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**RISK MANAGEMENT PROGRAM
FOR
CAMPS, RETREAT CENTERS, AND CONFERENCES**

GOAL OF THE RISK MANAGEMENT PROGRAM

The goal of a Risk Management Program is to reduce the potential of loss due to fire, theft, accident, occupational disease, or any cause of accidental loss that might adversely affect the institution. The Risk Management Program should be able to accommodate both insured and non-insured exposures.

IMPLEMENTATION OF THE RISK MANAGEMENT PROGRAM

- The individual or group who is responsible for final management decisions should appoint one of its members as Risk Manager. This Manager should be assigned the responsibility to develop, install, and maintain a Risk Management Program specifically for the property of concern. Some programs will be extensive and require help from other members to properly maintain the control throughout the year. Other programs will be relatively simple to manage.
- The Risk Manager may appoint one or more qualified persons, if necessary, to a Risk Management Committee (Safety Committee) to develop and design a program for your facility. Using the guidelines, checklists, suggestions, and safety information of this program, your Risk Management or Safety Committee will be able to tailor the program to your particular needs.
- The Manager and/or Committee then has the responsibility to make frequent inspections of all premises and review all claims and/or incidents that **might** have resulted in claims to determine ways to prevent them from happening again.
- Recommendations resulting from these inspections should be made directly to the individual or group which appointed the Risk Manager and action should be taken as soon as possible.
 - List the recommendations/conditions in sequence of priority as they relate to degree of hazard.
 - Discuss and agree on a course of action and plan of implementation and designate who will be responsible for completion of the work.
 - Establish proposed dates for completion and monitor the progress on a regular basis.
 - Provide notations as to the status of each risk improvement.

Some things to remember when completing this form and determining your course of action are:

- Remember to list all recommendations/conditions even if they appear not to be financially feasible. What may be impractical today may be practical tomorrow and, also, there may be a better way to achieve the same results at less cost.
- If the work to be done requires the use of outside help, try to employ professional help wherever possible, especially when dealing with a high degree of hazard, and be sure to obtain evidence of insurance from the contractor(s) or individual who is authorized to do the

work. Evidence of insurance should include liability, property damage, and workers' compensation, and, depending on job size, bid, material, and performance bonds. A minimum liability limit of \$1,000,000 is recommended.

- Be sure to maintain a constant check on progress, as this action plan will be subject to periodic review. Indicate such status with minor notations such as "work started," "partially complete" (you may wish to indicate the percentage of work completed as compared to total project), "completed," or "not feasible at this time."
- All contracts should be reviewed by your attorney or by other qualified individuals. Also, contracts should be clear in emphasizing who is to be taking responsibility for job site safety on your premises.
- The following "rule of thumb" should be used for record keeping. Your attorney should be consulted to determine the exact time frame for your state.
 - Records of inspections, recommendations, meetings, tax information, and workers' compensation claims should be kept for at least seven years.
 - Records, such as incident reports, treatment, notification of parents or guardian, etc., involving injuries to a camper or staff member who is a minor, **must** be kept until the minor reaches twenty one years of age.
 - It is recommended that copies of insurance policies and endorsements be kept indefinitely.

WHO CAN HELP

State and local governments have specific statutes on building requirements. Camps and retreat centers should meet or exceed all requirements. Local authorities should be contacted to be sure all building code requirements are met or exceeded.

The local Fire Department should welcome the opportunity to be of help. They can respond to an emergency much more effectively if they are familiar with your property. The exact location of main services for electric, heating fuel storage, furnace/boiler rooms, access doors, stairways, and numerous other details will save them valuable seconds. Such time savings can often prevent a minor emergency from becoming a major one. Also, they may detect a hazard you overlooked. Having a diagram of the premises available for them when they call is also very helpful.

Your state labor department, which provides free consultation services under the sponsorship of the Federal Occupational Safety and Health Administration (OSHA), can also be of assistance. This is a voluntary program requiring only the commitment to correct, in a timely fashion, serious job safety and health hazards, if determined.

Most importantly, you can help. Accidents will happen, but don't let them happen to your campers, staff members or employees. The very same camping activities that leave behind the fondest memories are potentially, extremely dangerous, even permanently damaging.

With commitment and careful preparation, you can avoid accidents at your camp. Proper maintenance and repair of your facilities, an adequately trained staff, proper supervision, and careful planning can keep your campers, staff members, and employees out of harm's way.

The following information will assist you in identifying and correcting hazardous conditions, practices and procedures throughout your facility.

OSHA REQUIREMENTS

Camp and retreat center operations come under OSHA requirements if they have one or more employees. They must ensure that the employees are not subjected to safety and health hazards and that their activities comply with OSHA standards. As a result, OSHA record keeping would require at a minimum the posting of the Occupational Safety and Health Poster (OSHA 2203) and could include additional record keeping if 11 or more workers are employed at one time.

A camp or retreat center could be exposed to OSHA sanctions if it hires a contractor for construction or remodeling. If one of the contractor's employees is injured, he or she may file suit against the contractor. The camp or retreat center could be subject to litigation even though the camp or retreat center is relying on the contractor's expertise.

Even though some OSHA requirements might not apply to all camps or retreat centers, all should review it's guidelines and voluntarily comply with them. The U.S. Department of Labor recommends that employers adopt a three-part plan to improve occupational safety and health. These general principles can be readily adapted to a camp or retreat center environment:

1. Management and their employees must commit to protecting workers.

(Camp management and employees must commit to a program of increased safety and develop enthusiasm for the effort through communication.)

2. Work sites should be analyzed to identify hazardous situations. Hazards should be prevented by redesigning a job or the work site or by controlling the hazards.

(Management and maintenance staff should regularly inspect the buildings and grounds, identifying hazards, items that need repair, and unsafe practices and procedures.)

3. Regular training in safety and health must be incorporated into regular job practices.

(Hold regular meetings to discuss safety issues and procedures. Properly train new staff members to perform their jobs safely and report malfunctions or needed repairs to management or maintenance.)

MANAGEMENT AND STAFF

It is management's responsibility to operate a safe facility and to see that campers, counselors and employees leave the premises in the same condition they arrived. The following will assist you in meeting that responsibility.

Staff

- Before hiring, verify the employment history and qualifications of **every** applicant. Be especially thorough when hiring lifeguards, medical personnel, rifle/archery instructors, and challenge course instructors.
 - A "lifeguard" **must** be a person holding one of the following certifications:
 - A current American Red Cross Lifeguard Training certificate.
 - An American Red Cross Basic Lifeguarding certificate.
 - A Young Men's Christian Association (YMCA) Lifeguarding certificate.
 - A National Pool and Waterpark Lifeguard Training (NPWLT) program certificate.
 - Other lifeguard certification approved by your state's Department of Health and Family Services or similar department.
 - Medical personnel **must** be a person holding one or more of the following licenses, registrations, or certifications:
 - Licensed Doctor.
 - Physician's Assistant.
 - Registered Nurse.
 - Licensed Practical Nurse.
 - A current standard first aid certificate from the American Red Cross.
 - A current cardiopulmonary resuscitation (CPR) certificate for adult, children, and infant skills from the American Red Cross or American Heart Association.
 - Other first aid or CPR certification, as approved by your state's Department of Health and Family Services or similar department.
 - Rifle ranges **must** be supervised by **both** a National Rifle Association certified instructor and a trained assistant.
 - Licenses, registrations, and certificates **must** be kept on file.
 - Hire one counselor for every six campers.
 - Be sure each activity is supervised by two or more counselors.
 - Have counselors learn each camper's abilities and gauge activities accordingly.

- Develop a procedure for promptly notifying camp management and maintenance when a hazard or potential hazard, such as a broken guardrail, damaged equipment, etc., is identified by a staff member so repairs or corrections can be made immediately.
- For the off-season, employ a caretaker. A caretaker can not only maintain buildings and grounds, but keep a close check of snow weight on roofs. Also, his or her presence will deter theft and vandalism.

EMERGENCY PLAN

Your facility should have a **written** emergency plan and **all** staff members and employees should know beforehand what to do in an emergency. They should receive instructions on emergency procedures and specific responsibilities should be assigned to each staff member before the first camper arrives. Your emergency plan should include at least the following:

Procedures

- Post procedures throughout the facility at key locations.
- Post emergency telephone numbers at **all** telephones throughout the facility.
- If an injury occurs:
 - Attend the injured person.
 - Send or call for medical assistance.
 - Control the rest of the group.
 - Have a vehicle available for emergency transportation.
 - Make sure all staff members know the best route to the nearest hospital.
 - Stay calm.

Health Facilities

- A log book should be maintained to document the administering of medication, procedures, treatment, etc.
- Parents should be notified of **any** accidents, treatment, etc., and notification should be documented.
- Proper first-aid equipment should be available.

Fire Safety

- See the Fire Safety section for additional information.

Weather

- Establish procedures for severe weather, flood, earthquake, etc.

GROUNDS

Keeping your campgrounds safe is an important part of keeping your campers safe. The following information should help:

General

- Serious consideration should be given to posting the camp grounds. Posting reduces the degree of care required for uninvited guests or trespassers.
- Camp rules should be prominently posted throughout the camp or at one high traffic area such as the dining hall.
- Camp sidewalks, paths, and trails should be inspected periodically for potential trip and fall hazards, such as:
 - Raised sidewalk sections.
 - Loose steps.
 - Wires or cables.
 - Rocks or tree roots.
- Clean up any boards, blocks, or other debris, and get rid of any dangerous protrusions such as nails, splinters, etc.
- Clean weeds, brush, and leaves away from areas adjacent to buildings.
- Make sure proper trash receptacles are liberally distributed throughout your campground.
- Remove any dead trees from your campground.
- Clotheslines should not be strung between trees or buildings near paths of travel. They should be strung on brackets mounted on side or end walls of a building.
- Never use rope, twine, or string to mark yard boundaries, as this creates a trip and fall hazard.
- Make sure parking facilities are located safely away from children's play areas.
- Furnish sturdy, graspable handrails and/or guardrails (guardrails should be not less than 42 inches high) for:
 - All stairways having four or more risers.
 - Pathways along cliffs or steep bank edges.
 - Elevated platforms.
 - Piers and/or docks.
- Unused refrigerators present a potentially dangerous entrapment hazard. Unused refrigerator doors should be removed or the unit chained and padlocked closed until the refrigerator is disposed of.

EXTERIOR LIGHTING

Be sure to furnish adequate lighting for the following areas:

- Night activities.
- Night arrivals.
- Night waterfront activities.
- Exterior stairways.

