary procedures.

Spill Kits

- It is the responsibility of each employee to know the location of the spill kits in their areas (if applicable).

Chemical Spills Report

- The employee finding the spill must complete the online Accident / Incident form located on the O.H.& S. website under Administration on the U of L home page.
- Once O.H.& S. receives the completed form and / or a phone call, if deemed necessary by O.H.& S., an investigation will commence.

Date: May 9, 2003
Revised: November 19, 2003

SPILL RESPONSE For Bio-Hazards

Blood borne Pathogens And Other Potentially Hazardous Human Materials

Definitions:

- BLOODBORNE PATHOGENS – pathogenic microorganisms that are present in human blood and cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV). Other examples include microorganisms that cause hepatitis C, i.e. Malaria.
- Other potentially Hazardous Human Materials – Human body fluids such as urine, vomit, saliva, semen and vaginal secretions.

HEPATITIS "B" VACCINATION IS MANDITORY FOR ALL CARETAKING, SECURITY AND UTILITIES STAFF EMPLOYED BY THE UNIVERSITY OF LETHBRIDGE. (NOTE: Building Maintenance and Grounds Staff do not require Hepatitis "B" vaccinations)

Part of the job requirements of a Caretaker employed by the University when needed is to clean-up a blood spill or other human materials these are unknown hazards and must be treated as such. Grounds, Building Maintenance and Utilities staff and Security Officers may come in contact with these unknown hazards and must treat them as such.

Rules to follow:

- Always wear personal protective equipment in exposure situations.
- Remove PPE that is torn or punctured, or has lost its ability to function as a barrier to blood borne pathogens.
- Replace PPE that is torn or punctured.
- Remove PPE before leaving the work area.

Inspection of the job area is required prior to the commencement of the work to be executed.

- Check the area for blood borne pathogens and other potentially hazardous materials
- If this is the case, notify work control during normal work hours to arrange for Caretaking to clean up. Grounds staff will cleanup any Hazardous Materials found on campus outside of buildings.
- If cleanup is required outside normal work hours, contact your supervisor for guiding and assessment of the situation.
- Before you start the job, ensure you wear you PPE ie. Gloves, goggles, aprons and face masks should be worn when cleaning the sewage lift stations on campus with fall restraint when working over open pit areas.

Clean-up Procedures for Blood borne Pathogens and Other Potentially Hazardous Human Materials:

- Inspect the area prior to commencement of clean-up.
- Ensure you wear P.P.E. 1- Gloves (disposable latex or vinyl)
  2- Goggles
  3- Apron (Optional)
- Ensure you have appropriate cleaning materials on hand.
  1-Disinfectant solution (Bleach 1 in 10 dilution)
  2-Absorbent cloths i.e. paper towel or disposable cloths
  3-Garbage bags.
- Carefully apply bleach solution around the edges of the spill working to the center Allow a twenty-minute contact time. Using paper towels or absorbent cloths, wipe-up spill working from the edges of the spill to the center.
- Clean the spill area again with fresh bleach solution place all materials used in double garbage bags for disposal, including disposable gloves used in the clean up.
- Immediately after spill is cleaned up you must wash your hands.
- Disposal of materials used will be at the direction of your foremen or manager.

OTHER POTENTIAL BIO-HAZARD MATERIALS

SHARPS

Far too frequently Facility workers are punctured or cut by improperly disposed of needles and broken glass. This, of course, exposes them to whatever infectious material may have been on the glass or needle. For this reason, it is especially important to handle and dispose of all sharps carefully in order to protect yourself as well as others.

Rules to follow:

- Look before you reach to empty garbage containers or where your vision maybe impaired i.e. under furniture or behind fixtures.
- Ensure you wear PPE (vinyl gloves).
- Check your gloves for punctures or tears. Replace if damaged.
- Remove PPE before leaving the work area.

Clean-up Procedures for SHARPS:

- If you suspect an object to be bio-hazardous (needles etc.) contact your immediate supervisor before attempting to pick it up.
- Ensure you wear PPE 1- Gloves (disposable vinyl)
  2- Goggles
- Inspect the container you are empting (do not reach inside container).
- Before picking up any object ensure you are able to identify it is not a hazard.
- Ensure you have appropriate disposal container on hand for (sharps) objects. i.e. needles. (Your supervisor will supply appropriate disposal container.)

PROCEDURE FOR CUTS OR STAB WOUNDS FROM NEEEDLES

- Report the incident to your supervisor immediately.
- Save the needle to give to medical personnel.
- You must go to your doctor or emergency for treatment.
- You will be required to fill out an accident incident report form.

YOU MUST KNOW AND UNDERSTAND THE FOLLOWING

- Ensure you know Safe Work Procedure for clean up of Blood borne Pathogens or other potentially Hazardous Human Materials.
- All Appropriate PPE must be worn.
- Remember to use universal precautions and treat all blood or potentially infectious body fluids as if they were contaminated. Avoid contact whenever possible, and whenever it's not wear personal protective equipment.

IN CASE OF FIRE – R.E.A.C.T.

REMOVE THOSE IN IMMEDIATE DANGER

ENSURE DOORS ARE CLOSED
(PARTICULARLY THOSE IN THE IMMEDIATE FIRE AREA)

ACTIVATE THE FIRE ALARM SYSTEM

CALL THE FIRE DEPARTMENT 9-1-1

TRY TO EXTINGUISH (IF SMALL)

FIRE PREVENTION DUTIES OF FIRE WARDENS

FIRE WARDENS WILL CHECK THEIR AREA(S) FOR:

a) Accumulation of combustible material, rubbish, or flammable liquids in excess of quantities allowed.

b) Dangerous ignition sources, i.e. worn extension cords, oily rags, overheating equipment.

c) Exit lights in good working order and adequate lighting in public corridors and stairwells.

d) Fire and exit doors and their self closing hardware in good operating condition (Doors should not be wedged open under any circumstances).

e) Exit routes unobstructed.

f) Fire hose and portable extinguishers not obstructed, in good working order and ready to use.

ALL FIRE HAZARDS THAT ARE DISCOVERED MUST BE REPORTED TO THE BUILDING FIRE WARDEN OR DELEGATE IMMEDIATELY.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

INCIDENT INVESTIGATION

ACCIDENT / INCIDENT INVESTIGATION OVERVIEW

When an accident / incident occurs on the worksite, the Employee is responsible for reporting it immediately to their Supervisor. It is then the responsibility of the Supervisor to conduct an investigation with the help of the Employee.

The purpose of incident investigation is to determine direct and underlying causes, and implement immediate and long-term corrections in order to prevent re-occurrence.

There are four (4) essential steps in conducting an investigation. An overview of each of the four phases is presented here;

1. **Gather Facts** - Investigation techniques and methods are designed to discover facts. A fact is something that actually exists or has actually occurred; something known by observation or examination to be true or real. This is done mainly, by examining the scene and talking to people.

2. **Analyze and Evaluate the Facts** - This is a systematic and thorough study of the facts to determine causes and recommend corrective measures. (This is the step where we spend much of our time - applying the Incident Analysis Worksheet.)

3. **Document Findings** - A written report is necessary to communicate the findings of the investigation to management and affected employees and to ensure proper follow-up takes place.

4. **Follow -up** -This step is essential to ensure that the recommended corrective actions to prevent recurrence are actually implemented, and are working effectively.

These phases generally do not occur separately, or in a linear fashion. Rather the phases sometimes overlap: analysis and evaluation begins while the facts are being gathered (e.g. while getting an overview of the incident), and evaluation of the facts may well send you back to gather more information. The investigator must be careful not to let early analysis lead to premature conclusions.

Once an investigation is complete, the results and corrective recommendations must be shared with all Employees within that department. The report is to be signed off by the Executive Director of Facilities and returned to the department Supervisor. Copies of all reports are kept on file within the department for 3 years.

In cases where the result is a loss time claim, the Supervisor is then responsible for sending a copy of the investigation to the RSS Department on campus for review.

It should be noted that this investigation and report ***does not replace*** any required WCB or on-line reporting forms that are to be completed by the Employee and Supervisor, nor does it replace any investigations that need to be conducted by the RSS department on campus. This is for the department's own investigation and follow-up procedures.

On-line forms can be found at www.uleth.ca/hum/riskandsafetyservices

PROCEDURES FOR RESPONDING TO AND REPORTING OF:

I. Injuries
II. Property Damage / Theft
III. Environmental Issues
IV. Automobile Accidents

I. INJURIES

Response To An Injury On-site U of L Campus:

- Call Security at **329-2345**

Transportation of Injured Persons Policy:

- Employees **cannot**, at any time, for any reason, drive an injured co-worker, visitor or student, to a clinic and / or hospital.
- Refer to the University Policy 'Transportation of Ill or Injured Persons'

Response To An Injury Off-site U of L Campus:

Calgary or Edmonton Campus:
- Call SAIT Security on Calgary Campus.
- In Edmonton, call Building Security
- Call ambulance, if necessary
- Follow U of L "Transportation of Injured Persons" policy

Anywhere else on U of L business
- Follow response procedures at location
- Familiarize yourself with the accident / incident response policies & procedures of that specific organization before working at any off campus location.

Reporting an Injury On-site U of L Campus:

- Security will investigate and formally document the accident / incident and will inform RSS on campus.
- Reporting of accident / incident must be done within 24 hours if the injury occurs to faculty or staff during work, or to a student during the course of study.
- The casualty and / or observers must also document the event using the Campus Accident / Incident Report. This form can be found at www.uleth.ca/hum/riskandsafetyservices
- Send the completed Accident / Incident Report form to RSS.

INJURIES (cont.)

