Section L

Lockout Program

Purpose

This program is designed to prevent situations where the hazards of inadvertent startup or movement of equipment or machinery could cause a risk of injury to workers.

Policy

Vancouver Island West School District 84 will use training and safe procedures to ensure that no worker is injured because of the inadvertent startup of equipment or machinery or the unexpected release of energy.

Scope

This program applies to all workers who may be required to do maintenance on powered equipment or machinery and all workers who may be affected by the de-energization and lockout of the equipment or machinery.

Definitions

Control Power — The power source that activates the main energy source. It may be controlled by a relay switch or button. In the event of a short circuit, energy may still flow to the equipment or machinery. Control power cannot be used for lockout.

De-energization — A procedure to disconnect and isolate equipment or machinery from a source of energy to ensure equipment or machinery cannot move or harm workers.

Energy — Electrical, air, steam, hydraulic, gravity, spring tension, system back pressure or other energy that could activate the equipment or machinery or be released into/by the equipment or machinery.

Group Lockout — A system to simplify a multiple lockout if several workers must work on the equipment or machinery or there are many lockout points.

Hard Start — Trying to start the equipment or machinery using an on/off button or switch.

Interlock — A micro switch or electric eye system that prevents a piece of equipment or machinery from starting in the event of process disruption. It can prevent the equipment or machinery from starting if the worker is testing the start switch to verify lockout.

Lock — Personal padlock used by a worker to ensure no one can inadvertently turn on the energy to the equipment or machinery.

Lockout — The use of a lock or locks to render equipment or machinery inoperable, or to isolate an energy source in accordance with a written procedure. The process includes stopping the flow of energy to the equipment or machinery, putting a lock on the energy isolating device, and attempting to start the equipment or machinery to check that lockout is properly applied.

Lockout Scissors — A device to allow more than one lock to be used on an energy isolating device.

Maintenance — Work performed to keep equipment or machinery in a safe operating condition, including installing, repairing, cleaning, lubricating, and the clearing of obstructions to the normal flow of material (for example: changing the blade on a radial arm saw). "Maintenance" for lockout purposes often includes work that is done by the equipment operator.

Normal Production	Work that is routine, repetitive, and integral to the normal use of equipment or machinery for production (for example: feeding and removing wood from a radial arm saw).
Powered Equipment or Machinery	Any equipment or machinery that uses or stores energy and can start unexpectedly or release the energy unexpectedly, potentially injuring workers.
Qualified Person	A person, knowledgeable of the hazards and the means to control them, who will de-energize equipment or machinery if the process is complicated or hazardous.
Soft Start	Trying to start the equipment or machinery from a computer control station.

Overview of Regulation

WCB Occupational Health and Safety Regulations 10.2 to 10.12 say that whenever unexpected startup of equipment or machinery or a release of energy can harm the workers who are running or maintaining the equipment or machinery, it must be de-energized and locked out.

The first issue to be considered is whether workers would be injured in the event of the unexpected startup or release of energy. The hazards of the equipment or machinery must be identified and the risk to workers measured. When the risk to workers is significant enough to require action, lockout must be instituted. Exceptions to full lockout can only be made when electrical equipment or machinery can be unplugged (and the worker has the plug) or the power control device (switch or valve) is in sight of and under exclusive/immediate control of the worker. In these cases, the energy source must be isolated (turned off), but installing a lock is not required.

If the equipment or machinery must be locked out, the energy source(s) must be disconnected and a keyed lock(s), marked to show whose it is, must be attached so the energy cannot be turned on. Each person who would be at risk must attach his or her own lock(s).

Before starting the work, the first worker who locked out must try the start button for the power to ensure the right energy source was disconnected.

If a group lockout is used, every worker who might be at risk during the work must place their lock on the container that holds the keys of the two workers who locked out the equipment or machinery.

Responsibilities

Vancouver Island West School District 84 must ensure the written lockout program is effective, and ensure that all workers who may be required to lock out are equipped with personal locks, each of which can only be opened by two keys. The first key is given to the worker. The second or duplicate key is kept in secure, locked storage in case the lock removal procedure is required.

Vancouver Island West School District 84 is also responsible to ensure that all workers have access to the written lockout procedures, and have adequate training.

The Operations Supervisor maintains the Equipment List and the hazard and risk assessments.

The Operations Supervisor issues personal locks and maintains the duplicate keys in secure storage.

The Operations Supervisor will ensure that contractors who must work on equipment or machinery have a copy of the proper lockout procedures.

Supervisors are responsible to ensure that lockout procedures are understood and followed.

Workers are responsible for locking out and testing equipment or machinery before starting work, when lockout applies, and removing personal locks when the job is complete.

Program Details

Equipment List:

Vancouver Island West School District 84 maintains a list of all equipment or machinery that requires lockout. This includes:

- stationary as well as mobile equipment that must be operated or maintained, where inadvertent startup or the unexpected release of energy could injure workers
- the hazards of each particular piece of equipment
- de-energization and lockout procedures designed to reduce those hazards
- any requirements for group lockout

As new equipment or machinery is purchased or otherwise obtained, it is added to the list, a hazard identification is performed, a risk assessment is done, and the lockout procedures are written. This list is kept in the **Operations Supervisor's office.**

Hazard Identification and Risk Assessment Requirements:

- For each piece of equipment or machinery, a Hazard Identification worksheet is completed listing the hazards posed by inadvertent startup, inadvertent movement, or the release of energy. It also states the type of energy that must be controlled.
- A Risk Assessment is then performed on each hazard to determine whether or not the risk of injury is significant in the absence of lockout. These risk assessments are kept in the Operations Supervisor's Office.
- The lockout procedure minimizes or eliminates each significant risk.
- If de-energization alone is required, the work procedures are documented (for instance, blocking up attachments and installing pins to lock equipment or machinery in place, or using a solid ram to hold a truck box up).
- Lockout is also required, the steps are listed, as well as each of the de-energized energy control devices that must be locked out.