PLAYGROUND

- Playground equipment should be installed and maintained in accordance with Consumer Product Safety Commission standards.
- Supervision should be provided at all times when children are using the playground during camp activities.
- Playground equipment should be fenced. Gates to the playground should be kept locked at all times when the playground is not in use.
- Playground equipment should be thoroughly inspected annually to determine whether there has been any deterioration or decay. Equipment of wood construction may splinter due to weather conditions and normal use. Areas that show signs of deterioration should be sanded or replaced.
- The surface area below the playground equipment should be protected with an impact-absorbing material such as pea gravel, granulated pine bark, sand, or chopped tires. A minimum depth of 10 inches of material is recommended. Maintenance is required for loose particulate materials because they tend to crater and compact, especially pea gravel and sand.
- Partial car tires or some other shock-absorbing material should be imbedded in the ground beneath the seats of seesaws. This will help prevent limbs from being crushed between the seat and the ground, as well as cushioning the impact.
- Swings should be located away from other equipment and activities. The swing structure should be stable with footings buried below ground level and covered by protective surfacing.
- There should be no visible corrosion or wear on chains or "S" hooks. All "S" hooks should be closed completely.
- Wood or metal seats should not be used.
- Swing hangers should be spaced wider than seats.
- There should be a 24 inch minimum clearance between seats and 30 inch minimum clearance between seat and the support structure.
- The fall zone for single axis swings should be a minimum distance of 2 times the height of the pivot point, which applies to both in front of and behind the pivot point.

- The fall zone for multi-axis tire swings should be a minimum distance in all directions of 6 feet plus the length of the supporting chain or rope.
- The fall zone for spinning or other moving equipment should extend a minimum of 6 feet in all directions from the perimeter of the equipment.
- Playground staff should be trained to avoid any strange animals.

Hazardous Materials

- Secure all individual liquid propane tanks to the wall of a building.
- Liquid propane tanks between 125 - 500 gallon capacity should be located a minimum of 10 feet from a building. Tanks between 501 - 2,000 gallons should be located a minimum of 25 feet from a building.
- All grade level gasoline storage tanks and pumps must be barricaded or fenced to prevent collision. Also, steps must be taken to provide containment in the event of a major leak or spill. The containment structure must be able to accommodate the volumetric amount of the largest tank inside the containment area.
- "No Smoking" signs should be posted in areas where gasoline pumps, storage tanks, or storage cans are located.
- An ABC type fire extinguisher with a minimum rating of 2-A:20-B:C should be located in the area of gasoline pumps, storage tanks, or storage cans.
- Pesticides and herbicides should be applied only by persons with proper EPA licensure. The use of pesticides and herbicides should be avoided by operations without public water availability.

BUILDINGS

EXTERIOR

- Make sure roofs can handle the weight of snow or ice. Heavy snow loads should be removed from roofs on a regular basis.
- Roof leaks should be repaired as soon as possible to prevent interior damage, structural damage, or electrical damage which could result in fire.
- Broken windows should be repaired or replaced as soon as possible to prevent personal injury and/or interior damage from the elements.
- All exit doors should be maintained to operate freely.
- In buildings occupied by groups, all secondary doors should be marked "Exit."
- At least two exits, remote from each other, should be accessible from each floor of a building.

INTERIOR

- Plumbing in unoccupied buildings should be drained in the off season to prevent frozen pipes. If the buildings are not drained, they should be properly heated and the temperature level should be adjusted and frequently monitored over the winter months. If necessary, non-toxic RV antifreeze can be utilized in pipes and drains.
- Low light bulbs in storage areas create both a personal injury and a fire hazard and should be protected with wire basket guards, similar to the type used on trouble-lights.
- Air circulation fans, commonly mounted on floor stands, with wide-spaced blade guarding create a personal injury hazard and should be equipped with a fine mesh guard covering the entire blade area.
- Bunks and/or beds should not be located near fuse or breaker panels or electrical outlets. A minimum clearance of 3 feet should be maintained.
- Bunks and/or beds should not be located near heating equipment.
- Upper bunks should be equipped with guardrails, which must be spaced no more than 3 1/2" apart.
- Place adequate trash receptacles at various indoor locations.

ELECTRICAL

Faulty installation, care, and handling of appliances and connections, is a major cause of electrical shocks **and** fire. The following will assist you in avoiding electrical dangers at your camp.

- The entire electrical system of each building should be checked annually by a licensed electrician.

- Electrical wiring, connections, installations, etc., should be performed by a licensed electrician.
- If your electrical system uses fuses, use the proper size fuse for the circuit. If in doubt, contact a licensed electrician.
- Extension cords should not be used in place of permanent electrical wiring and outlets.
- Temporary electrical wiring should not be run through hidden spaces, walls, or wall openings such as doors or windows.
- All fuse or circuit breaker panels should be equipped with a proper, original equipment cover panel. A proper enclosure prevents accidental contact with energized electrical conductors and minimizes the potential of the panel becoming the source of fire ignition.
- There should be no open spaces in any breaker panel. Open spaces should be covered with plastic spacers which can be purchased at your local electrical supply store. Tape is not considered a proper cover.
- All electrical outlets and light switches must be equipped with face plates.
- All electrical connections must be in electrical junction boxes, equipped with cover plates.
- Power cords for appliances and extension cords should be maintained in good physical condition, having no splices or signs of deterioration.
- All electrical appliances should be properly grounded. Any time an adapter is used to accommodate a two-hole receptacle, the adapter **must** be attached to a known ground. The third prong should **never** be removed from the plug.
- Extension cords with multiple connections and T-type adapters used to increase the number of receptacles in a wall socket should not be used. If additional receptacles are needed, an Underwriters Laboratories listed "bar type" or "power strip," equipped with a built-in circuit breaker, should be used. These should be secured to a wall or a permanent piece of furniture such as a cabinet or workbench.
- Electrical outlets near water, such as restrooms, bathhouses, pool or beach areas, etc., should be equipped with ground fault circuit interrupter (GFCI) type outlets to reduce the potential of electrical shock.
- Maintain a minimum 3 foot clearance between electrical panels and combustible storage materials. This will reduce a potential fire hazard and allow access to the panels in the event of an emergency.

HEATING AND HOT WATER HEATERS

- Heating equipment such as furnaces or boilers, should be isolated in a fire-resistive room. This can be accomplished by lining the walls, door, door frame, and ceiling with a fire-resistive material such as concrete block, fire code drywall, or cement board.
- The furnace/boiler room should not be used for storage of combustible materials. In addition to the possibility of improper clearances, a malfunctioning heating unit is a

potential source of fire and combustibles would only add fuel, increasing chances of fire spread.

- All boilers and hot water heaters should be equipped with a pressure and temperature relief valve.
- Heating equipment should be checked and serviced annually by a qualified contractor. Comply with recommendations made as a result of these inspections immediately. Boiler inspection certificates should be posted.
- Provide a well-identified remote emergency switch for gas or oil burners.
- Have all heating and ventilation ducts cleaned periodically.
- Fireplaces and wood stoves should be equipped with a spark arrester or other protection.
- Portable kerosene fueled space heaters should not be used as a supplemental source of heat. Serious injury and/or property loss very often results from their use.
- Make sure hot water heaters are set on a protected or non-combustible floor and maintain proper clearances to combustible walls.

HOUSEKEEPING

- Good housekeeping should be maintained in storage areas. Poor housekeeping habits increase the chance of fire and personal injury.
- LP gas cylinders, gasoline, and gasoline-operated equipment should not be stored inside buildings, other than those used for storage.
- Properly store bar-b-que charcoal in air tight containers, preferably not inside the building. National Fire Protection Association studies have indicated that damp charcoal is spontaneously combustible.
- All rags and paper towels containing flammable or combustible liquids should be separated from other trash and placed in a noncombustible, self-closing trash container until removed from the premises. Such materials should be removed from the building at the end of the day.
- If flammable cleaning agents, floor polishes, paint, paint thinner, etc., are used, they should be stored in approved flammable liquid storage cabinets.
- Items such as handicraft materials should be stored in solid, closed containers. Loose storage in paper or plastic bags should be eliminated as these increase the chances of fire and rapid fire spread.
- There should be an 18 inch minimum clearance between storage shelves and overhead light bulbs.
- Keep space in attics, basements, and beneath stairs free from unnecessary accumulation of combustibles.

EXITS

The following pertains primarily to larger buildings, such as a lodge, dining hall, or dormitory.

- Maintain all exit facilities in good working order, unlocked during occupancy, and free of obstruction.
- Provide two exits, remote from each other, for each level of the building.
- Be sure that fire escapes are accessible and well maintained.
- All emergency fire exits should be prominently marked with illuminated exit signs.
- All emergency exits should open in an outward direction.
- All emergency exits should be equipped with panic hardware and tested regularly.
- Stairways, darkened hallways, and exits should be equipped with emergency lighting to assist in exiting the building in the event of a power failure. Emergency lighting should be tested regularly.

DINING HALL

- Place all cooking equipment on protected or non-combustible floors, with adequate clearance to combustible walls.
- Practice good housekeeping in the kitchen area, keeping appliances, walls, floors, etc., free of grease accumulation. Grease buildup increases the chance of fire and personal injury.
- The kitchen stove burners should be maintained so they will ignite when the gas is turned on. If the stove is not equipped with pilot lights or you wish to keep them turned off, then the gas line to the stove should be turned off with a remote valve when the stove is not in use.
- Install a hood above cooking equipment and an exhaust duct to the exterior of the building. The hood should be equipped with removable filters and explosion proof lights.
- The kitchen hood, duct system, and exhaust fan should be cleaned at least annually by a contractor specializing in this service if your facility operates only during the summer. If your facility operates year round, the system should be cleaned semi-annually. The system should be date tagged when cleaned.
- Where daily cooking is performed, an Underwriters Laboratories listed automatic fire suppression system should be installed in the hood and duct system. A manual pull activator device should be mounted near an exit door.
- Keep refrigeration motors, cooling coils, and compressors free of combustible materials and in clean condition.
- Monitor and document refrigeration and freezer temperatures daily.
- Make sure walk-in coolers and freezers are equipped with safety handles.

- Maintain thermostat equipment on deep fryers and other cooking equipment in good working order.
- Keep mechanical dishwashing equipment in good repair.
 - Temperature gauges **must** be working properly
 - Maintain hot water temperature requirement
 - Monitor and document hot water temperature daily
 - Dishwashing detergent and chemical containers **must** be labeled.
- Manual dishwashing should include:
 - Adequate quantity of hot water.
 - Provide and use sanitizing test kit.
 - Dishwashing detergent and chemical containers **must** be labeled.
- Garbage should be removed from the building after each meal. Garbage containers must be located away from the building.
- Overhead fluorescent and incandescent lights in food preparation areas should be protected to prevent the possibility of glass particles getting into food should a light explode or be broken. Plastic sleeves are available for unprotected fluorescent tubes.
- Maintain an unobstructed exit from the kitchen. The exit should be located so those exiting the area will not have to pass close to a potential fire source, such as the stove.
- There should be a first-aid kit in the kitchen which should be displayed so it is visible and accessible. The first-aid kit should be equipped with latex gloves.
- The kitchen should be equipped with a Class K fire extinguisher which is specifically designed for use on fires that involve combustible cooking vegetable oil or animal fats in commercial cooking equipment, such as fryers, griddles, range tops, broilers, and woks.
- Equip all windows with screens and all doors with self-closing screen doors.
- Contract for pest control. This is not a service which should be provided by inexperienced staff members.