Reporting an Injury Off-site U of L Campus:

- Fax the completed Accident / Incident Report form to RSS at (403) 329-2685.
- Or call: RSS at (403) 382-7176.

II. DAMAGE / THEFT OF U OF L PROPERTY

Response to Damage / Theft of U of L Property On-site U of L Campus

- Call Security at **329-2345**

Response To Damage / Theft of U of L Property Off-site U of L Campus:

Calgary or Edmonton Campus:

- Call SAIT Security on Calgary Campus.
- In Edmonton, call Building Security

Anywhere else on U of L business

- Follow response procedures at location
- Familiarize yourself with the accident / incident response policies & procedures of that specific organization before working at any off campus location.

Reporting of Damage / Theft to U of L Property On-site U of L Campus

- Security will investigate and formally document the accident / incident and will inform RSS.
- No other formal report required at this time.
- In the event of U of L property loss, RSS will contact the relevant person / department to process a property insurance claim, if applicable.

Reporting of Damage / Theft to U of L Property Off-site U of L Campus

- Campus Accident / Incident report, found on the RSS found at www.uleth.ca/hum/riskandsafetyservices , must be completed as soon as you return to campus or within 48 hours.
- Fax the completed form to RSS at (403) 329-2685.

III. ENVIRONMENTAL INCIDENT

Defined by:

- Chemical spills, odors
- Water (or something) leaking
- Slippery surfaces such as pathways, parking lots, stair
- Lack of airflow in offices (i.e. Evenings, weekends)

Response to Environmental Incident On-site U of L Campus

- Call Security at **329-2345**

Response to Environmental Incident Off-site U of L Campus

- Notify responsible persons, as appropriate.

Reporting of Environmental Incident

- Person finding the spill is to formally document the incident using the Accident / Incident Form on the U of L website.
- Once report is submitted, RSS will review and determine if a formal investigation is required.

IV. AUTOMOBILE ACCIDENT

Response to Automobile Accident On-site U of L Campus

- Call Security at **329-2345**

Reporting of Automobile Accident On-site U of L Campus

- Security will investigate and formally document the accident / incident and will inform RSS.

Reporting of Automobile Accident On-site U of L Campus

- Fax a completed Accident / Incident report form to RSS (403) 329-2685.

Reporting of Automobile Accident On-site and Off-site U of L Campus

Personal Vehicle – U of L Business

- If the accident occurs in your personal vehicle, call your personal insurance company immediately.
- Call RSS as soon as possible. Depending upon the severity and the circumstances, the U of L's non-owned auto insurer may respond in excess of personal coverage.

Rental Vehicle – U of L Business

- Call the auto rental agency immediately.
- Call RSS as soon as possible. The U of L's non-owned auto insurer must be notified in case required to respond in excess to rental agency insurance.
- Call MasterCard if vehicle was rented using Corporate Card (may provide collision coverage).

If an injury occurs as a result of the Automobile Accident follow Injury Reporting Procedures as outlined in this document.

INCIDENT ANALYSIS WORK SHEET

Injury/Loss:

Incident:

Immediate Causes:

Underlying Causes:

Corrective Action (Controls/Management System):

INCIDENT INVESTIGATION REPORT

Date of Incident: _____ Time: _____

Location: _____ Name of Person in Charge: _____

Name of Investigator(s): _____

Injuries - Persons Injured

Name: _____ Phone: _____

Address: _____

Description of Injury:

_____

First aid given? ☐ Yes ☐ No By whom? _____

Transported to medical aid? ☐ Yes ☐ No By whom? _____

Where to? _____ Name of Doctor: _____

When was the accident reported to Occupational Health & Safety?

Date: _____ Time: _____

By Whom?: _____

Property Damage

Damage to property: ☐ Yes ☐ No Estimated Value: $ _____

Damage to equipment: ☐ Yes ☐ No Estimated Value: $ _____

Description:

_____

_____

_____

Party(s) Responsible for cost of replacement / repair:

_____

_____

_____

Person(s) involved/Witnesses

Name	Address	Phone

Incident Reported by: _____ Reported to: _____

Date Reported: _____ Time Reported: _____

Conditions at time of incident (weather, status of job, housekeeping, etc.)

Description of incident (What was the job being done? What equipment, tools, materials, etc. were involved? What happened?) - Attach a diagram if necessary.

What were the causes of the incident?

Immediate? (Unsafe Practices/Conditions)

Underlying? (Personal/Work Environment Factors)

Recommended action(s) to prevent recurrence?

Short-term?

Long-term?

Persons) responsible for implementing corrective actions)? Completion date?

_____

_____

_____

Completed

Date: _____

Name: _____ Signature: _____

Reviewed

Date: _____

Name: _____ Signature: _____

Reviewer's Comments:

_____

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LOCATION OF FIRST AID KITS

1. **AH** AH1J2

2. **CCBN** EP12J1

3. **HH** HH1J01

4. **LINC** L814
   L9J1
   L10J1
   L11J1

5. **PE** PE1J2
   PE2J7

6. **PWSC** SC1305
   SC1320
   SC1330
   SC1360

7. **SUB** SU062
   SU1M2
   SU2M1
   SU3J1

8. **TH** TH129
   TH1J1
   TH2J1
   TH3E1

9. **UCA** W4J15
   W5J15
   W6J15
   W7J15
   W8J15

10. **UH** B424
    C5J1
    D6J1
    C7J1
    C8J1

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

POLICIES & GUIDELINES

MOTOR VEHICLE POOL WORK ALONE POLICY

Date of Submission: October 2001

PURPOSE

To ensure that Motor Vehicle Pool workers working alone can do so safely.

OBJECTIVES

To develop procedures that will minimize or eliminate risks associated with various work tasks.

DEFINITION

Working Alone - An employee is considered to be working alone if the employee works at a work site in circumstances where assistance is not readily available when needed.

WORKING ALONE SITUATIONS

- The Motor Vehicle Pool Mechanic works alone the majority of the time. The only time the Mechanic does not work alone is if a Groundsworker is Welding in the Garage, or other workers can visibly see the Mechanic while working in the Service Buildings Compound

PROCEDURES:

- The Mechanic has access to a phone located in the Garage. The Mechanic also has a cell phone that is carried when traveling across town or to remote locations.

- The Mechanic reports at the beginning of the day, for the morning break, and lunchtime with the Grounds Maintenance Workers.

UNIVERSITY OF LETHBRIDGE HOT WORK POLICY

HOT WORK INFORMATION AND RESPONSIBILITIES

Fires caused by hot work can have a significant adverse effect on our operations and our ability to do business. Consequently the hot work procedure has been established to help minimize any hazards.

As a contractor at the U of L, you are a partner in our continued success in preventing losses. The optimal goal is to avoid hot work whenever possible by using alternative measures. Suggestions as to avoiding hot work are welcomed. However, if hot work is necessary the hot work procedures will be strictly followed.

The Utilities Department will assist with hot work procedures. If appropriate, the U of L Project Manager will introduce you to other workers in the area to discuss unique conditions you should be aware of before work begins.

UNIVERSITY OF LETHBRIDGE HOT WORK RULES

A hot work permit is required for any temporary operation involving an open flame that produces sparks. This includes, but is not limited to: brazing, cutting, grinding, soldering, pipe thawing, torch-applied roofing and welding.

1. If there is a practical and safer way to do the job without hot work, that method is to be utilized.

2. A **fire alarm / protection system work request form** must be submitted to the Utilities Department **24 hours prior** to commencement of work. Written authorization will be valid for a maximum of **one shift, or 8 hours**, whichever is shorter. After that time period or at the start of a new work day, a new form must be submitted to the Utilities Department for authorization.

3. Written authorization, in the form of a signed **hot work permit**, is required from the Utilities Department prior to the commencement of any job.

4. The permit will be valid for a maximum of **one shift, or 8 hours**, whichever is shorter. After the time period, another permit must be obtained from, and signed by the Utilities Department before any hot work can continue.

5. A copy of the signed Hot Work Permit will be faxed to the U of L Fire Safety Officer.

6. Specific fire fighting equipment and protection material will be required at the hot work site before any work commences. Equipment needs should be discussed with the U of L Project Manager before arriving at the U of L as the Contractor must have their own fire extinguishers and protection material when completing hot work projects.

7. No hot work is permitted without a designated fire watch present. The Prime Contractor/Contractor will supply the employee to the fire watch role. The employee will have total control over the hot work area for fire prevention. If unsafe conditions are observed during the hot work operation, the work will be stopped until the hazard can be neutralized or eliminated.

8. After work is complete for the day, the U of L Fire Safety Officer will designate a Security Officer to complete the fire watch.

9. The Contractor or permit holder will verify that all hot work equipment is in proper working order and in a fire safe condition. An inspection of equipment may be conducted by the U of L Project Manager. Any unsafe equipment will be removed from the property.

10. Any contractor equipment or material that is to be stored at the U of L overnight must be properly secured in an area designated by the U of L Project Manager.

11. Upon completion of the work or at the end of the work day (**prior to 3:30 p.m**.), the Contractor must notify the Utilities Department in order to put the fire alarm system back to normal operating mode.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

PROGRAM ADMINISTRATION

PROGRAM ADMINISTRATION OVERVIEW

MONTHLY SAFETY MEETINGS

The departments of Building Maintenance and Grounds Maintenance (& Motor Vehicles Pool), conduct joint monthly safety meetings. These meetings take place the first Friday of the month, with the host of the meeting alternating between the departments.

The department hosting the meeting chooses the topic, conducts the presentation and records the minutes of the meeting. Each employee that attends signs the attendance sheet. A copy of the attendance sheet can be found in this section.