FIRE PREVENTION

The purpose of this section is to assist in reducing fire loss and damage by recommending appropriate programs and procedures. The further purpose is to provide an awareness of the hazards of fire among those individuals or groups responsible for maintenance and operation of camps, retreat centers, and conferences, and to acquaint them with the elements of fire prevention and protection. Be sure your staff members and employees are familiar with the following:

CAUSE OF FIRE

To properly address fire prevention, it is beneficial to have an understanding of how a fire develops and behaves in a building. Fire is essentially a chemical reaction in which fuel mixes with oxygen and is then heated by some device or action known as ignition, to a point where flammable vapors are produced.

Fuel

Buildings frequently contain numerous fuels. These may include combustible building materials such as wood and plastic, furnishings, equipment, supplies, records, and other collections of materials. Flammable liquids such as cleaning solvents, paint, paint thinner, and motor fuels may also contribute to a building's fuel load.

Ignition

Common ignition sources include: electrical lighting and power systems, heating and air conditioning equipment, heat producing conservation and maintenance activities, and electric office and kitchen appliances. Arson, unfortunately, is a common threat and must always be considered in fire safety planning.

Combustion

When an ignition source comes in contact with a fuel, the combustion process starts. The typical accidental fire begins as a slow growth, smoldering process which may last from a few minutes to several hours. The duration of this "incipient" period is dependent on several factors including fuel type, its physical arrangement, and quality of available oxygen. During this period, heat generation increases, and light to moderate volumes of smoke start to show. The characteristic smell of smoke is usually the first indication that an incipient fire is underway.

As the fire reaches the end of its incipient period, there is usually enough heat to permit the onset of open, visible flames. Once this happens, the fire dynamic changes from a relatively minor situation to a very serious event. Rapid flame and heat growth will follow, with ceiling and upper room temperatures exceeding 1,800 degrees Fahrenheit. Flames can ignite adjacent to combustible contents, while the safety of occupants in the space become seriously threatened. Within 3 to 5 minutes, room temperatures may be sufficiently high to cause room "flash." At this point, most combustible contents in the space will ignite and be destroyed, and human survivability becomes impossible. Smoke generation in excess of several thousand cubic feet per minute will occur, obscuring visibility and impacting contents remote from the fire.

If the building is structurally sound and non-combustible, heat and flames will consume all remaining combustibles and then self extinguish. However, if wall and/or ceiling fire resistance is inadequate (i.e., open doors, wall/ceiling breaches), the fire can spread into adjacent spaces, and start the process over. If the fire remains uncontrolled, the complete destruction or "burn out" of the entire building and contents may ultimately result. In large buildings, fires commonly spread through door openings and wall cavities, so that the entire building falls victim.

CLASSES OF FIRE

Fires are classified according to the types of objects being burned.

- Class A - Ordinary combustibles such as wood, paper, cloth, rubber, or certain types of plastic.
- Class B - Flammable or combustible gases and liquids such as gasoline, kerosene, paint, paint thinners, varnishes, cleaning solvents, certain floor polishes, and propane.
- Class C - Energized electrical equipment such as appliances, electrical control panels, and power tools.

HOW TO PREVENT FIRE

Class A fires can be avoided through simple, routine housekeeping.

- Make sure storage and work areas are free of trash.
- Place oily rags and similar debris in covered metal containers away from any flame producing source.
- Empty all trash containers frequently.

Class B fires can be prevented by taking special precautions when working with or around flammable liquids or gases.

- Use flammable liquids only in well ventilated areas.
- All flammable liquids, such as paints, varnishes, cleaning solvents, and floor polishes, should be stored inside an approved flammable liquids storage cabinet, and quantities of these materials stored inside the building should be kept to a minimum.
- Store flammable liquids away from spark producing sources.
- Limit portable storage cans to a maximum of five gallons each.
- Power lawn mowers, snow blowers, and other gasoline powered equipment and their fuel should be stored outside or in a designated storage building.
- Make sure outside storage of flammables is at least 20 feet away from other buildings.

Class C fires, involving the use or misuse of electrical equipment, are one of the major causes of fire. Class C fires can be prevented by taking the following precautions:

- Check electrical equipment for old or worn wiring or broken, damaged fittings.
- Prevent electric motors from overheating by keeping them clean and in good working order.
- Where fuses are used, never install a fuse rated higher than specified for a circuit.
- Never overload wall receptacles. One wall outlet should have no more than two plugs.

- Don't plug more than one heat producing appliance into an outlet.
- Investigate any appliance or equipment that smells strange. This is often the first sign of a fire.
- The use of extension cords should be kept at a minimum. They should never be used as permanent electrical wiring.
- See the electrical section for additional hazards.

FIRE EXTINGUISHER CLASSIFICATIONS

Each fire extinguisher displays a rating on the faceplate showing the class of fire it is designed to put out. Some extinguishers are marked with multiple ratings such as BC, ABC, or ACK.

- Class A extinguishers are effective on ordinary combustibles. The extinguisher cools the temperature of the burning material below its ignition temperature. These extinguishers use pressurized water, foam, or multi-purpose dry chemical agents. Class A extinguishers carry a numerical rating, such as 2-A, that indicates how large a fire an experienced person can safely put out with that extinguisher.
- Class B extinguishers should be used on flammable liquids or gases. Class B extinguishers may come in several types including foam, carbon dioxide, ordinary dry-chemical, and multi-purpose dry-chemical. Class B extinguishers also carry a numerical rating similar to Class A extinguishers.
- Class C extinguishers are to be used specifically on electrical fires. Class C extinguishers may contain carbon dioxide, ordinary dry-chemical or multi-purpose dry-chemical. **Never use water extinguishers or any extinguishing agent capable of conducting electricity on Class C fires.** Class C extinguishers carry a letter rating only to indicate that the extinguishing agent will not conduct electricity.
- Class K fire extinguishers are specifically designed for use on fires that involve combustible cooking vegetable oil or animal fats in commercial cooking equipment. Typical appliances include fryers, griddles, range tops, broilers, and woks. Class K extinguishers, which also carry Class A and Class C letter rating are recommended. Class K extinguishers also carry a numerical rating that indicates how large a fire an experienced person can safely put out with that extinguisher.

To eliminate confusion for your staff members and employees as to which type and size fire extinguisher they should use on the various types of fires, it is recommended that all extinguishers have a minimum rating of 2-A:20-B:C. The exception is the kitchen where a 2-A:C:K fire extinguisher is required.

FIRE PROTECTION EQUIPMENT

- "All Purpose" ABC type fire extinguishers with a minimum rating of 2-A:20-B:C should be available throughout your facility, **except** the dining hall kitchen, where a 2-A:C:K fire extinguisher is required.

- If a building is heated, there should be a designated fire extinguisher for that building. If there is no heat source, there should be a fire extinguisher within 75 feet.
- In larger buildings, each level should be equipped with at least one fire extinguisher. Designate at least one fire extinguisher for every 2,500 square feet of space and allow no more than 75 feet of travel distance to reach a fire extinguisher.
- All interior fire extinguishers should be properly mounted on a wall, near an exit. Exterior fire extinguishers should be mounted on an exterior wall or poles in conspicuous locations.
- All fire extinguishers should be serviced and tagged annually by a qualified vendor.
- Check all fire extinguishers weekly for tampering or removal.
- All staff members and employees **must** be trained in the proper use of fire extinguishers and fire protection equipment.
- Soda acid fire extinguishers are extremely dangerous because of the amount of pressure developed when the unit is activated. There are recorded incidents where people have been killed or severely injured because the unit exploded. If you have soda acid fire extinguishers on your premises, you should contact your local fire department or fire extinguisher servicing contractor immediately for proper disposal.
- Carbon tetrachloride charged fire extinguishers, typically brass or glass bulb, are extremely dangerous if used. When carbon tetrachloride is heated, it forms a dangerous gas which can be fatal to the person using the extinguisher. If you have this type of fire extinguisher on your premises, you should contact your local fire department or fire extinguisher servicing contractor immediately for proper disposal.
- All buildings designed for overnight occupancy and equipped with electricity should be protected with smoke detectors hardwired into the electrical system with a battery backup. Battery only units should be replaced.
- All buildings designed for overnight occupancy and the building is not equipped with electricity should be protected with battery operated smoke protectors.
- Batteries in smoke detectors should be checked weekly and batteries should be replaced at least annually.
- Smoke detectors **must** be ceiling mounted and no closer than 4 inches to a wall. If there is no finished ceiling, the smoke detector **must** be mounted at the roof peak.
- Smoke detectors should be cleaned annually unless environmental conditions warrant more frequent cleaning. Detectors should be replaced at least every ten years.
- All buildings with LP or natural gas fueled furnaces, heaters, hot water heaters, or a wood burning heat source **must** be equipped with carbon monoxide detectors which should be hardwired into the electrical system with battery backup. If the building is not equipped with electricity, a battery operated detector should be used. This applies to dormitories, cabins, bath houses, maintenance shops, etc.
- Protect heating unit chimney or vent pipes against nesting birds and varmints which could create obstructions.

FIRE EMERGENCY ACTION PLAN

A written, up-to-date Emergency Action Plan for your facility is essential. It should include instructions on how to evacuate buildings and designate specific individuals who are in charge of the evacuation. The Plan should include the following:

- Primary and secondary escape routes should be outlined for every area of the larger buildings.
- Escape routes for the handicapped should be outlined for every area of the larger buildings.
- Maps of escape routes with simple instructions should be posted in the larger buildings.
- Emergency Action Leaders should be assigned specific duties, such as verifying everyone in their area has evacuated the building.
- Handicapped and those with a history of certain medical conditions should be assigned an Emergency Action Leader to guide them to safety.
- Stairways and exits should be kept free of obstacles that could block or hinder an evacuation.
- Periodic fire drills should be conducted to identify problems before an actual fire occurs. Treat the drills as if they were the “real thing.”

HOW TO EVACUATE

The following steps will assist in evacuating your facility:

- Know and follow the procedures outlined in your Emergency Action Plan.
- During any evacuation, proceed calmly, but quickly.
- Never use an elevator. A loss of power can trap someone inside.
- Close the door if you are the last person out of a room. Do not lock the door as it could hinder the fire department’s search and rescue efforts.
- Keep low to the floor to avoid smoke and toxic gases.
- Once in a stairwell, proceed down to the first floor and exit the building.
- Once you are safely outside the building, everyone should report immediately to predetermined areas so others will know you are not trapped inside.

IF YOU ARE TRAPPED

Don’t panic. Your ability to think clearly could save your life.

- If a telephone is available, call 911 or your local fire department and state your exact location in the building.

- Never open a closed door without feeling the door first with the back of your hand. If the door is hot, try another exit. If no other exit exists, seal the vents and cracks around the door with anything available.
- If you are having difficulty breathing, remain close to the floor and ventilate the room by opening or even breaking a window.
- If your clothes catch on fire, stop, drop, and roll. Do not run, as this only feeds the fire with more oxygen, making it burn faster.
- If someone near you catches on fire, smother the flames by grabbing a jacket, blanket, or rug and wrapping it around him or her.

Fire is a killer. To be safe in your facility, your staff members and employees should learn the classes of fire and how to prevent them. Make sure you have an Emergency Action Plan so your staff members, employees, and campers know how to react if you experience a fire.

ACTIVITIES

The many activities your campers experience become lasting memories for them. Make them good memories by providing safe facilities and procedures. The following will assist you, but always check with your local jurisdiction for current regulations pertaining to your facility.

SWIMMING

General

- The physical condition of a camp's swimming area should be meticulously maintained to eliminate safety hazards.
- Keep the swimming area clear of clutter and debris. Absolutely no glass or shatterable plastic items should be permitted in the swimming area.
- Stairs and walkways surrounding and adjacent to the swimming area should have nonskid surfaces.
- All walkways should be of uniform level to avoid trip and falls.
- Rules for the swimming and diving areas **must** be posted in a conspicuous location or locations, be legible, and enforced. The rules should include statements regarding:
 - Lifeguard presence.
 - Swimming hours.
 - Do not run or engage in rough play in the pool or swimming area.
 - Do not enter the swimming area if you have a communicable disease or an open cut.
 - Shower before entering the pool or swimming area and after use of toilet facilities.
 - Do not bring food, drink, or gum into the swimming areas.
- During closed hours, a sign should be conspicuously posted stating the pool or beach area is closed.
- No diving signs should be posted near the low water areas of the pool or swimming dock.
- Water depth should be posted for pools or beach swimming areas.
- Make sure all stairs, piers, and platforms are structurally sound and equipped with proper handrails and/or guardrails.
- Lifeguards shall wear suits that are conspicuously marked "Lifeguard" or are otherwise readily identifiable.
- Lifeguards assigned to the supervision of the pool or swimming area must not be assigned duties that distract their attention from observation of persons in the pool or swimming area or prevent their immediate assistance to persons in distress.

POOLS

- The pool area should be enclosed with a fence, not less than 8 feet in height. All gates and doors into the pool area should be maintained and checked for proper operation and should be kept locked when the pool is not in use.
- Procedures should be established to address evacuation and subsequent spot chlorination of accidental discharges by children or other incontinent individuals.
- Rescue equipment shall include:
 - A shepherd's crook type pole.
 - For each lifeguard chair, or when a pool is 30 feet or more in width and does not have lifeguard chairs, there should be provided at least one of the following:
 - A ring buoy having a minimum outside diameter of 20 inches, attached to a ¼ inch rope having a length not less than 1 ½ times the maximum width of the pool or 50 feet, whichever is less.
 - A rescue buoy.
 - A rescue tube.
 - A torpedo buoy.
 - Lifesaving equipment must be mounted in a conspicuous place and shall be readily accessible.
 - An approved first-aid kit, 2 durable blankets, and a spine board shall be available at the pool area when swimming activities take place.
 - A working telephone **must** be available in the pool area. A current list of emergency numbers shall be attached to or posted near the telephone.
- All containers of chemicals used in the operation and maintenance of pools must be conspicuously labeled with at least the following information:
 - Name of the product.
 - The manufacturer's name and address.
 - Active ingredients.
 - Directions for use.
 - Hazardous ingredient warning.
 - The U.S. Environmental Protection Agency registration number.
- All chemicals should be stored in the original covered container in a clean, dry, well ventilated, and locked area, away from flammables and heat sources. Only authorized personnel shall have access to the storage area. Chemicals may not be stored in chlorine gas storage areas.

- When mixing a chemical solution, mix the chemical in water. Each chemical or chemical solution shall be separately applied. Chemicals may not be combined.
- Smoking must be prohibited in the chemical storage and mixing areas or by anyone who is handling chemicals.
- Pool water should be tested daily before the pool is open and at least one other time during the day's peak swimming load for pH and disinfectant residual, at least twice a week for the combined chlorine level when chlorine is used, and at least once a week for total alkalinity and cyanuric acid concentration when cyanuric acid is used. All testing must be documented.
- Pool water should have sufficient clarity that the main drain or a black and white disc, 6 inches in diameter, placed at the deepest point of the swimming pool, is readily visible when viewed from the deck.
- If you do not drain your swimming pool in the off season, it is recommended the pool be covered with a covering capable of supporting the weight of a man. In warmer climates, if the pool is not drained or covered, the pool filtering equipment should be kept engaged year-round to eliminate cloudy water and allow visibility to the bottom of the pool.
- Lifeguards and staff should be familiar with the operation of pool pumps, etc., to shut the system down in the event of an emergency, such a child caught in the suction of a drain.

BEACH FRONT

- The land boundary of the beach area should be designated by posting signs.
- For depths up to four feet of water, the bottom slope of the beach should be uniform and not drop more than one inch for every twelve inches. There should be no underwater obstructions, drop-offs, or radical changes between the depths of four feet and seven feet.
- The bottom, to a water depth of at least six feet, should consist of sand, pea gravel, or other approved material. Check with your Department of Natural Resources before adding fill material in lakes, streams, or other bodies of water.
- The perimeter of the beach water area should be clearly designated by means of lines attached to swimming area buoys. The shallow part of the swimming area should be separated from the remainder of the area by means of lines located at clearly marked depth of between three and four feet. Any area specifically designated for diving purposes should also be separated by lines located at a distance of no less than twelve feet from a diving platform and twelve feet beyond the end of a diving board. All lines should be buoyed and securely anchored. Floats attached to the lines should be located no more than twenty-five feet apart and at all points where lines are joined.
- Clearly visible water depth markings should be provided to indicate the maximum depth of the water beneath all diving boards, platforms, towers, or rafts.
- Floating and fixed diving platforms must be constructed with a **visible** twelve inch air space under the platform at the maximum feasible swimmer load. There should be as little underwater construction as is consistent with adequate support and all braces and struts must be designed to prevent entrapment of swimmers.

- The minimum water depth surrounding floating or fixed diving platforms without special diving apparatus should be at least eight feet within a distance of twelve feet from the platform. For platforms with special diving apparatus such as diving boards, towers, or similar devices that are three feet or less above the water, the depth at the end of the device should be at least ten feet within a twelve foot radius. For heights above water greater than three feet, the depth at those locations should be at least twelve feet. No diving apparatus should be installed more than ten feet above the water.
- The maximum water depth for any swimming or diving area should be fifteen feet.
- Docks, piers, and floats should be inspected periodically for signs of deterioration, sharp or splintered edges, and missing components.
- During non-swimming hours, a legible sign or signs reading "No Lifeguard On Duty" should be posted.
- Lifeguards should be isolated from beach crowds by occupying elevated seats on stands or towers, high enough to give them a complete and unobstructed view of the swimming and beach area for which they are responsible.
- Rescue equipment shall include:
 - Each lifeguard should be equipped with a whistle or megaphone.
 - A shepherd's crook type pole.
 - Each lifeguard stand should be equipped with at least one of the following:
 - A ring buoy, not less than 20 inches in outside diameter, attached to **75** feet of ¼ inch rope.
 - A rescue buoy.
 - A rescue tube.
 - A torpedo buoy.
 - Lifesaving equipment should be maintained in good repair and be readily available.
 - If swimming is permitted a distance of 150 feet or greater from the beach shoreline, a lifesaving patrol boat or lifesaving station must be provided. The boat should have a square stern, 12 feet or more in length and should be located so as to be immediately available. They should be used for their intended purpose only and should be equipped with oar pins, and at least one shepherd's crook type pole and one ring buoy attached to a 75 foot length of ¼ inch rope.
 - A working telephone or other means of communication **must** be provided and available for the beach area. A current list of emergency numbers should be attached to or posted near the telephone.
 - An approved first-aid kit, 2 durable blankets, and a spine board must be available for the beach area.
- Night swimming should not be permitted unless the beach area is adequately lighted. All electrical facilities **must** be in compliance with National Electrical Codes.

- No boating, water skiing, surfboarding, or sailboarding should be permitted in the swimming area.

SWIMMERS

- Swimmers access to the water should be controlled with a check-in/check-out board.
- Use and enforce the “Buddy System” of matching up two swimmers for a head count every 10 minutes. This should include **all** groups, including “family camp,” who use your swimming facilities.
- Establish and use a method of testing **all** swimmer’s ability levels and physical fitness the first time out. Designate specific swim areas for each category:
 - Non-swimmers.
 - Intermediate swimmers.
 - Qualified swimmers.

WATERFRONT ACTIVITIES

- Rules for the use of a water slide, water blob, trampoline, or swing rope **must** be posted in a conspicuous location at each event. Rules must be legible and enforced.

BOATING

General

- Keep all canoes and boats “seaworthy.”
 - Refinish wood boats and canoes when necessary.
 - Keep canvas and other fabrics covered.
 - Patch any holes in canoes.
 - Store boats and canoes in a sheltered place, away from snow and rain.
- **All** participants of **all** watercraft must wear approved life jackets.
- Diving from any craft should be discouraged unless the area is familiar and the water depth is known.

Canoeing

- Canoes without keels should not be utilized due to their inclination to overturn.
- Avoid canoeing accidents by taking time to instruct campers well. Be sure they understand the following:
 - Generally, canoes are made for two people only.

- Distribute weight equally from bow to stern and from side to side to avoid tipping over.
- Provide proper paddles.
- Should you capsize, always stay with the canoe, because it will float.
- Accidents usually result from horseplay or from standing up.

Row Boats

- Post signs on each boat indicating it's maximum capacity.
- Equip each boat with a pair of proper oars, equipped with oar pins.

Power Boats

- Assign mooring space for each boat.
- Isolate fuel storage areas from the rest of the camp.
 - Store fuel only in approved, marked containers.
 - Provide adequate ventilation and post **No Smoking** signs.
 - Provide a fire extinguisher with a minimum Underwriters Laboratories classification of 2-A:20-B:C, which should be mounted on a wall or posted in a conspicuous location.
- Fuel on board the craft should be in approved marked containers.
- Equip all motorized boats with an approved fire extinguisher.
- Designate storage space for lifesaving equipment aboard each boat.
- Equip the boat with a radio or portable communication device to communicate with the shore in the event of an emergency.
- All camp boating activities require the following personnel:
 - Activity leader.
 - Helpers for the leader.
 - Supervisors familiar with the equipment.
- Each boat operator at camp takes on a great responsibility. It is **your** responsibility to make them aware of the important role they play in the safety of others. The following are imperative points everyone involved with boats should know:
 - Who is qualified to operate which type of boat. Establish guidelines regarding age, experience, and has the operator completed a boater safety course as may be required by your state or local jurisdiction.
 - How to procure permission to use boats.