The meeting format ranges from presentation videos, to an overview of safe work practices in relation to current issues or seasonal work being carried out or coming up within the departments.

The minutes from the safety meetings must be forwarded to the Executive Director of Physical Plant to review. The Executive Director must sign the minutes and return to the appropriate department. The Executive Director of Physical Plant must also attend a safety meeting for each of the departments on a yearly basis, recognizing the safety achievements of the employees.

INCIDENT TRENDS

Each time an employee is involved in an accident / incident, a form must be completed and sent to the coordinator of OH&S, as outlined in the Accident / Incident section of this manual. A copy of the report must go in the employee's personal file for record purposes and retained for three years.

An Incident Trend spreadsheet has been developed to track the amount of incidents each individual employee has had over the past year as well as the number of each type of incident occurring within the department. This information is used to determine where more training is required on an individual basis, as well as for the entire group, in order to provide a safer workplace for all.

When a new incident occurs, the type of incident is recorded along the top of the spreadsheet and the date of the incident is recorded in the corresponding space for the Employee. A sample of the Trend spreadsheet can be found in this section. ***The results of these accidents / incidents are not accounted for on the Trends or Lost Time Days Spreadsheets or in the Lost Time Claims calculation as outlined in this section***

LOST TIME DAYS

For the accidents / incidents resulting in lost time, the number of days is recorded on the Lost Time Days (LTD) Spreadsheet in the corresponding month for the employee. A ***Lost Time Day*** is defined as any regular scheduled work day that is missed due to an accident / incident occurring on the job.

LOST TIME CLAIMS RATIO

At the end of each year the Lost Time Claims (LTC) ratio is calculated based on the number of Lost Time Days in comparison to the amount of manhours recorded for that employment year. When calculating the LTC ratio, all employee's manhours are accounted for ie. Full-Time, Part-Time, Temporary, and Casual employees. Any absence from work that is not a result of an accident / incident is not accounted for in the manhours or Lost Time Day values ie. vacation days, sick days, days missed as a result of an injury outside of regular scheduled work.

EMPLOYEE EVALUATIONS

Once a year, Employees are evaluated on their job performance. Included in this evaluation Employee safety comprehension and compliance is addressed. The results recorded on the Trends Spreadsheet, is taken into consideration for the evaluation on safety issues.

The evaluation is reviewed with the Employee so they are fully aware of the results. Any feedback, concerns, or suggestions that the Employee may have is discussed at this time. A copy of the evaluation is sent to Human Resources to be placed on the Employee's file, and the Supervisor keeps a copy on file in the department. Employees are also given a copy.

DISCIPLINARY PROCESS FOR VIOLATION OF SAFETY POLICIES & PRACTICES

In the event that a Union Employee's actions are found to be in violation of the safety policies and practices outlined in the Health and Safety Program, the disciplinary process will follow the process outlined in the AUPE Agreement as stated under Article 13 – *Personal Files and Discipline.*

In the event that an APO's actions are found to be in violation of the safety policies and practices outlined in the Health and Safety Program, the disciplinary process will follow the process outlined in the APO Agreement as stated under Section 10 – *Progressive Performance Improvement.*

LOST TIME CLAIMS – (LTC)

Lost time claims are a measurement of the number of lost time days in comparison with the amount of man hours logged over the claims year.

$$LTC = \frac{\#LTC(days) \times 200{,}000}{[\#\ Hours\ Worked\ /\ year]}$$

ie.

17 lost time days
1,000,000 manhours / year

$$\frac{17 \times 200{,}000}{1{,}000{,}000} = 3.4 \text{ / } 100 \text{ person years}$$

SAFETY MEETING

TOPIC: _____

DATE: _____

TIME: _____

NAME: (PLEASE PRINT)	SIGNATURE	DEPARTMENT

Minutes:

Signed:

Meeting Coordinator / Department

Date Submitted

Approved by:

TJ Hanson - Director
Facilities Operations & Maintenance

Date Approved

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

SAFE WORK PRACTICES

CHOP SAW

- Safety glasses and hearing protection must be worn at all times when operating Chop Saw.
- Keep working area clean at all times.
- Inspect saw to ensure all guards are in place and cords, blades and switches are well maintained and in safe operating condition.
- Pick a clean area, hopefully 20 to 30' radius area, so the pipe can be turned freely without obstructions.
- Set up Chop Saw on a level base.
- Set up blocks approximately 10' back of power vise also on a solid level base. This is to hold opposite end of pipe being cut.
- Make sure power supply is properly grounded.
- Mark location on pipe to be cut and place in Chop Saw. Place cutting wheel on mark and pull trigger to start saw.
- If pipe being cut extends more than approximately 3' in front of chop saw you should also have blocks in front.

USE OF CLEANING SOLVENTS AND FLAMMABLES

Cleaning solvents are used in the day-to-day construction work to clean tools and equipment. Special care must be taken to protect the worker from hazards, which may be created from the use of these liquids. Wherever possible, solvents should be nonflammable and nontoxic.

The foreman must be aware of all solvents / flammables that are used on the job, and be sure that all workers who use these materials have been instructed in their proper use, and any hazard they pose.

The following instructions or rules apply when solvents / flammables are used:

- Use non-flammable solvents for general cleaning.
- When flammable liquids are used, make sure that no hot work is permitted in the area.
- Store flammables and solvents in special storage areas.
- Check toxic hazards of all solvents before use. Refer to Material Safety Data Sheets (MSDS).
- Provide adequate ventilation where all solvents and flammables are being used.
- Use goggles or face shields to protect the face and eyes from splashes or sprays.
- Use rubber gloves to protect the hands.
- Wear protective clothing to prevent contamination of worker's clothes.
- When breathing hazards exist, use the appropriate respiratory protection.
- Never leave solvents in open tubs or vats - return them to storage drums or tanks.
- Ensure that proper containers are used for transportation, storage and field use of solvents / flammables.
- Where solvents are controlled products, ensure all employees using or in the vicinity of use or storage are trained and certified in the Workplace Hazardous Materials Information System (WHMIS). Ensure all WHMIS requirements are met.

DEFECTIVE TOOLS

Defective tools can cause serious and painful injuries.

If a tool is defective in some way, **DON'T USE IT**.

Be aware of problems like:

- chisels and wedges with mushroomed heads
- split or cracked handles
- chipped or broken drill bits
- wrenches with worn out jaws
- tools which are not complete, such as files without handles

To ensure safe use of hand tools, remember:

- never use a defective tool
- double check all tools prior to use
- ensure defective tools are repaired

Air, gasoline or electric power tools, require skill and complete attention on the part of the user even when they are in good condition. Don't use power tools when they are defective in any way.

Watch for problems like:

- broken or inoperative guards
- insufficient or improper grounding due to damage on double insulated tools
- no ground wire (on plug) or cords of standard tools
- the on/off switch not in good working order
- tool blade is cracked
- the wrong grinder wheel is being used
- the guard has been wedged back on a power saw

USE OF DISK SANDER

- Select correct grade of abrasive sheet.
- Table fence and guide must be correctly adjusted and tight. The clearance between sanding disk and table or rest should not exceed one-sixteenth of an inch.
- Goggles must be worn.
- Sand only on the downstroke side of disk.
- Do not hold small pieces in hand. They have a tendency to rotate, with the attendance danger of pulling your fingers against the revolving disk. A few small pieces should be sanded by hand. For a large number, devise a jig to hold them securely.
- If you must leave sander before finishing the job, turn off the power.
- Stop sander to make adjustments.
- Never touch a moving sanding disk.
- Stop the sander by shutting off power and sanding a scrap piece of wood.
- Never operate the disk sander if the paper is loose. Report the condition to Instructor.
- Move the work about to avoid heating and burning a section of the paper.

USE OF DRILL PRESS

- **Wear appropriate PPE (Safety Glasses & Hearing Protection).**
- Never attempt to use a regular auger bit on the drill press or in the hand drill. Auger bits for this machine have the lead screw cut smooth and the square tang cut off.
- Clamp small pieces in a drill vise or clamp them to the table.
- Keep the table clean, but clean it with a brush. (Not with your hands)
- Wear a shop cap or tie up the hair when working around whirling machinery. Rings, wristwatches, and gloves should not be worn.
- Check to see that the chuck key, drift, and all wrenches are removed before starting the machine.
- Be certain your drills are ground in balance so that they do not tend to whip the work.
- Beware of the coasting machine.
- In using a shaping or routing attachment for the drill press, be sure to study the safety rules for the shaper.
- On deep cuts back out frequently to clean and cool the bit.
- Center punch for drill point. Use only straight sharp drills.
- Drill easily without forcing the bit.

ELECTRICAL SAFETY

Electricity is a powerful form of energy. If abused or used improperly, it can be hazardous, cause shock, start a fire or even kill.

Follow these precautions when working with electrically powered tools and equipment:

- Electrical repairs to tools and equipment, should only be performed by qualified individuals.
- Never use metal ladders near electric power lines.
- Rubber or plastic coated tool handles should be regularly inspected for cracks, cuts and wear.
- Double insulated tools require only two-pronged connections and should be clearly marked.
- Never stand in water when operating electrical equipment. If you must work in damp areas, use a ground fault circuit interrupter (GFCI). If one is not available, insulate yourself by wearing rubber gloves and rubber boots or stand on insulated platforms or mats.
- Before you start cleaning or adjusting a power tool, disconnect it from the power source.
- If an electrical piece of equipment malfunctions, disconnect and lock out the power source immediately and report the trouble to your supervisor. Make sure the power source is positively locked out when the equipment is being worked on.
- Tag all defective or damaged tools and return them for repair.
- Do not overload electrical circuits; this can cause a fire.
- Never put water on an electrical fire. Use the proper type of fire extinguisher such as one with an "ABC" classification.
- Never cut or remove the grounding prong from a plug.