- What is the maximum capacity of each boat (caution against overloading).
- Location of lifesaving equipment and its proper use.
- Know location of the fire extinguisher and its proper use.
- Designated areas for boat operation.
- Assigned locations for returning boats and equipment.
- Pre-planned time schedule for boat return.
- Small craft warning signals.
- Make sure boat lights comply with Coast Guard regulations and are operating.
- Motorized boats require proper care and maintenance. This should include:
 - Check and maintain oil, lubrication, and cooling systems.
 - Boat operators should know the following:
 - What to check if the motor doesn't start.
 - What to do if the motor overheats.
 - What to do if the motor runs, but the propeller won't revolve.
 - Proper mooring/storage procedures.

WATERSKIING

- Establish written emergency procedures for your waterskiing activity. The procedures **must** be understood and followed by the activity leader, helpers, supervisors, boat operator, etc.
- All waterskiing activities **must** be adequately supervised. This includes the activity itself **and** those on shore waiting to ski.
- Waterskiing must never be permitted unless there are two people in the tow boat:
 - The driver - Should be qualified and experienced in the operation of the boat and in pulling skiers.
 - An observer - Someone who is competent and understands hand signals from the skier.
- Instruct novice skiers regarding hand signals to the observer for speeding up and slowing down, etc.
- Waterskiing areas should be isolated from other water activities.
- Make sure **all** skiers **and** occupants of the boat wear approved personal floatation devices. Ski belts are not approved devices.

- Make sure **all** participants understand the danger in attempting to remove a tangled tow rope before the motor is turned off. An adult should untangle the rope to reduce the hazard of being cut on a sharp propeller.

ARCHERY AND RIFLE RANGES

A camp's archery and rifle ranges can be the site of many proud moments and hours of enjoyment for campers. By exercising a few practical safety measures, you can keep the areas from being the site of dangerous shooting accidents. The essential elements of the proper use and responsibility of firearms and archery are a positive attitude, knowledge, and skill. Ignorance and carelessness are the greatest cause of firearms and archery related accidents.

General

- Where necessary, secure permits from local jurisdiction.
- Keep your shooting ranges away from other activities and buildings.
- Shooting ranges **must** have strict supervision at all times.
- Range and shooting/archery rules **must** be posted in a conspicuous location, be legible, and enforced and at a minimum contain the following basic rules:
 - Treat all guns as if they were loaded.
 - Always keep your finger out of the trigger guard of a gun until ready to shoot.
 - Never point a firearm or bow at anything you are not willing to destroy.
 - Be sure to know your target and what is beyond.
- Signs **must** be posted around the perimeter of the ranges, at sufficient distance from the range, to warn other campers and participants they are about to enter a dangerous area.
- Ideally, ranges should face a northerly direction, with targets positioned at the north end, to prevent shooters from being blinded by the sun.
- Ranges **must** be clear of obstructions, trip and fall hazards, and debris that can cause a ricochet back at the shooter.
- A designated firing line should be established and the firing line should be level.
- All shooting participants should sign a waiver/release form before any activities begin.
- A safety class/discussion in the operation of equipment, shooting positions, range commands, firearms/archery safety rules and handling, and range rules, should be conducted before any activities begin with written verification of the training being conducted.
- Racks or tables should be provided for temporary storage of firearms/archery equipment on the range while shooting is commencing.
- Firearms and arrows/bows should always be pointed in a safe direction and never at another person.

- All targets must be free from particles that can break off and ricochet back at the participants.
- All shooting and observing participants are required to wear eye protection and hearing protection (for firearms).
- Every range should have emergency equipment on site, including a first-aid kit and a fire extinguisher.
- Trained first-aid responders should be on site or within close proximity to the range while activities are being conducted.
- All impact areas should be free of hard objects, rocks, or debris that can ricochet back at the participants.

Archery Range

- Supervision should be one instructor for every six campers.
- Equipment **must** be kept locked when not in use.
- Archery range should be large enough to provide at least 15 **feet** between targets, and 25 **yards** of clearing behind each target.

Rifle Range

- Supervision **must** be by both a National Rifle Association certified instructor, trained in firearms use/safety and range safety, and a trained assistant.
- Provide effective backstops. Hills and clay banks should have a crest at least 30 feet above the level of the firing point.
- An area at least 10 feet high should be scooped out of the base of a hill to provide a vertical backstop. All side berms should be at least 12 feet high.
- The "Ready" line should be at least 15 feet to the rear of the firing line.
- All weapons must be placed on the firing line by the instructor prior to the campers arriving for the activity.
- The range should be run "cold" meaning no loaded firearms, actions open, magazines out of the firearms, and rifle muzzles pointed up while being transported.
- If metal targets are used, they should be a minimum of 10 yards from the participants.
- B-B guns must be treated the same of rifles. Campers must not be permitted to carry the weapons to and from the firing line.
- B-B gun activities must be separately supervised if rifle and B-B gun activities are running at the same time.
- Firearms **must** be kept in locked facilities when not in use. Safety equipment for storage can include firearm safes, lockable cases, lockable cabinets, and safety proofing devices such as trigger locks, etc.
- If possible, any ammunition provided at the range should be accounted for at the end of shooting activities.

- Ammunition **must** be kept in separate locked facilities, preferably at a separate location.
- Firearms should only be cleaned when there is no ammunition present.

PAINTBALL

- All rules should be thoroughly reviewed and all equipment should be demonstrated prior to participants entering the playing field.
- There must be an adult referee on the playing field during the activity. There must also be adult supervision of those waiting to participate.
- Course rules must be posted at a conspicuous location, be legible, and enforced. Rules **must** include at least the following:
 - A safety mask which provides full-face, eye, and ear protection **must** be worn at all times while on the playing field.
 - If the mask does not provide throat protection, the throat should be protected with a heavy neck scarf or similar item.
 - Barrel plugs **must** be inserted in the muzzle at all times when not on the playing field or in the target area.
 - Players must wear proper footwear while on playing field.
 - Players must wear proper protective clothing while on playing field. No shorts, tee-shirts, etc.
 - No close range shooting. Minimum range is 25 feet.
 - No Intentional shooting at the head or neck.
 - No over-shooting or excessive multiple hits.
 - No climbing trees, rocks, buildings, or any other obstacle.
 - No shooting out of bounds.
 - No physical contact of any kind is allowed.
 - Do not leave guns in direct sunlight.
 - Do not remove CO2 bottles from guns.
- Under no circumstances should the paintball gun safety mechanism be disengaged or modified.
- All face masks must include approved safety goggles which entirely cover a players eyes. They must be cleaned, sanitized, and tested for sturdiness regularly.
 - Goggles can usually be tested by firing at the goggles from point-blank range at the maximum muzzle velocity allowed on the playing field.

ENVIRONMENTAL/POLLUTION

- If well water is provided at your facility for consumption, testing of the water for bacteriological or chemical impairment including lead content should be done on a routine basis.
- Local, state, and federal standards must be complied with concerning burning and/or smoke emission into the air. (1)
- Local, state, and federal standards must be met concerning buried fuel storage tanks. (1)
- All provisions of NFPA Standard No. 58, concerning the use and storage of liquefied petroleum gas must be complied with. (2)
- All grade level gasoline storage tanks and pumps must be barricaded and fenced to prevent collision. Also, steps should be taken to provide containment in the event of a major leak or spill. The containment structure must be able to accommodate the volumetric amount of the largest tank inside the containment area.
- Disposal of used motor oil, toxins, printing solvents or developing materials, and other dangerous liquids must be in compliance with local, state, and federal standards. Under no circumstance should any photo-chemical materials be placed down drains where there is strictly septic system capability. (1)
- Procedures should be established to provide proper protection against possible exposure to Lyme disease.
- The federal government is empowered and is responsible for testing school-age children for blood levels of lead. If your facility owns structures where there is a habitational occupancy, and there is the potential for children, the possibility of the presence of lead paint should be identified and a plan established to resolve the problem.
- Bird droppings are a health hazard that can cause histoplasmosis. Accumulation of bird droppings around and in your building should be cleaned up by a contractor specializing in such service and the source should be controlled.

(1) Your state Department of Natural Resources or the federal Environmental Protection Agency can supply these standards.

(2) The National Fire Protection Association, Batterymarch Park, Quincy, MA 02169, telephone number of 800-344-3555, can supply this standard.

OWNED AND NON-OWNED VEHICLES

Any camp, retreat center, or conference that owns or operates a van, bus, automobile, or other type of licensed vehicle is exposed to automobile liability hazards. Your facility can also be liable for accidents involving vehicles not directly owned by you, such as vehicles owned by staff members or employees while used for directly related business or activities. A charter bus used for a sponsored activity that is involved in an accident could also cause your facility to be held liable for injuries suffered by its occupants. Proof of proper insurance should be obtained from the owner of such leased or chartered vehicles.

Transportation safety should be an important part of your Risk Management Program. It is the responsibility of the Risk Manager to see that owned vehicles are properly maintained. This **must** include those vehicles which are not licensed for use on the road and are used only on the premises. Regular vehicle inspections should be conducted. Pre-trip inspections of both owned and non-owned vehicles which are used to transport campers should be required. Proper driver selection is also essential. Only qualified, properly licensed adults should operate owned vehicles. Motor vehicle records should be checked before hiring or selecting new drivers and all drivers should be periodically checked thereafter. Those operating buses should possess a valid Commercial Drivers License.

The following should assist in the recognition and elimination of potential hazards:

OWNED VEHICLES

- Restrict use to official business or activities.
- Set a minimum age of 21 for drivers
- Check motor vehicle records of all drivers for moving violations within the past three years. A flawless personal driving record is a must - no tickets or violations - and should demonstrate extreme dedication to safe driving.
- Implement a written driver selection and training procedure. Have new drivers complete a training course such as the National Safety Councils Defensive Driver Course.
- Systematically inspect all vehicles. Comply with recommendations promptly.
- Keep written repair and maintenance records for each vehicle.
- Follow or exceed manufacturer's recommended maintenance schedules.
- Have drivers perform a pre-trip and post-trip inspection, documenting vehicle condition, any mechanical problems and odometer before and after trips.
- The Risk Manager should consider unannounced observations of driver pre-trip, post-trip inspections, and actual driving performance.
- Vehicles should be properly equipped with a spare tire, jack, and lug wrench. Snow or all weather tires should be used during winter months.
- Buses should be equipped with an emergency kit consisting of flares and/or reflectors, a fire extinguisher with a minimum classification of 2-A:20-B:C, and a first-aid kit which should include latex gloves. The fire extinguisher should be properly mounted. Check state requirements for the need to provide the same equipment for vans.