FIRE AND USE OF FIRE EXTINGUISHERS

Good housekeeping is essential in the prevention of fires. Fires can start anywhere and at any time. This is why it is important to know which fire extinguisher to use and how to use it.

Always keep fire extinguishers visible and easy to get at. Fire extinguishers have to be properly maintained to do the job. Where temperature is a factor, ensure that care is taken in selecting the right extinguisher.

Types of Fires

Class A: These fires consist of wood, paper, rags, rubbish and other ordinary combustible materials.

Recommended Extinguishers
Water from a hose, pump type water can, or pressurized extinguisher, and soda acid extinguishers.

Fighting the Fire
Soak the fire completely - even the smoking embers.

Class B: Flammable liquids, oil, and grease.

Recommended Extinguishers
ABC units, dry chemical, foam and carbon dioxide extinguishers.

Fighting the Fire
Start at the base of the fire and use a swinging motion from left to right, always keeping the fire in front of you.

Class C: Electrical equipment

Recommended Extinguishers
Carbon dioxide and dry chemical (ABC units) extinguishers.

Fighting the Fire
Use short bursts on the fire. When the electrical current is shut off on a Class C fire, it can become a Class A fire if the materials around the electrical fire are ignited.

FLAMMABLE & TOXIC MATERIALS

Flammable Products

Certain products in use may contain solvent components such as xylene or propanol. These solvents have relatively low flash points and will ignite when exposed to sparks or open flames. The following guidelines must be observed:

- No smoking in or near the work area. Post "No Smoking" signs throughout the work area.
- Type ABC fire extinguishers should be located in easily accessible stations in the work area.
- No open flames or welding torches should be in the work area.
- Enclosed areas create explosive conditions. Use of explosion-proof fans to disperse the vapors, and bring in fresh air.
- Ascertain ventilation requirements prior to using hazardous materials.

Toxic Materials

Toxic or poisonous materials can be transmitted either by the inhalation of vapors, or contact with bare skin. Caution should be exercised when handling uncurled material or solvents.

- The specific vapor respirator required must be determined prior to starting.
- Wear goggles when mixing, or applying.
- Wear gloves, which extend 3/4 upwards the length of employee's forearm. Wear rubber gloves when washing tools with solvent.
- Wear long sleeve shirts and pants.
- Wear protective foot coverings, either rubber boots, or a plastic liner inside shoes.

FORKLIFT OPERATION

- Walk around the-forklift and check the following:
    - Proper spacing of forks for material
    - Fluid levels and fuel supply
    - Wheels/ tires for condition
    - Obstructions around the forklift
- Check back up alarm operation
- Check lights:
    - Headlights
    - Taillights
    - Revolving lights
- Start the forklift and let it warm up.
- Checks to see if all lights and gauges are operational on the control panel,
- Check operation of all moving parts.
    - Foot, parking and deadman seat brake
    - Clutch and gear shift
    - Steering
- Lift and tilt mechanism
- Check the working area for obstructions and other personnel.
- Move material around in a safe manner.

NOTE: Do not exceed the lifting capacity of the forklift at any time.

GRINDING

- **Wear appropriate PPE (Safety Glasses and Hearing Protection).**
- Check the tool rest for the correct distance from the abrasive wheel: maximum 1 /8" or 3 mm.
- Replace the grindstone when adjustment of the rest cannot provide 1/8" or 3 mm clearance.
- If the wheel has been abused and ground to an angle or grooved, reface the wheel with the appropriate surfacing tool.
- Protect your eyes with goggles or a face shield at all times when grinding.
- Each time a grinding wheel is mounted, the maximum approved speed stamped on the wheel bladder should be checked against the shaft rotation speed of the machine, to ensure the safe peripheral speed is not exceeded. A grinding wheel must not be operated at peripheral speed exceeding the manufacturer's recommendation.
- The flanges supporting the grinding wheel should be a maximum of 1/3 the diameter of the wheel, and must fit the shaft rotating speed according to the manufacturer's recommendation.
- Bench grinders are designed for peripheral grinding. Do not grind on the side of the wheel.
- Do not stand directly in front of grinding wheel when it is first started.
- Acquire hot work permit

HANTAVIRUS

What is it?
- A virus carried by deer mice.
- The virus is in their urine and droppings.

How do people get Hantavirus?
- People may be infected- by contact with mouse droppings when cleaning out garages, sheds and cabins where mice lived over the winter.
- Sweeping or vacuuming droppings, releases the virus into the air and it is breathed in.
- It is not spread from person to person.

Do other animals carry Hantavirus?
- The only known carrier is the deer mouse (reddish-brown or grey with white fur on the belly and feet.)
- Other rodents may carry the virus so all rodents should be treated as carriers.
- Hantavirus has not caused illness in pets or spread from pets to people.

What signs and symptoms can you have?
- Early symptoms are flu-like: fever, body aches, chills and headache.
- They occur 1-2 weeks after being infected.
- Breathing problems leading to hospitalization occur 2-15 days after early symptoms.

Who is at risk for Hantavirus?
- Only a small percent of the people who come in contact with the virus get ill.
- Most cases have occurred in people with close contact to mice or mice droppings.
- Most cases occur in rural areas.

How do you prevent Hantavirus?

Keep mice / rodents away by:

- Storing food and pet food in metal or plastic containers.
- Sealing holes(anything over 6mm or ¼ in) with steel wool or cement to prevent entry.
- Hauling away trash, old vehicles, old tires where mice / rodents can nest
- Storing garbage in containers with tight fitting lids.
- When entering a building where mice / rodents may live wear a mask so as not to breathe in the dust in the building.
- If using traps or poisons to control mice beware of the danger to children and pets.
- Wild mice should not be kept as pets.

When cleaning mice/rodent infested areas:

- Air out the area for 30 minutes first.
- Wear rubber or plastic gloves.
- Also wear a mask so dust is not inhaled.
- When cleaning heavily contaminated areas a HEPA mask may be purchased at safety supply stores.
- Soak dead rodents, nests, droppings and contaminated items in proper dilution of disinfectant / water solution.
- Pick up debris and place in double plastic bags.
- Do not sweep or vacuum.
- When clean-up is done seal bags, and place with regular garbage for routine pickup. After bags have been removed mop floors with soap, water and then a proper dilution of disinfectant / water solution.
- Dirt floors can be sprayed with a proper dilution of disinfectant/ water solution.
- For heavily infested areas contact a pest control service or a public health inspector for detailed information.

After clean up:

- Wash hands well.
- Dispose of the gloves.
- Used traps should be rinsed with a proper dilution of disinfectant / water solution before being reused.

HOIST LIFTING / LOWERING PROCEDURES

- Make sure the area around the hoist is clean and free of obstructions.
- Slowly drive the vehicle into the stall, aligning it squarely with the hoist. The centerline of the vehicle should be directly over the centerline of the hoist.
- Stop the vehicle when the rear tires drop into hoist cradle. Keep hoist cradles clean.
- Shift the transmission into neutral and activate the park brake. Shut off engine.
- Slowly raise the rear hoist making sure the lift arm is contacting the rear axle housing. Make sure nothing will get pinched between the lift arm and the housing.
- Once the weight is off of the rear wheels, position the front lift arm to contact the front axle or control arms.
- After inspecting all four contact points, slowly lift vehicle. KEEP VEHICLE LEVEL when hoisting. Raise until safety latches engage.
- Watch overhead clearance to avoid contact with fixtures.
- Position safety stands as required.
- Lower vehicle until it contacts safety stands.
- When the repair / inspection is complete, raise hoist slightly to remove weight from stands.
- Remove safety stands.
- Always make sure area under hoist is clear before lowering.
- Slowly lower hoist, making sure vehicle remains level.
- Once the hoist arms have settled into the floor, the vehicle can be moved.
- Check under and behind the vehicle before backing up.

HOUSEKEEPING

- Keep aisles, walkways and stairs clear.
- Do not block fire exits and fire fighting equipment with materials.
- Materials should be stored with adequate room between for easy access.
- Tools and materials should be cleaned up and put away in designated storage areas after a job is done and at the end of each workday.
- Keep all articles to be disposed of in a designated location and remove regularly.
- Clean up spills immediately in order to avoid a slipping hazard use wet floor signs.
- Store flammable liquids in approved sealed containers away from open flame, sparks or sources of ignition.

MOBILE AERIAL WORK PLATFORM

- *Employees may only operate machine if 'Mobile Aerial Lift Training' course has been taken.*

- *Pre-Use Inspections – Inspect or Test the Following*:

  - Operating and emergency controls
  - Safety devices and limit switches
  - Personal protective devices
  - Tires and wheels
  - Equipment structure
  - Air, hydraulic and fuel systems for leaks
  - Loose or missing parts
  - Cable and wiring harnesses
  - Placards, warning, control markings and operating manuals
  - Handrail systems including locking pins
  - Engine oil level
  - Battery fluid level
  - Coolant level
  - Propane bottle secured (if equipped)
  - Parking brake
  - Horn

- *Function Test:*

  - Base functions and operation
  - Basket function and operation
  - Height / speed limiter switch (put machine in low speed when platform is raised)
  - Motion alarm
  - Hydraulic function test
  - Emergency controls

- *Work Area Inspection:*

  - Manhole covers, grating or unstable surfaces
  - Ramps, inclines or rough surfaces.
  - Electrical hazards overhead
  - Underground utilities
  - Pedestrian / Vehicular traffic
  - Ground Condition

- *Use of Equipment:*

    - Never modify or alter equipment unless approved by the manufacturer.
    - Never extend work platform with planks or other equipment.
    - Always wear fall restraint.
    - Fall restraint should be a 4' lanyard.
    - Keep platform clean and free of tripping hazards.
    - Never operate equipment on incline.
    - Do not exceed equipment's working load limit.
    - Make sure weight stays centered on platform.
    - Only use machine as it is intended.
    - Do not exceed side loading on platform.

- *Operating Procedures:*

    - Perform pre-use safety inspections (see pre-use inspection) before each use. The aerial platform shall be given a visual inspection and functional test. If any problems are encountered, the aerial lift shall not be used and reported immediately to the Supervisor and Mechanic.

    - Do not exceed recommended weight capacity.

    - A workplace inspection shall be performed for any hazards such as manholes, roadway problems, slopes, overhead obstructions, wind and weather conditions, inadequate surface and support to withstand all load forces imposed by the aerial platform in all operating configurations and presence of unauthorized persons.

    - No one shall travel in a basket, platform or other elevated or aerial device that is moving on a roadway or worksite if road conditions, traffic, overhead wires, cables or other obstructions create danger to the operator or workers.

    - Ensure all required PPE is worn when operating aerial lift (see Info Sheet for Safety Belts, Lanyards and Lifelines).

    - Do not climb on outside of equipment.

    - Do not move the machine while platform is in an elevated position.

USE OF NON-POWERED HAND TOOLS

Common hand tools, which many people take for granted, frequently are the most abused. Misuse of hand tools can become a habit that will cause accidents.
Some of the basic rules governing the use of hand tools are as follows:

- Use the right tool for a job. Never use a makeshift or improper fitting tool. Refuse to use tools that aren't in first class condition and report those that give you problems to your supervisor.

- Use wrenches of the right size for the job. Face the jaws of an adjustable wrench in the direction of the pull.

- Make certain that pipe wrench jaws are sharp and chains in good condition so they will not slip.

- Use only tools in good condition. Clean all grease and dirt. Do not use tools with improper handles, including those that are cracked, broken or loose. Hammers or chisels with mushroomed or broken heads should not be used.

- Keep keen-edged blades sharp; store them safely when not in use. Store them with the sharp edge protected. This will help avoid cuts, as well as protect the sharp edge.

- Do not use a hammer with a hardened face on highly tempered tools such as a drill, file, die or jig. Chips may fly.

- Never apply a wrench to moving machinery; stop the machine, then remove all tools before starting it again.

- Never handle any tool in such a manner that you can be injured if it slips. Think about your movements and position your body accordingly.

- Always wear safety goggles when working with hand tools. You only get one pair of eyes.

- Don't carry hand tools in a way that will interfere with using both hands when climbing a ladder.

- Tools should not be put down on scaffolding, overhead piping, on top of step ladders, or other locations from which they could fall on persons below or into equipment.

- Workers carrying tools on their shoulders should pay close attention to clearances when turning so that they will not strike nearby fellow workers.

OVERHEAD DOORS

The following precautions should be reviewed periodically to reduce the number of incidents involving overhead doors.

- Always make sure the overhead door has come to a complete stop before driving through the doorway.
- If the door fails to work properly, get out of the vehicle and push the stop button.
- Don't walk under an overhead door that is not working properly. They are extremely heavy and could cause serious injury or death should they come down.
- Caution: If the overhead door is not working, do not push any other button or try to bring the door down by any other means. Notify Work Control Centre (2602) for issue of a work order.

USE OF OXYGEN-ACETYLENE OR OXYGEN-PROPANE TORCH

Make sure you have access to a fire extinguisher before you start your cut.

- Open the valves of the cylinders slowly.
- Make sure the gauge of the acetylene cylinder does not exceed 15 psi. Drawing acetylene too quickly produces an unstable, explosive condition.
- The oxygen gauge should be set around 50 psi.
- Check the torch hoses and gauges for leaks, damage or deterioration. Never use a torch that leaks.
- Clear all combustible material away from the cutting area.
- Open the fuel valve on the torch (Propane or Acetylene). Light the gas.
- Slowly open the oxygen valve on the torch.
- Getting the right mixture of oxygen and fuel requires a little practice. Get help if you have never used a torch before.
- Before you start to cut, check the area once more.
- Make sure the hoses are clear of the cutting area.
- After the cut is complete, turn off the fuel valve on the torch first.
- After the flame is extinguished, turn off the oxygen valve on the torch.
- Close the cylinder valves.
- Keep the torch and hoses free from oil.

PATCHING TIRES

- Demount the tire using the proper job procedure.
- Using proper lifting techniques, place the tire on the rollers in the spreading machine.
- Carefully remove the object that caused the damage (wear safety glasses).
- With the leak at the bottom, place the spreader arms into the tire.
- Depress the pedal slowly, to spread the tire to a workable gap. CAUTION: Do not spread the tire too quickly or too much, the spreader bars could pop out.
- Buff the area to be patched with the appropriate buffing wheel (again, wear safety glasses). The buffed area should be slightly larger than the patch.
- Blow out residue with compressed air (safety glasses).
- Apply rubber compound following the directions on the container. Take note of any hazard warnings noted on the WHMIS label of the container.
- Peel the backing off of the patch and apply to leak.
- Roll patch with patch roller thoroughly
- Release the pressure on the spreader arms and remove the tire from the spreader machine.
- Remount the tire using the proper mounting procedure.

PLASMA CUTTER

Obvious Hazards: burns, flash, foot injuries, electric shock

Safest Body Position: to the side of the piece being cut

The plasma cutter uses a combination of compressed air and an electric arc to cut metal. The greatest risk of injury is due to flying molten metal.

- Make sure the area is clear of combustibles and people before you start to cut.
- Safety goggles with a minimum #6 shade, gloves, steel toed boots, coveralls must be worn
- Connect the compressed air line to the back of the plasma cutter.
- Check to make sure the nozzle is in good condition before you turn the machine on.
- Turn on the power switch.
- Attach the ground clamp to the work being cut. Only materials that conduct electricity can be cut with the plasma. (steel, aluminum, copper, stainless steel, some types of cast, etc)
- With your goggles on, press the switch on the torch handle to check the condition of the tungsten insert. If the resulting arc appears favorable, lower the torch to within 1/8" from the metal surface. (use the wire guide attached to the torch head)
- With a uniform motion drag the torch along the desired cut line.
- Be aware of falling pieces of metal upon completion of the cut.
- Do not turn the power switch off until the compressed air has stopped flowing through the torch head. The air cools the tip for about one minute after use before it automatically shuts off.
- Turn off the power to plasma cutter.
- Carefully remove the air hose.

USE OF PORTABLE ARC WELDER

Portable arc welders are a piece of equipment that has to be treated like a vehicle. Do not operate them indoors.

- Be sure the machine is firmly attached to the transporting unit.
- Check all fluid levels, water, oil and gas to be sure they are at acceptable levels for operation.
- When fueling, DO NOT 'lop off" the gas tank. Gasoline expands as the outside temperature rises. This may result in seepage and an ensuing fire.
- Do not fuel the machine while it is running.
- Be sure the radiator and gas caps are in proper working order and securely attached.
- Do a "walk around" to check for damage and obvious leaks.
- Any repairs should be done by qualified mechanics or technicians.
- Make sure all cables are wound securely when transporting.
- Ensure the side covers are kept closed to protect the machine from any damage from external objects and outside weather, as well as to protect the operator and others from the moving parts of the machine.

USE OF PORTABLE LADDERS

Ladders can be used safely if they are given the respect they deserve.

Before using any ladder, make sure that it is in good condition and is the right ladder for the job to be done.

- When setting up a ladder, secure the base and "walk" the ladder, up into place.
- The ladder should be set at the proper angle of one (1) horizontal to every four (4) vertical.
- Before using a ladder, make sure it is secured against movement.
- When in position, the ladder should protrude one (1) meter above the intended landing point.
- Workers shall not work from the top two rungs of a ladder.
- Don't overreach while on a ladder. It is easier and safer to climb down and move the ladder over a few feet to a new position.
- Always face the ladder when using it. Grip it firmly and use the three-point contact method when moving up or down.
- The minimum overlap on an extension ladder should be one (1) meter unless the manufacturer specifies the overlap.
- Keep both metal and wood ladders, away from electrical sources.
- Due to health and safety concerns, a step ladder is not loaned to any building occupant who has not received training approved by U of L Occupational Health & Safety department.

INSTRUCTIONS FOR USE OF PRESSURE WASHER

- ***Park vehicle away from bay doors and building to allow room to wash and for drainage.***
- ***Turn on water.*** *(Ball valve behind washer)*
- ***Pull trigger on wand to release hose pressure.*** *– Do not unreel or reel up hose under pressure*
- ***Reel out hose***
- ***Turn switch to PUMP (cool water) or BURNER (hot water)***
- ***If soap is needed turn on toggle switch for soap.*** *– there may be a slight delay for soap & hot water*
- ***Turn soap off to rinse vehicle.***
- ***Turn burner off and let the unit run on pump for at least the last minute during rinsing -*** *This will allow the burner to cool down and will use up any heated water.*
- ***When done washing turn off pump.***
- ***Pull trigger on wand to release pressure on hose.***
- ***Put wand in holder and roll hose up.*** *Do not drag wand on ground when rolling up hose*
- ***Clean up mud and grass with shovel and broom.***

PROPER LIFTING PRACTICES - HOISTING

Evaluating the Load

Determine the weight of the object or load prior to a lift to make sure that the lifting equipment can operate within its capabilities.