- The Risk Manager should be made aware of all trips, routes, and special instructions well in advance of the trip.
- Regular bus evacuation drills should be conducted.
- Make sure all motor vehicle codes and other applicable laws and regulations are complied with.
- Drivers should have periodic physical examinations.
- All passengers should be provided with a seat belt when riding in vans and automobiles. The use of seat belts should be strictly enforced.
- If transporting the handicapped, buses or vans should be equipped with a proper lift, wheelchair locking devices for all four wheels, and a seat belt for each wheelchair occupant.
- Bus rear emergency exits should not be secured with a padlock. These types of locks should be removed and replaced with a dealer installed door locks which can be opened from the interior of the bus.
- Implement a written driver selection and training procedure.
- Damaged windows should be replaced immediately.
- Replace all vehicle tires with less the 3/32 of an inch of tread.
- Vehicle exhaust systems should not terminate directly under the vehicle. They should extend out to the rear bumper of the vehicle.
- Drivers should be instructed that under no circumstances should the keys be kept in any vehicle when left unattended.
- The gross vehicle weight of a given vehicle should be observed as exceeding the GVW can interfere with that vehicle's handling and equipment capabilities.
- Wheel chocks should be provided for any vehicles parked on slopes and wheel chocks should be provided if a loading dock is involved.
- Any towing of trailers, including hay wagons, must involve use of safety chains or cables.
- Any restricted speed vehicles utilized on public roads must be equipped with SMV (slow moving vehicle) placards.

NON-OWNED VEHICLES

Non-owned auto liability is **excess** liability to cover your facility when a staff member, employee, or volunteer uses their personal vehicle for camp business, such as errands or providing transportation for a camp activity. Since your facility does not own the vehicle, the owner's liability insurance is **always** the primary coverage. Non-owned auto liability **does not** cover physical damage to the vehicle.

If you have this exposure, there are certain areas which should be addressed:

- Check your policy to be sure you have Non-Owned Auto Liability.
- Inform all staff members, employees, and volunteers who use their vehicle for camp business that their liability and physical damage coverage is primary and Non-Owned Auto Liability is secondary with no coverage for physical damage.
- Those who use their vehicle for camp business should provide the Risk Manager with proof of insurance.
- All individuals who use their vehicle for camp business should possess a valid driver's license. A copy of their driver's license should be kept on file.
- Check motor vehicle records of drivers for moving violations within the past three years.
- If someone's vehicle does not appear to be reliable, it should not be used for camp business.
- Establish guidelines for minimum age limits for those using their vehicle for camp business.

HIRED VEHICLES

- If you rent or borrow a van, bus, or automobile, you should check your policy for Hired Auto Liability to protect your facility's interest in the use of a rented or borrowed vehicle. This type of coverage is **excess** and the owner's liability insurance is primary. This coverage **does not** cover physical damage to the vehicle.

Suggestions for vehicles are based on our standards only and are not intended to supersede any requirements or regulations set forth by any federal, state, or local authority having jurisdiction.

PROCEDURES FOR REDUCING ACCIDENTS INVOLVING EMPLOYEES AND VOLUNTEERS

Ninety-eight percent of all accidents and injuries are caused by unsafe conditions, unsafe acts, or a combination of both. An unsafe condition is created by improper control of the physical, mechanical, and environmental exposures. An unsafe act is a violation of an accepted practice or method.

It is estimated that the uninsured costs related to an accident exceed by several times the insured costs. Therefore, the amount paid by insurance claims is only a small part of the total costs of accidents even though this is the most obvious direct outlay of money.

Preventing accidents pays doubly by reducing insurance premiums and by reducing all the uninsured costs.

The following are areas which should be considered for employee and volunteer accident prevention:

- The first priority in attempting to eliminate any potential exposure to employees and volunteers is through engineering (change or provide equipment or procedures, etc.) or elimination of the hazard.
- State and endorse a policy on safety.
- Provide a safe environment, free of hazards.
- Prescribe safe practices and procedures, especially for custodians and kitchen employees. This should include proper lifting techniques.
- Inspect all areas, equipment, and procedures regularly to prevent slips, trips, and falls.
- Act immediately on recommendations made as a result of safety inspections.
- Institute a follow-up system to assure that action has been taken.
- Investigate all accidents and "near misses."
- Take corrective action to prevent recurrence.
- Report unsafe activities to the proper authority.
- Post telephone numbers and names of first-aid personnel, doctors, ambulance, and the hospital, at each telephone.
- Implement a hazard communication program to comply with "Employee's Right to Know" laws. This is a requirement of federal (OSHA) and/or state law affecting all employees. The complexity of this law varies, depending on the number of employees exposed to them. A written program must be developed and implemented including the following:
 - A list of hazardous chemicals on your premises, such as cleaners, pesticides, and herbicides.
 - Material Safety Data Sheets (MSDS) of each chemical, furnished by the supplier.
 - Provisions for labeling each container.

- Provisions for informing employees exposed to the chemicals of the hazards.
- Posting of OSHA Hotline numbers.
- Provisions for informing contractors or vendors of the hazards to which their employees may be exposed.
- The entire program must be available to employees, indicating specific locations of all hazardous chemicals and the Material Safety Data Sheets
- The OSHA office should be contacted if additional assistance is needed.

ACCIDENT INVESTIGATION

All accidents and near misses should be investigated as soon after the occurrence as possible in order to determine the causes and to initiate corrective action.

To guide in the investigation, the following questions should be answered in this order:

- **WHO** was involved in the accident?
- **WHAT** were the sequence of events and conditions leading to the accident?
- **WHERE** did the accident occur?
- **WHEN** did the accident occur?
- **HOW** did the accident occur?
- **WHY** did the accident occur and what steps should be taken to prevent a recurrence?

In the investigation procedure, the following principles should be observed:

- **Use common sense** - Stick to the facts, weigh their value, reach justified conclusions.
- **Investigate each clue** - An apparently reasonable conclusion often will be changed by exploring factors which may not appear to be important.
- **Check for unsafe conditions and unsafe acts** - Both are present in the great majority of accidents.
- **Make recommendations** - No investigation is complete unless corrective action is suggested.
- **Investigate all accidents** - Chance is often the sole difference between a trivial accident and a serious one. Results cannot be predicted.
- **Prepare a report** - Written reports are helpful for study and analysis to determine specific areas in which accidents are occurring and for follow-up action on recommendations.

AVOIDING SLIPS, TRIPS, AND FALLS

Next to traffic accidents, falls kill more people than any other kind of accident. Approximately 6,000 people die at home each year and nearly 6,000 more people die as a result of falls while away from home, including on the job.

Millions are injured in falls each year. When suffering, medical expenses, and lost wages are considered, falls become costly accidents. The majority of claims involving falls are slips or trips at floor level - **not** from high places.

SLIPS

Slips can be eliminated or reduced by:

- Maintaining sidewalks and steps during the winter months. Sidewalks should be cleared as soon as possible after each snowfall. Icy sidewalks should be treated with sand or salt.
- Frequently sweep the outside entrance to the building to prevent tracking grit, ice, snow, and water into the building.
- Use “walk off” mats at all entrances to collect grit, ice, snow, and water. Depending on traffic, a mat 15 feet to 25 feet is recommended.
- Mats should be cleaned frequently. A “loaded” mat is worse than no mat at all. Don't forget to clean under the mat also.
- Mop up liquids and foods immediately after spills. Don't wait for a small spill to dry itself.
- Equip dishwashing areas with rubber mats.
- All floor waxes should have a high co-efficient of friction as specifically described in the manufacturer's specifications. Devices are available which can measure the co-efficient of friction on various walking surfaces to determine deficiencies.
- Use a high quality wax, selecting the right type for your floor surfaces. Don't use waxes on surfaces other than recommended by the manufacturer. Don't mix wax types.
- Floor polish or wax can become contaminated. The maintenance staff should be trained not to pour unused wax back into the original container. The slightest contamination could change the co-efficient of friction of the polish or wax.
- Don't use an unclean applicator to apply wax. A mop used to clean up spills or food will contaminate the wax, changing the co-efficient of friction.
- Don't use oil treated dust mops (treated to collect dust better) as they can leave a fine oil residue which can increase the chance of slip and falls.
- Post **Caution - Wet Floor** signs when maintaining floors or after cleaning up a spill.
- Floor maintenance is everyone's responsibility. If you see something on the floor, pick it up or wipe it up immediately.

TRIPS

Good housekeeping is the major factor in eliminating or reducing trips.

- Avoid using extension cords, if possible. If you must use one, never place it (phone, sound equipment cables, or other cords) in a walking area.
- Hallways, aisles, and stairs should not be used for storage purposes.
- Storage areas should be kept neat and orderly with proper walkways or aisles. If necessary, install shelving to get items off the floor.
- Worn, torn, or wrinkled carpet, as well as loose or missing floor tile should be repaired or replaced.
- Arrange furniture to avoid an obstacle course of potential falls.
- Cracked and uneven sections of the sidewalk and parking lot should be repaired.

FALLS

The following will help avoid falls:

- Proper lighting in stairways and storage areas.
- Repair or replace worn or cracked stair treads. Where necessary, non-skid mats should be used.
- All stairways having four or more risers should be equipped with a standard, graspable handrail. The number of standard handrails will depend on both the width and enclosure of the stairs.
- Don't substitute tables, chairs, boxes, etc. for a ladder.
- The proper class of ladder should be utilized with specific avoidance of Class III, which would be household duty and probably too light for a commercial application.
- Provide a good ladder which should be equipped with safety feet. Check the condition of the rungs periodically.
- When using a step ladder, spread the legs to their limit and check the locking mechanism.
- The top of ladders used to gain roof access should extend at least 3 feet above the point of contact.
- The base of a ladder should be level and solid. Shore up the legs if the ground is uneven.
- Have someone hold the bottom of the ladder to keep it from shifting.
- Don't overreach. If your belt buckle reaches past the uprights, you've gone too far and you should move the ladder.
- Always face front and avoid twisting or turning on the ladder. Don't step on the top rung.

- Only one person should use the ladder at a time.
- Follow the 4 to 1 rule. Ladders should be one rung length out from the wall for every four rungs to where the ladder touches the wall.
- You need both hands to climb. Wear a tool belt and pull materials to you after you reach the top.
- Wood ladders should not be stored in the furnace/boiler room. Excess heat in this area dries out the wood, causing deterioration.
- Metal ladders should not be used near electrical service.
- Any ladder with broken rungs or split siderails should be tagged "**Defective - Do Not Use**" and removed from service.
- Any ladders which are discarded must be cut in half through the rungs. Catastrophic losses have occurred where broken ladders were removed from dumpsters and eventually used, resulting in personal injuries.

Slips, Trips, And Falls Can Also Be Reduced By:

- **Taking care.** Statistics show that falls are more serious the older you are.
- **Not taking chances.** Avoid foolish risks and avoid tasks that are beyond your ability.
- **Be alert.** Watch where you are going and watch what you are doing.