Balance Loads

Estimate the center of gravity or point of balance. The lifting device should be positioned immediately above the estimated center of gravity.

Landing the Load

Prepare a place to land the load, lower the load gently and make sure it is stable before slackening the sling or chain.

- Select only alloy chain slings and NEVER exceed the working load limits.
- Make sure the hoist or crane is directly over the load.
- Use slings of proper reach. Never shorten a line by twisting or knotting. With chain slings, never use bolts or nuts.
- Never permit anyone to ride the lifting hook or the load.
- Make sure all personnel stand clear from the load being lifted.
- Never work under a suspended load, unless the load is properly supported.
- Never leave a load suspended when the hoist or crane is unattended.
- Inspect all slings thoroughly at specified intervals and maintain them in good condition.
- Inspect each chain or sling for cuts, nicks, bent links, bent hooks, etc., before each use. If in doubt, don't use it.
- Ensure that safety latches on hooks are in good working condition.
- Ensure that the signaler is properly identified and understands techniques of proper signaling.
- Make sure a tagline is used to control the load.

PROPER LIFTING TECHNIQUES

The three major causes of back injury are over-extension, poor lifting techniques and trying to lift too heavy an object. The following tips should help reduce the chances of injuring your back.

- Test the load. If too heavy ask for help!
- Keep your back straight.
- Get as close to the object as possible to avoid over-extension.
- Place one foot slightly ahead of the other in the direction you intend to move the object.
- Bend your knees and get a good grip on the object.
- Lift with your legs.
- Move forward in the direction of your most forward foot to avoid twisting your back
- Reverse the procedure when placing the object down.
- If at all possible, keep the objects off of the floor, to reduce the strain of lifting in awkward positions.

To reduce the strain on your back while standing.

- Whenever possible, stand with one foot elevated.
- Change positions often.
- Interrupt long periods of standing by sitting whenever possible.

REPORTING RATTLESNAKES

What should you do if you see a rattlesnake?

- Observe but do not attempt to capture the snake.
- Contact the phone number below in the order listed until contact is made.
- **RATTLESNAKE REPORTING CALL SECURITY**
- ***Phone/Cell Number*** **329-2603 or 329-2345**

- If you are unable to contact Security for removal, the snake still reflects as a safety hazard and must be removed by U of L personnel. Contact Ian Wells (317-0733) to capture the rattlesnake.
    - The container holding the snake must be kept in the shade after capture as rattlesnakes are very heat sensitive.

Relocation of problem rattlesnakes

During summer months the number of rattlesnake sightings on campus increases significantly. The U of L reports these sightings to Reg Ernst who conducts studies and control activities for the City of Lethbridge. Reg indicates the main campus is not a safe site for either the snakes or campus occupants to interact. The City of Lethbridge wants to relocate any problem rattlesnakes. A problem rattlesnake is defined as any rattlesnake found on roads, walkways, around buildings, or areas frequently used by people.

Relocating rattlesnakes is a delicate issue, and considering the potential danger in working with poisonous snakes, it is necessary to have a professional do the removal. Proper relocation involves moving the snake to an area with a suitable wintering den.

Please exercise caution when walking around campus, particularly in the coulees, as snakes are occasionally sighted. Rattlesnakes are not aggressive and given a choice will retreat rather than strike.

Although some people may find them loathsome, rattlesnakes are a naturally occurring species in a properly functioning prairie ecosystem such as we have around Lethbridge. They are practically harmless and will only strike if extremely provoked or stepped on. They play a very important role in the control of rodents and thus reduce the spread of diseases such as hanta virus.

Rattlesnakes are the color of dry prairie grass and have a very well-defined, triangular-shaped head. They may or may not possess rattles. Lethbridge is also home to the bull snake which imitates the rattlesnake by coiling up and shaking its tail, but it does not actually have a rattle. Bull snakes are not poisonous.

If you see a rattlesnake, walk slowly away from it. Give the snake plenty of room to escape from you. Notify Security at 329-2345. They will have a specialist relocate the snake to a natural habitat.

In Alberta, rattlesnakes are blue-listed which means they have undergone declines in population or habitat and may be at risk.

Please remember, it is illegal to kill rattlesnakes, possess rattlesnakes or their parts or damage occupied den areas. Many people do not realize that there are significant charges and fines for killing a rattlesnake in Alberta.

REPAIRING GASOLINE POWERED SMALL TOOLS

Have access to a fire extinguisher.

- Check the tank for leaks.
- Never weld on a small tool with a leaky fuel tank.
- If the required welding is close to the fuel tank, and it is too difficult to remove, cover the tank with a wet rag and install a barrier between the tank and the weld area before you start to weld.
- Stop often to check for fire.
- Whenever it is possible, have the piece of equipment between you and the fuel tank.
- Never lean over the fuel tank to do your repairs.

SAFE HANDLING OF COMPRESSED GAS CYLINDERS

Following are some of the recommended procedures for safe handling and storage of compressed gas cylinders:

- Never drop cylinders or permit them to strike each other.
- Avoid dragging or sliding cylinders - even for short distances. Use a cylinder truck.
- Do not use cylinders as "rollers" for moving material or other equipment.
- Cylinders should be kept in designated storage areas when not in use with protective cap screwed in place.
- No part of a cylinder should be subjected to a temperature more than 125°F.
- Cylinders should not be permitted to come in contact with sparks or flames, electrical apparatus or circuits.
- Never tamper with safety devices on cylinder regulating valves.
- Use a regulator when connecting cylinders to systems of lower pressure ratings.
- Use properly fitting wrenches to connect regulators to gas cylinders. Connections specified to be hand-tight should be made hand-tight only.
- Close the valve on empty cylinders to leave some positive pressure in the cylinder. Replace the protective cap and mark and label the cylinder "empty".
- Do not store full and empty cylinders in the same area.
- Make sure that cylinders are stored upright and secured with strap or chain.

SERVICING SPLIT RIM TIRES

- The danger with split rim assemblies is the exploding hazard of a pressurized mounted tire.
- Never stand in front of a tire during deflation.
- Never remove a damaged tire from a vehicle without removing the air first.
- In dual assemblies use an air gauge to check both tires before removing them from the vehicle.
- Before reassembling the tire and rim, make sure the lock ring matches the rim.
- Before reassembling the tire and rim, check components for cracks and bent sections. If there is any doubt, replace the parts with matching ones.
- Remove all rust buildup before reassembling.
- Never rework, weld, braze, or otherwise heat any damaged rims in the hopes of repairing them.
- Never inflate a tire / rim assembly without putting it in a proper cage.
- Never put your hand in the cage during the inflation process.
- Don't over inflate the tire / rim assembly, check the manufacture's specifications.
- Never attempt to correct the seating of the lock ring by hammering or forcing the parts during servicing, inflation or after inflation.
- If a tire is used in an under inflated condition (80% of recommended pressure), fully deflate the tire, remove it from the vehicle and disassemble. Check the mating surfaces.
- Make sure that you understand the procedure completely, before attempting a repair.

USE OF STEP LADDERS

As with all ladders, make sure that the Step Ladder is in good condition, and is the right ladder for the job to be done.

- Step Ladders are to be used only on clean and even surfaces.
- No work is to be done from the top two steps of a Step Ladder, counting the top platform as a rung.
- No work is to be done from the back side of the Step Ladder.
- When in the open position ready for use, the incline of the front step section shall be one (1) horizontal to six (6) vertical.
- The Step Ladder is only to be used in the fully opened position with the spreader bars locked in place.
- Tops of Step Ladders are not to be used as a support for scaffolds.
- Don't overreach while on the ladder. Climb down and move the ladder over to a new position.
- Only CSA Standard ladders will be used.
- Due to health and safety concerns, a step ladder is not loaned to any building occupant who has not received training approved by U of L Occupational Health & Safety department.

USE OF COMPRESSED AIR

Air powered tools in construction range from stapling guns to jack hammers. If not treated with respect, these tools can become a powerful enemy rather than a servant.

- Compressed air must not be used to blow debris or to clear dirt from any worker's clothes.
- Compressed air must not be used to blow dust, chemicals, metal filings, etc. from work surfaces. Surfaces should be swept clean.
- Ensure that the air pressure has been turned off and the line pressure relieved before disconnecting the hose or changing tools.
- All hose connectors must be of the quick disconnect pressure release type with a "safety chain / cable".
- Wear personal protective equipment such as eye protection and face shields, and ensure other workers in the area are made aware of or have restricted access to the hazard area.
- Hoses must be checked on a regular basis for cuts, bulges, or other damage. Ensure that defective hoses are repaired or replaced.
- A proper pressure regulator and relief device must be in the system to ensure that the correct desired pressures are maintained.
- The correct air supply hoses must be used for the tool / equipment being used.
- The equipment must be properly maintained according to the manufacturer’s requirements.
- Follow manufacturer's general instructions and comply with legislated safety requirements.

USE OF ELECTRICAL EXTENSION CORDS

Extension cords are one of the most abused and neglected items on the job site. They are run over, stretched, pulled, twisted and exposed to all the elements. They have been the cause of more accidents than the tools for which they are used.

The following recommendations should be observed whenever extension cords are used:

- Prior to use, inspect cords to ensure that:
    - The insulation is intact around the plugs at both ends of the cord.
    - The pins on the plugs are not broken or burned.
    - The outer jacket of the cable is intact along its entire length.
- Extension cords should be replaced or repaired when a defect is found.
- Do not assume that everyone is able to repair or replace plug caps. All personnel should be educated to recognize the importance of properly wired circuits.
- Use only cords that are rated for outdoor use on construction jobs. These industrial cables (types S, SO, SOW) are oil, water, and abrasion resistant.
- Never unplug any cord by pulling the cable.
- Never lay out a cord in any area where it could be damaged by vehicular or pedestrian traffic or where materials could fall or be piled on it.

USE OF PORTABLE GRINDERS

Abrasive wheels can cause severe injury. Proper storage of new wheels, proper use of wheels and proper maintenance of wheels must be observed.

- Familiarize yourself with the grinder operation before commencing work.
- Ensure proper guards are in place and that, safety glasses, face shields, gloves and safety boots are worn when using portable grinders.
- Never exceed the maximum wheel speed (every wheel is marked). Check the speed marked on the wheel and compare it to the speed on the grinder.
- When mounting the wheels, check them for cracks and defects, ensure that the mounting flanges are clean and the mounting blotters are used. Do not over tighten the mounting nut.
- Before grinding, run newly mounted wheels at operating speed to check for vibrations.
- Do not use grinders near flammable materials.
- Never use the grinder for jobs which it is not designed for, such as cutting.

USE OF POWER TOOLS

All power tools are designed for unique applications, they have their limitations and can create potential hazards when improperly used. Here are some points to remember when using power tools:

- The operation and repair of any power tool must be restricted to experienced, trained, authorized personnel.
- Select the proper tool for the job. The size of the power tool to be used is based on both the limitations of the tools themselves and the amount of work to be done.
- Always be alert to potential hazards in the area such as debris, damp floors or combustible materials. In wet areas, use insulated platforms, rubber mats, rubber gloves and rubber boots for an additional factor of safety.
- Make sure all power tools are of the double-insulated type or they are properly grounded. If the tool is equipped with a three-prong plug, use it as it is meant to be used. Electrical circuits intended for power tools should be provided with ground fault circuit interceptors (GFCI's)
- Appropriate protective clothing should be worn at all times. Avoid wearing loose clothing or jewelry that can catch in moving-parts. Wear safety glasses, hearing protection, and / or a dust mask if the operation requires.
- Be sure not to handle a power tool in a manner that can injure you if it slips. Think about your movements and position your body accordingly. Keep proper footing and balance at all times. Avoid over reaching.
- Never rest a power tool against the body when loading or making adjustments. Use brushes, vacuuming equipment or special tools to remove chips or sawdust. Secure work using a clamp or vice when practical. Never apply a power tool to a moving object.
- Keep guards in place and in working order. Don't remove or wedge the guard out of the way. If the guard has to be retracted, use the handle on the guard.
- Beware of accidental start-up. Make sure the switch is OFF before plugging in the cord and before investigating a power loss. Do not carry a plugged-in tool with your finger on the switch.
- Have all power tools serviced by a professional if it shows the slightest defect or is not running properly.

USE OF POWER TOOLS (cont.)

- Clean your tools after you're finished with your work. Make sure keen-edged blades, drill bits, routers, etc. are sharp, regularly maintained and stored in a dry secure place where they won't be tampered with.

- Don't set the tool down or leave it unattended until all moving parts stop.

USE OF PROPANE

Since propane is heavier than air and invisible, it is a special concern when it is used on the job-site.

All installations and use of this product on the job-site must comply with the Government Legislation set out for its safe use.

Suppliers delivering the product or setting up the equipment at the site must be part of the safe work practice.

- Nylon slings must be used in a "choker" fashion when loading, off-loading or lifting propane tanks.
- "Lifting lugs" provided on tanks are not to be used. Slings are to be wrapped around the shell of the tank.
- Tank valves and regulators are to be removed from the tank prior to any movement of the tank.
- Crane hooks shall be equipped with a "safety latch".
- All trucks, cranes or equipment used to handle propane tanks must be equipped with a fire extinguisher appropriate for the size and type of tank being handled.
- Except in an emergency, any movement or repositioning of tanks, shall be performed by a competent worker.
- Tanks are not to be heated to increase flow.
- When in use, propane bottles are to be securely held in an upright position.
- Tanks are not to be hooked up and used without proper regulators.

USE OF TIGER TORCHES

Tiger torches, although valuable to a job-site, are sometimes misused in a manner that can make them dangerous.

Tiger torches are only to be used for preheating of piping etc. prior to welding.

- When a torch is used, an adequate fire extinguisher must be present.
- Torches are not to be used for heating of work areas or thawing of lines and equipment, etc., when not in use.
- Ensure that the propane bottles are properly shut off.
- Fuel lines are to have regulators.
- Propane bottles shall be secured in an upright position.

PROPER USE OF ROTATING EMERGENCY FLASHING WARNING LIGHTS ON VEHICLES

Why do we have these lights?

- Service vehicles that park on roadways or along curbs on campus, in order to do their work, often create a traffic hazard. Flashing warning lights have been installed on all service vehicles to help increase their visibility to oncoming vehicles.

When are flashing lights used?

Flashing lights must be used when:

- parking along any curbs on campus
- stopping/parking in the middle of roadways or parking lot lanes
- leading a slow moving vehicle when hauling trailers or materials

Flashing lights are <u>not</u> used when:

- driving off campus - It is illegal for U of L to use these lights off campus.
- parking in parking spots or when off roadways

WELDING IN AWKWARD POSITIONS

Make sure you have access to a fire extinguisher.

Before you start to weld, make sure you are not going to flash or burn anyone in the immediate area. Take precautionary measures with shields.

Check the area often during welding to ensure no fire has started in the area.

Welding under vehicles:

- Always plan an escape route before you attempt to weld under a vehicle.
- Do not squeeze into tight spots with limited access without a spotter to help you out should a fire occur. Never weld in confined spaces without reviewing the proper procedure.
- Never lay directly under the weld area unless you are fully protected with welding leathers.
- Always be aware of the fuel tanks when welding under a vehicle.
- Make your position as comfortable as it allows avoiding unnecessary strains. For prolonged jobs, exit often to check for smoke or fire in the area.

Welding in high places:

- Always plan an escape route in case of fire. If an escape route is difficult, have a spotter available in case of an emergency.
- Always use a ladder or scaffold if the weld area is out of reach. Avoid having to hold on with one hand and welding with the other. Make sure you have a safe platform to work from.

WELDING, CUTTING AND BURNING

Work involving welding, cutting and burning can increase the fire and breathing hazard on any job, and the following should be considered prior to the start of work.

- Always ensure that adequate ventilation is supplied since hazardous fumes can be created during welding, cutting or burning.
- Where other workers may also be exposed to the hazards created by welding, cutting and burning, they must be alerted to these hazards or protected from them by the use of "screens".
- Never start work without proper authorization.
- Always have fire fighting or prevention equipment on hand before starting welding, cutting or burning.
- Check the work area for combustible material and possible flammable vapours before starting work.
- A welder should never work alone. A fire or spark watch should be maintained.
- Check cables and hoses to protect them from slag or sparks.
- Never weld or cut lines, drums, tanks, etc. that have been in service without making sure that all precautions have been carried out and permits obtained.
- Never enter, weld or cut in a confined space without proper gas tests and a required safety lookout.
- When working overhead, use fire resistant materials (blankets, tarps) to control or contain slag and sparks.
- Cutting and welding must not be performed where sparks and cutting slag will fall on cylinders (move all cylinders away to one side).
- Open all cylinder valves slowly. The wrench used for opening the cylinder valves should always be kept on the valve spindle when the cylinder is in use.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

PERSONAL PROTECTIVE EQUIPMENT

"INFO SHEET" FOR EYE & FACE PROTECTION

GENERAL INFORMATION

This PPE is designed to protect the worker from such hazards as:

- flying objects and particles,
- molten metals,
- splashing liquids, and
- ultraviolet, infrared and visible radiation (welding).

This PPE has two types. The first type, "basic eye protection", includes:

- eyecup goggles
- monoframe goggles and spectacles with or without side shields

The second type, "face protection," includes:

- metal mesh face shields for radiant heat or hot and humid conditions
- chemical and impact resistant (plastic) face shields
- welders shields or helmets with specified cover
- filter plates and lens

Hardened glass prescription lens and sport glasses are not an acceptable substitute for proper, required Industrial safety eye protection.

Comfort and fit are very important in the selection of safety eyewear. Lens coatings, venting or fittings may be needed to prevent fogging or to fit with regular prescription eyeglasses.

Contact lens should NOT be worn at the work-site. Contact lens may trap or absorb particles or gases causing eye irritation or blindness. Hard contact lens may break into the eye when hit.

Basic eye protection should be worn with face shields. Face shields alone often aren't enough to fully protect the eyes from work hazards. When eye and face protection is required, advice from the OH&S office, Material Safety Data Sheet (MSDS) or your supplier, will help in your selection.

For more information, look at:
Alberta's O. H. & S. Act, Regulation & Code and
CSA Standard "Industrial Eye and Face Protectors" 294.3 - M1982.

Do

- ensure your eye protection fits properly (close to the face)
- clean safety glasses daily, more often if needed
- store safety glasses in a safe, clean, dry place when not in use
- replace pitted, scratched, bent and poorly fitted PPE (damaged face/eye protection interferes with vision and will not provide the protection it was designed to deliver).

Don't

- modify eye/face protection
- use eye / face protection which does not have a CSA certification (CSA stamp for safety glasses is usually on the frame inside the temple near the hinges of the glasses)

Eye Protection For Welders

Welders and welders' helpers should also wear the prescribed equipment. Anyone else working in the area should also wear eye protection where there is a chance they could be exposed to a flash.