LIFTING AND MOVING SAFETY

Injury due to lifting and moving is a major cause of workers' compensation claims for camp and retreat center employees and medical claims for volunteers. Employees and volunteers should receive instruction regarding proper techniques for lifting and moving equipment or materials. Improper lifting and moving is especially risky for senior citizens and people who are out of shape or overweight. Proper techniques will help reduce:

- Strains and sprains due to overexertion of muscles.
- Fractures due to dropping a heavy load.
- Wounds from handling sharp, rough surfaces.
- Hernias of the abdominal wall due to strain.

Prevent pain, injuries, and damage by following these basic steps for safe lifting and moving:

- **Plan the job** - Plan a route that's free from tripping and slipping hazards. Know where the object will be unloaded and plan "rest stops" along the way.
- **Examine the object** - Determine its weight and look for sharp edges. Check to see if the load is stable and equally distributed. Decide how to hold the object.
- **Get a good grip** - Use palms and fingers to make carrying easier and to protect hands and feet. If you wear gloves to prevent cuts or burns, make sure they fit properly.
- **Wear safety shoes** - Depending on duties, the task, and objects to be moved, shoes with reinforced toes and non-slip soles should be worn.
- **Get help** - Ask for help (or use a mechanical aid such as a hand truck or cart) if you have any doubt about moving the object by yourself.
- **Lift with your legs** - Assume a comfortable stance. Lift smoothly, keeping the load close to the body. Avoid twisting your body as you lift.
- **Keep hands in the "clear"** - Be careful not to crush fingers when unloading.

Practice these methods for lifting, carrying, unloading, special lifts, pushing, and handling special objects:

LIFTING

Do warm-up exercises before lifting. The disks in your spine are like sponges - they absorb fluid while at rest and lose fluid if "warmed-up" with exercise. Disks which are warmed-up are less likely to rupture from the strain of lifting something.

One Person Lift

- Stand as close to the load as possible, feet spread apart. Slide the load close to you if it's on a shelf.
- Bend at the knees, keeping your back straight and stomach tucked in. You'll reduce the risk of pinching a disk.

- Grasp the load firmly.
- Hold the load close to the center of your body.

Alternative Lift

When it's not possible to bend your knees or get close to the object, such as removing an object from the trunk of a car, use the following:

- Stand close to the object to be lifted.
- Bend at the knees if you can - or brace yourself by putting your knees against a solid object, such as the car's bumper.
- Bend at the hips, keeping your head and back in a straight line.
- Lift gradually, using legs, buttocks, and stomach muscles.

CARRYING

Injuries can be prevented by using the following:

- Keep the load close, to take full advantage of the mechanical leverage of your body.
- Don't change your grip on the load unless its weight is supported.
- Avoid twisting your body - if you must change direction, move your feet instead.
- Don't block your vision by carrying too large a load. Get help if you need it.
- Face the spot where you will unload by turning your feet and whole body in that direction.

UNLOADING

Be as careful unloading as you are when lifting. Repeat the same procedure in reverse:

- Bend your knees to lower the load. Keep your back straight and the weight close to your body.
- Be careful with fingers and toes. Allow enough room for them when the load is set down.
- Slide the load into tight spaces. It's much easier and safer than trying to lift it.
- Place the load on a bench or table by resting it on the edge and pushing it forward with your arms and body.
- Be sure the load is secure wherever you place it. Make certain it won't fall, tip over, roll, or block someone's way.

SPECIAL LIFTS

One Arm Loads

- Reach for the load - bend at the knees and waist, and keep your back straight.
- Grasp the load firmly - use a handle if possible.
- Lift with your legs, using the free arm for balance.
- Keep your shoulders level and switch hands frequently.

Team Lifts

- Work with someone of similar build and height, if possible.
- Choose one person to call the signals.
- Lift from the hips at the same time, then raise the load to the desired level.
- Move smoothly and in unison.

Awkward Objects

- Stand over one corner of the load, with your feet spread apart.
- Grab the bottom inside and top outside corners.
- Bend your knees and lift, keeping the same grip.

Overhead Lifts

- Lighten the load, if possible.
- Stand on something sturdy, with one foot in front of the other.
- Get help if the load is awkward or heavy.

Lowering From A High Place

- Test the load's weight by pushing up on it. Check whether the load will shift when you lift it.
- Stand as close to the load as possible.
- Grasp the object firmly, sliding it down your body.
- Get help if necessary.

PUSHING

Pushing gives you twice the power. Whenever possible push, don't pull. Keep the strain off your back. Let your body's weight and leg muscles do the work for you. For either movement, remember:

- Stay close to the object.
- Get a good grip on the object.
- Keep your back straight, stomach in, and knees bent.
- Lean in the direction you're pushing or pulling.

SPECIAL OBJECTS

Special objects require special handling. The following are examples which may be encountered:

Barrels, Drums, and Kegs

- Get someone to help you or use a mechanical aid. Check whether the contents pose any hazards, and follow required precautions for moving. If you must move a barrel by yourself, roll it. Do so only if you can safely lower and control the container.

Boxes and Cartons

- Grasp opposite bottom corners and keep the object to the middle of your body.

Sacks

- Carry the sack on your shoulder, braced by your hand on your hip. Or, hold it at opposite ends, resting the load against your hip and stomach.

ERGONOMICS

Injuries to employees due to improper ergonomics are rapidly rising. In the past, this was mostly limited to manufacturing and office environments. This is no longer the case as camps and retreat centers add computers and other equipment which is used by your employees and volunteers. These injuries can be eliminated or reduced by using ergonomics.

Ergonomics is the science of adapting equipment, procedures, and surroundings to people. Applying ergonomics helps prevent injuries and improve efficiency.

Using ergonomics can help employees and volunteers make their job safer by preventing injury and illness. Jobs are made easier by adjusting the job or task to them and more pleasant by reducing physical and mental stress. For example, if the height of the work surface is adjusted to the proper level, this will help avoid or relieve neck and back problems.

Employees and volunteers who can be helped by ergonomics are:

- Staff members involved in typing and computer work - all jobs that require sitting at a desk or terminal.
- Maintenance and kitchen staff involved in bending, lifting, pushing, pulling, and use of tools and equipment - physical work involving the use of strength and force.

Applying ergonomics can help avoid:

REPETITIVE MOTION INJURY

A single motion may not cause a problem, but repeating it over and over may. Changing the procedures or movements used, can help prevent these types of injuries:

- **Carpal tunnel syndrome** - Repeated flexing of the fingers causes tendons in the wrist to swell and puts pressure on nearby nerves. Preventative actions are:
 - Change positions often so that hands and wrists aren't kept in the same place for long periods of time.
 - Vary your routine, as work allows. Try to take a few minutes every hour or so to organize materials, file, or do some different task.
 - Exercise your wrists. Take a few moments before and during work to:
 - Make and extend your fist - Tightly clench and release your fist, repeating five times.
 - Wrist extensions - Grasp your finger tips and gently bend them back, flexing at the wrist. Hold for five seconds.
 - Pressing downward - Place your hand on a table with the palm facing down and fingers extended. Press down gently for five seconds.

- Practice good posture at the keyboard
 - Keep your back straight.
 - Bend your knees at a 90 degree angle and keep your feet on the floor or on a footrest.
 - Keep your upper arms loose at your sides.
 - Bend your forearms at about 90 degrees.
 - Keep your wrists straight, in line with hands and forearms.
 - Choose equipment for comfort. When selecting equipment and furniture, choose:
 - A thin, detachable keyboard for the computer.
 - A chair with armrests and adjustable height and backrest features.
 - Make adjustments as needed. For example:
 - Use a wrist rest (or make one out of folded towels), to keep your wrists straight and soften hard edges and corners.
 - Elevate or lower your keyboard and/or desk to the point where proper posture is possible. (Installing a keyboard tray may help.)
 - Use a footrest so feet can rest at a slight angle while knees are kept bent at a 90 degree angle or remain at hip level.
- **Tendinitis** - Tendons are inflamed by repeated tensing of muscle and tendon. "Tennis" or "pitchers" elbow are examples.
- **Circulation problems** - Repeated pressure or vibration can limit blood flow in the area.

BACK INJURIES

- Ergonomics encourages the use of proper equipment and lifting techniques.

MUSCLE INJURIES

- Proper positioning of body and equipment can help prevent everything from mild soreness to serious strains.

EYESTRAIN, HEADACHE, AND FATIGUE

- Adjustments in lighting, noise levels, posture, and work positions can help relieve physical and mental stress.

ADDITIONAL ERGONOMIC TIPS FOR WORKING WITH COMPUTERS AND KEYBOARDS

- **Work Surface**
 - Allow leg room underneath.
 - Use a document holder to keep any documents you're using at the same height and distance as the screen.
- **Screen Height, Angle, and Contrast**
 - Sit about arm's length away, with screen tilted back slightly.
 - The top line of the screen should be just below eye level when you're sitting upright.
 - To reduce glare, use a screen filter, change the position of the screen, or any nearby lighting.
- **Chair Height and Backrest**
 - Feet should be flat on the floor, knees level with hips, lower back supported. Avoid positions in which your body is twisted.
- **Cushion**
 - Use a cushion or pillow to support your lower back.

Report all injuries and illnesses right away, even if they don't seem serious. Sometimes a small change can keep a condition from getting worse or prevent future injuries.

USE OF HAND AND POWER TOOLS

Employees and volunteers should be trained in the proper use of all tools. They must learn to recognize the hazards associated with the different types of tools and the safety precautions necessary to prevent those hazards.

In addition, employees and volunteers who use hand and power tools and who are exposed to the hazards of falling, flying objects, harmful dusts, fumes, vapors, or gases must be provided with the appropriate personal protective equipment necessary to protect them from tool-related hazards.

Five basic safety rules can help prevent hazards associated with the use of hand and power tools:

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Examine each tool for damage before use.
- Operate each tool according to the manufacturer's instructions.
- Provide and use the right protective equipment.

HAND TOOLS

Hand tools are non-powered. They include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance. Dull tools can be more hazardous than sharp ones. Also, use the right tool for the job. Don't use a wrench when a hammer is needed.

Appropriate personal protective equipment, such as safety goggles, should be worn to protect against hazards that may be encountered while using certain hand tools.

POWER TOOLS

Power tools can be hazardous when used improperly. To prevent hazards associated with the use of power tools, employees and volunteers should observe the following general precautions:

- Never carry a tool by the power cord.
- Never yank the power cord to disconnect it from the electrical receptacle.
- Keep power cords away from heat, oil, and sharp edges.
- Disconnect power cords when not using, before servicing, and when changing accessories such as blades, bits, and cutters.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.
- Maintain tools with care; keep them sharp and clean for best performance. Follow instructions in the user's manual for lubricating and changing accessories.

- Be sure to keep good footing and maintain good balance.
- Wear proper apparel for the task. Loose clothing or jewelry can become caught in moving parts.
- Remove all damaged portable electric or gas operated tools from use and tag them “**DO NOT USE.**”

GUARDS AND SAFETY SWITCHES

The hazardous moving parts of power tools need to be safeguarded. Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded if employees can come into contact with them.

Machine guards, as necessary, should be provided to protect the employee and others from the following:

- Point of operation.
- In-running nip points.
- Rotating parts.
- Flying chips and sparks.

Power table saws should be equipped with proper blade guarding.

ELECTRIC TOOLS

Employees using electric tools must be aware of several dangers; the most serious is the possibility of electrocution.

Burns and slight shocks, which can lead to injuries or even heart failure, are among the major hazards associated with electric powered tools. Under certain conditions, even a small amount of current can result in fibrillation of the heart and eventual death. A shock also can cause the user to fall off a ladder or other elevated work surface.

To protect the user from shock, tools must have either a three-wire cord with ground and be grounded, be double insulated or be powered by a low-voltage isolation transformer. Three-wire cords contain two current carrying conductors and a grounding conductor. One end of the grounding conductor connects to the tool's metal housing. The other end is grounded through a prong on the plug. Any time an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong should **never** be removed from the plug.

These general practices should be followed when using electric tools:

- Operate electric tools within their design limitations.
- Use gloves and appropriate safety footwear when using electric tools.
- Store tools in a dry place when not in use.
- **Do Not** use electric tools in damp or wet locations unless they are approved for that purpose or portable ground fault circuit interrupter (GFCI) protection is provided.

- Keep work areas well lighted.
- Do not allow power cords to present a tripping hazard.

POWERED ABRASIVE WHEEL TOOLS

Powered abrasive grinding, cutting, polishing, and wire buffing wheels, as commonly found in maintenance shops, create special safety problems because they may throw off flying fragments.

Before an abrasive wheel is mounted, it should be inspected closely and should be sound or ring tested to ensure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument. If they sound cracked or dead, they **must** not be used because they could fly apart in operation. A sound and undamaged wheel will give a clear metallic tone or “ring.”

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place without distorting the flange. Follow the manufacturer’s recommendations. Care must be taken to ensure that the spindle speed of the machine will not exceed the maximum operating speed marked on the wheel.

A defective wheel may disintegrate or explode during start-up. Allow the tool to come up to operating speed prior to grinding or cutting. The operator should never stand directly in front of the wheel as it accelerates to full operating speed.

In addition, when using a powered grinder:

- Always use ANSI approved eye or face protection. Eye protection should be hung near the bench grinder and a sign should be posted requiring their use.
- The work rests should be adjusted so that the distance between the rest and wheel does not exceed 1/8 inch.
- The grinder must be secured to the worktable to prevent potential “walking” of the unit.
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vice.

LAWN CARE EQUIPMENT

A large number of employee and volunteer injuries occur while improperly using lawn care equipment. The following procedures should be followed:

- **Always** follow the manufacturer’s instructions for safe operation of the equipment.
- **Never** remove protective guarding from equipment.
- **Never** place fingers, hands, or feet into areas where moving parts are present.
- **Never** attempt to service, repair, or adjust equipment while the motor is running or the equipment is connected to an electrical outlet.
- **Always** wear personal protective equipment such as ANSI approved safety eyewear and hearing protection. A sign should be posted requiring their use.

PERSONAL PROTECTIVE EQUIPMENT

As the employer, you are responsible for eliminating workplace hazards whenever possible. When hazards can't be completely eliminated, you are required to provide appropriate personal protective equipment (PPE). It is also your responsibility to see that employees and volunteers wear or use the equipment that is provided for them. Further more, it is the employees and volunteers responsibility to use, maintain, and store this equipment.

The following will assist you in identifying some areas of concern. You will need to analyze your particular facility to identify **all** areas.

HANDS

- Provide proper fitting gloves, selected for the right job.
 - General purpose work gloves made of cotton or leather for lawn care, general maintenance, etc.
 - Rubber gloves for protection from chemicals, such as cleaning fluids, oils, etc.
 - Disposable gloves made of latex should be provided for anyone providing first aid.

EYES

If there is airborne dust or grit, danger of flying chips (metal, wood, stone), or splashing chemicals, eye protection should be provided. While normal eyeglasses offer some protection, they should not be the only means of protection since they may not be impact-resistant and offer no side-shielding.

- ANSI approved eye protection should be provided for those involved in using a grinding wheel for sharpening lawn care implements, operating lawn care equipment such as weedwackers, hedge trimmers, brush hogs, and chain saws. Signs should be posted requiring the use of eye protection.

HEARING

Noise levels on many jobs are high enough and prolonged enough to cause hearing damage. Hearing protectors, such as earplugs or earmuffs, should be available. Plain cotton is **not** effective hearing protection. Hearing protectors must be worn, worn properly, and kept in good condition to be effective. Some areas where hearing protection should be worn:

- While operating power lawn mowers, weedwackers, hedge trimmers, chain saws, power leaf blowers, etc. Signs should be posted requiring the use of hearing protection.

FOOTWEAR

- Appropriate footwear or foot protection should be provided whenever there is reasonable probability that injury can be prevented by use of such equipment. Sneakers or foot thongs are not appropriate footwear for utilization of machinery or power equipment.

HEADWEAR

- Nonconductive head protection (helmets) should be provided where there is the possibility of injury from flying or falling objects or electric shock.

RESPIRATORY PROTECTION

- Suitable respirators selected on the basis of the hazard to which the worker is exposed should be provided.

BLOODBORNE PATHOGENS IN THE WORKPLACE

Bloodborne pathogens are bacteria and other microorganisms that are carried in person's bloodstream and cause disease. If a person comes in contact with blood infected with a bloodborne pathogen, he or she may become infected as well. Other body fluids may also spread bloodborne pathogens. Some bloodborne pathogens are deadly.

Universal precautions can help your employees and volunteers remain safe. Universal precautions means treating **everyone's** blood and other body fluids as infectious **at all times**.

Many workers **must** follow universal precautions by law. Among others, these include:

- Employees designated to give first aid.
- Health care staff
- Laundry workers

But in fact, **anyone** can be exposed to bloodborne pathogens if he or she is exposed to blood or other fluids.

THREE TYPES OF BLOODBORNE PATHOGENS

- **Hepatitis B Virus (HBV)** - Attacks the liver and can cause:
 - Active hepatitis B - A flu-like illness that can last for months.
 - A chronic carrier state - The person may have no symptoms, but can pass HBV to others.
 - Cirrhosis, liver cancer, and death.

Vaccines are available to prevent HBV infection.

- **Hepatitis C Virus (HCV)** - Also attacks the liver. Symptoms of active infection are milder than those of HBV and may not even be present. But, HCV is more likely to cause:
 - A chronic carrier state.
 - Cirrhosis, liver cancer, and death.
- **Human Immunodeficiency Virus (HIV)** - Causes AIDS. HIV attacks the immune system, making the body less able to fight off infections. In most cases, these infections eventually prove fatal.

People infected with these pathogens may look and feel healthy. They may not even know they're infected. But, they can still infect others if their blood or other body fluids enter another person through:

- Needle stick injuries.
- Cuts, scrapes, and other breaks in the skin.

- Splashes into the mouth, nose, or eyes.
- Unprotected sexual activities.
- Sharing needles to inject drugs or for any other reason.

Pregnant women who are infected with these pathogens can pass them to their babies. HBV and HIV are more likely than HCV to be spread this way.

Accidents in the workplace can spread bloodborne pathogens. Depending on the accident, an injured employee's blood could contaminate:

- Broken glass.
- A tack or nail.
- The floor.
- A work surface.
- Cutting tools or other hand tools.
- Clothing.
- Materials used to provide first aid.

If you have contact with blood or a contaminated object, you could become infected with a bloodborne pathogen.

PROTECTION FROM BLOODBORNE PATHOGENS

Use required equipment, labels, and work practices. These may include:

- Special waste containers for contaminated sharps (needles, broken glass, or any object that can pierce the skin) or other regulated wastes (contaminated first-aid materials, for example)
- Biohazard labels which combine the biohazard symbol with the word "BIOHAZARD." (Red bags or containers may be used in place of labels.)
- Cover cuts, scrapes, hangnails, rashes, etc.
- Handle sharp objects carefully. (Gloves will not keep you from being stuck.) Never bend, break, or recap needles.
- Minimize splashing of blood and other body fluids.
- Wash your skin immediately after accidental contact with body fluids or objects that might be contaminated. If soap and running water aren't available:
 - Use antiseptic towelettes and/or cleansers.
 - Wash with soap and running water as soon as you can.

Then, report the incident.

PERSONAL PROTECTIVE EQUIPMENT

- Wear gloves if contact with blood, other body fluids, or contaminated objects is likely. If you have a cut or scrape, bandage it before putting gloves on
 - Never reuse disposable latex, nylon, or hypoallergenic gloves.
 - Utility gloves of vinyl, leather, etc., may be reused after proper decontamination.
- Examine gloves for tears, cracks, and tiny holes before and during use. Replace damaged gloves as soon as possible.
- Remove gloves so that the glove's outer surface **never** touches your skin.
 - Grasp a glove below the cuff.
 - Pull down the glove until it comes off inside out.
 - Cup it in the palm of your gloved hand. Insert 2 fingers of your bare hand inside the cuff of the remaining glove.
 - Pull down so this glove also comes off inside out with the first glove tucked inside.
- Wash your hands after removing gloves and after removing other personal protective equipment, as well.
- Wear a mask and eye protection, or a full face shield, if fluids could splash or spray into your eyes, nose, or mouth.
- Wear protective clothing if fluids could splash or drip onto your clothing.
- Use a resuscitation device or pocket resuscitation mask when providing rescue breathing.

ELIMINATE HAZARDS WITH PROPER HOUSEKEEPING

- Don't touch broken glass - pick it up with tongs or use a broom and dustpan.
- Dispose of contaminated sharps in a covered, puncture-resistant, leak-proof container that is red or labeled with the biohazard symbol.
- Place other contaminated wastes (such as gloves or bandages used in first aid) in a leak-proof container or bag that is red or labeled with the biohazard symbol. (Bag liners where they were used.) If the outside of the container or bag becomes contaminated, place it in a second container or bag.
- Never reach into trash to retrieve an object. Empty the contents onto a newspaper and search with your eyes.
- Report full sharps and waste containers - see that they're covered, removed, and replaced.
- Wipe up spilled blood or other body fluids with disposable towels soaked in an approved disinfectant or bleach and water solution. (Wear utility gloves.) If you use a sponge or mop, soak it afterward for at least 10 minutes in a bleach and water solution.

- Replace protective coverings on work surfaces if they are visibly contaminated with blood or other body fluids.
- Clean equipment and work surfaces if visibly contaminated with blood or other body fluids. Use an approved disinfectant. Disinfect reusable waste containers regularly.

Protect your employees and volunteers from bloodborne pathogens. Take precautions - not chances.

The information and suggestions contained in this document have been developed from sources believed to be reliable. However, we accept no legal responsibility for the correctness or completeness of this material or its application to specific factual situations.