"INFO SHEET" FOR FALL PROTECTION

General Information

As outlined in the AHRE Occupational Health and Safety Code; Part 9 Fall Protection;

> **139 (1)** An employer must ensure that workers use a fall protection system at a temporary or permanent work area if
>
> **(a)** a worker may fall 3 meters or more, or
>
> **(b)** there is an unusual possibility of injury if a worker falls less than 3 meters.

Employers must develop a fall protection plan where the above is true, to include the following;

> **143 (2)** A fall protection plan must specify
>
> **(a)** the fall hazards at the work site,
>
> **(b)** the fall protection system to be used a the work site,
>
> **(c)** the procedures used to assemble, maintain, inspect, use and disassemble the fall protection system, and
>
> **(d)** the rescue procedures to be used if a worker falls, is suspended by a personal fall arrest system or safety net and needs to be rescued.

Full body harness systems are to be used to provide workers working at heights above ground level with freedom of movement and protection from falls. These devices will arrest a fall and absorb some of the shock of the fall. The systems are usually worn around the body and attached to a lanyard, fall arresting device or rope grab. Better quality systems usually have some form of shock absorber in the system.

A lifeline should never be used as a service line. The only time a lifeline becomes a load bearing line is in the event of a fall. At all other times it should be just slack enough to permit free movement on the service lines.

It is very important to get quality advice in the selection, purchase and maintenance of your fall arresting equipment.

Please refer to the following CSA and ANSI Standards when selecting equipment;

> **145 (1)** Harnesses: CAN/CSA-Z259.10-M90 (R1998), *Full Body Harnesses*
>
> **(3)** Lanyards: CAN/CSA-Z259.1-95 (R1999), *Safety Belts and Lanyards*
>
> **(4)** Shock Absorbers: CAN/CSA-Z259.11-M92 (R1998), *Shock Absorbers for Personal Fall-Arrest Systems*
>
> **(5)** Connecting Components: CAN/CSA-Z259.12-01, *Connecting Components for Personal Fall Arrest Systems (PFAS)*

Do

- obtain expert advice before purchasing a fall arresting device
- properly train and practice with the system you decide to use
- use webbing type harnesses instead of leather harnesses
- use only the manufacturer's components for replacement parts
- inspect carefully before each use (inspection to be performed by a trained worker)
- have the harness fitted snugly to the worker using the system
- ensure that the anchor points are secure and able to support the load In the event of a fall
- follow the manufacturer's instructions on care and use
- ensure all lines used with the systems have thimbles
- use only the proper safety rated fastenings with the system
- use a full body harness with shock absorber whenever possible

Don't

- modify, change or put additional holes in the harness or hardware
- jerry-rig the system
- use the system for any other than its intended use
- use the lifeline for a service line

"INFO SHEET" FOR FOOT PROTECTION

General Information

Safety footwear is designed to protect against foot hazards in the workplace. Safety footwear protects against compression, puncture injuries, and impact.

Safety footwear is divided into three grades, which are indicated by colored tags and symbols.

The tag color tells the amount of resistance the toe will supply to different weights dropped from different heights.

The symbol indicates the strength of the sole. For example, a triangle means puncture-resistant sole able to withstand 135 kg (300 ft. lips.) of pressure without being punctured by a 5 cm (2 inch) nail. For more information, look at Alberta's O. H. & S. Statute and Regulations or CSA Standard "Protective Footwear" 2195-M1981.

In construction, it is recommended that only the green triangle grade of footwear, which also gives ankle support, be used.

You choice of protective footwear should always over protect, not under protect.

Do

- choose footwear according to job hazard and CSA Standards.
- lace up boot and tie laces securely; boots don't protect if they are a tripping hazard or fall off.
- use a protective boot dressing to help the boot last longer and provide greater water resistance (wet boots conduct current).
- choose a high cut boot to provide ankle support (less injuries).

Don't

- wear defective safety footwear (i.e., exposed steel toe caps).
- under protect your feet or modify safety footwear.

"INFO SHEET" FOR HEARING PROTECTION

General Information

Hearing protection is designed to reduce the level of sound energy reaching the inner ear.

The "rule of thumb" for hearing protection is: use hearing protection when you can't carry on a conversation at a normal volume of voice when you are 3 feet apart.

Remember this is only a rule of thumb. Any sound over 80 dba requires hearing protection. Hearing loss can be very gradual, usually happening over a number of years.

The most common types of hearing protection in the construction industry are earplugs and earmuffs. If you choose to use the other types of hearing protection, ask your safety supplier or RSS office for further information.

It is important to have different styles of hearing protection available. Different styles allow a better chance of a good fit. Each person's head, ear shape and size is different. One style may not fit every person on your crew. If hearing PPE does not fit properly or is painful to use, the person will likely not use it. If the hearing protection is not properly fitted, it will not supply the level of protection it was designed to deliver.

Most earplugs, if properly fitted, generally reduce noise to the point where it is comfortable (takes the sharp edge off the noise).

If your hearing protection does not take the sharp edge off the noise, or if workers have ringing, pain, headaches or discomfort in the ears, your operation requires the advice of an expert.

Workers should have their hearing tested at least every year, twice a year if they work in a high noise area.

OH&S NOISE REGULATION – EXPOSURE LIMITS

TABLE 1
OCCUPATIONAL NOISE LEVEL EXPOSURE LIMITS
(Figures to be prorated if not specified)

Exposure Level (dBA)	Duration
82	16 hours
83	12 hours
84	10 hours
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 min
100	15 min
103	8 min
106	4 min
109	2 min
112	1 min
115 and greater	0

Where applicable, values have been rounded to nearest whole digit

TABLE 2
SELECTION OF HEARING PROTECTORS

Maximum Noise Level (dBA)	CSA Class of Hearing Protector
85-89	C
90-95	B
96-105	A
Greater than 105	A plug + A or B muff

TABLE3
PERMISSIBLE BACKGROUND NOISE CONDITIONS
FOR AUDIOMETREC TESTING

Octave Band Centre Frequency	Maximum Levels (dBA)
500	30
1000	30
2000	37
4000	47
8000	52

For more information refer to Occupational Health & Safety Noise Regulation

"INFO SHEET" FOR RESPIRATORY PROTECTION

General Information

Respiratory protection falls into two major categories. The first category is Air Purifying Respirators (APRs) which are particle (dust) chemical cartridges but NO visor plate. The second category is Atmosphere Supply Respirators, including self-contained breathing apparatus (SCBA), air line systems and protective suits that completely enclose the worker and incorporate a life support system.

Only APRs will be dealt with here. The second category of respirators requires much more specific information and training. If you need to use Atmosphere Supplying Respirators, you should get expert advice.

APRs

There are two basic types of APRs:

- disposable fibre type with or without charcoal or chemical filter "buttons" and
- the reusable rubber face mask type with disposable or rechargeable cartridges.

The choice depends on your job, labor, cost, and your maintenance facility.

It's Important to remember that APRs are limited to areas where there is enough oxygen to support life. APRs don't supply or make oxygen.

The service life is affected by the type of APR, the wearer breathing demand, and the concentration of airborne contaminants. When an APR is required, consult the Material Safety Data Sheet (MSDS), OH&S or supplier for the exact specifications for the APR.

Facial hair can prevent a good seal and fit of an APR: One to three days growth is the worst. Follow the manufacturer's instructions to the letter regarding the mask, filters, cartridges and other components. Workers who must use respiratory protection should be clean shaven.

An APR is only as good as its seal and its ability to filter out the contaminants it was designed to filter.

Combination Respirators

This type of APR combines separate chemical and mechanical filters. This allows for the change of the different filters when one of them becomes plugged or exhausted before the other filter (usually the dust filter plugs up before the chemical filter). This type of respirator is suitable for most spray painting and welding. For more information check the:

- Material Safety Data Sheet (MSDS)
- OH&S Act, Regulation & Code
- the local OH&S office
- the safety equipment supplier

For more information, look at:

Alberta OH&S Act, Regulation & Code
CSA Standards "Compressed Breathing AID" Z180.1 - M1978
“Selection, Care and Use of Respirators" 294.4 - M1982
Chemical Hazards Regulation (Alberta Reg. 8/82)

Do

- train workers very carefully in the APR's use, care and limitations
- ensure that respirators are properly cleaned and disinfected after each shift, according to the manufacturer's instructions
- dispose of exhausted cartridges and masks in sealed bags or containers
- keep new, unused filters separate from old, used filters
- monitor APR use; they are useless just hung around the neck
- replace filters when breathing becomes difficult.

Don't

- use for protection against materials which are toxic in small amounts
- use with materials that are highly irritating to the eyes
- use with gases that can't be detected by odor or throat or nose irritation
- use with gases not effectively halted by chemical cartridges regardless of concentration (read the cartridge label)
- use respirators or masks if the serviceability is in doubt ,
- use APRs where oxygen content in the air is less than 18 % or 18 kilopascals (partial pressure or greater)

" INFO SHEET" FOR SUN PROTECTION

For the purposes of this manual and work performed on The University of Lethbridge campus, the guidelines for Sun Protection are defined by but not limited to the following:

- Shirts with sleeves of not less than 4" when measured from the underseam to the sleeve hem.
- Full length pants that cover the top of work boots.
- Eye protection with tinted lenses to reduce / block Ultraviolet (UV) rays.
- Hats with a brim that will provide adequate protection from the sun for neck, ear, and face areas. (*Recommended*)
- Sunscreen with a recognized Sun Protection Factor (SPF) of 15 or higher. (Note: Sunscreen should be applied at least 20 minutes before going out into the sun as recommended by Health Canada). (*Recommended*)

For more information on the effects of exposure to sunlight refer to the Heath Canada website located at www.hc-sc.gc.ca.