Lockout Rules:

- All employees, visitors, and any contractors' employees who are working on a **Vancouver Island West School District 84** site must follow the lock out procedure on equipment or machinery.
- No one may attempt to bypass locked out energy or power control devices in order to operate equipment or machinery.
- **Vancouver Island West School District 84** issues each employee normally required to lock out equipment or machinery with a personal lock or set of padlocks to be used for the purpose of locking out only. **The Operations Supervisor** is responsible for distributing locks and keeping the records.
- Each personal lock or set of locks is identified with the name of the person who is using them.
- Each personal lock or set of locks is keyed alike. No two sets of personal locks will be keyed alike.
- No one may lend their locks or keys to another employee, or borrow locks or a key from another employee.
- The organization also uses departmental locks, that are keyed alike. These locks are designed to protect equipment, not people. All members of a department have keys to these departmental locks. Departmental locks will not be used for personal lockout.
- If the key to a personal padlock goes missing, the padlock or, if it is a set of padlocks, the set will be removed from service and will no longer be used for the purposes of lockout.
- If a padlock goes missing, the set of padlocks will be removed from service for one year and then be returned to service with a new identification number or name.

Individual Lockout Procedures:

Basic Procedure

The unexpected or inadvertent startup of equipment or machinery can be avoided if that equipment is identified, shut down, isolated, locked with a personal lock and tested at the start button prior to the start of work.

Isolation

When equipment or machinery must be locked out, first identify the energy source(s). All energy sources must be de-energized and isolated. This may involve closing a valve, throwing a switch, pulling a lever or inserting a blank in a pipeline. If the de-energization and isolation is complicated or hazardous, a qualified person (see definition section) must do this.

Apply Locks

Once the energy source has been isolated, each worker must personally attach their individual padlock to the energy control device(s) and controls for any other hazardous energy sources. If cables are used to secure a number of energy isolating switches, each cable can isolate no more than four switches.

Verify Lockout

After lockout has been applied, the first person that applied a lock must test the equipment or machinery to ensure it cannot be operated. The equipment or machinery must be tested at the operator's console. If the equipment or machinery is computer controlled, or there are interlocks on the system, these must be disabled as part of the testing procedure. On computer controlled systems a soft start must also be attempted.

Interlocks

It is important to remember that there may be situations where up-stream interlocks affect energy sources. These may be computer-controlled applications or electric eye activators.

If any of these devices are located upstream of the power control device, they can give a false safe reading when the power control device is tested to try and start the equipment or machinery. Whenever these devices are in place, they must be noted on the lockout procedure so workers testing the start button after implementing lockout are aware of them.

Release of Energy Sources

Not all energy sources cannot be tested using the start button. There are many types of stored energy that can cause equipment or machinery to move after it has been locked out. (See listing on worksheet in Appendix B2) The specific lockout procedure for the piece of equipment or machinery will include the procedure for release of stored energy.

Lock Removal

When the work is completed, each worker must remove his or her own lock.

End of Shift Transfer

If the work is not completed by the end of the shift and other workers will continue it during the next shift, there must be an orderly transfer of control. This requires that the worker going off shift will not remove his lock until the worker coming on shift has placed his lock on the energy control device. Alternatively, a departmental lock can be used to maintain the integrity of the lockout.

Group Lockout Procedures:

- The group lockout procedure is used when a large number of control devices must be locked out at the same time.
- Two qualified workers are responsible for independently locking out the energy control devices, using two groups of locks, each group of locks keyed separately from the other and a written checklist that lists all of the lockout points.
- When the lockout is complete, these two workers must secure the keys used for the locks in the container designated for this purpose.
- They must secure the container using their personal locks.
- They must complete the checklist, sign it, and post it.
- Each worker who works on the locked out equipment or machinery must apply a personal lock to the container that contains the keys.
- If a group lockout is in effect, ensure that the lockout procedure checklist is the right one for the job, that it is completed correctly and that the keys are in the container. Using lockout scissors, lock the key box with your personal lock.
- After completing the work, each worker must remove his or her personal lock from the key container.
- When all locks have been removed, the two qualified workers will remove their personal locks
- from the container. Once the keys have been released from the container the system is no longer locked out.
- Either of the two qualified workers can now remove all of the locks from the system.

Working on Energized Equipment and Machinery:

There are two situations in which alternative written procedures will replace lockout. The first is if the equipment or machinery must be energized during maintenance. The second is where the piece of equipment or machinery has no facility to lock out and cannot be retrofitted.

Some maintenance work can only be performed if the equipment or machinery is running. Written alternative procedures that provide the same protection as lockout must be followed. Power is supplied only to the part of the equipment or machinery that must have power to do the job.

If the equipment or machinery cannot be locked out, there are alternative procedures written and workers are trained in them. These specific procedures are documented using the Lockout Risk Assessment forms that are kept at by the **Operations Supervisor** in the **Operations Supervisor's office.**

Lockout for Mobile Equipment:

Unsafe mobile equipment, which is removed from service using information tags which state "Do not Operate", is not considered to be locked out. If no lockout is required for maintenance (blocking up attachments and installing locking pins), written work procedures will be followed.

When lockout is required for maintenance work on mobile equipment, the mechanic doing the work must lock out the equipment and keep possession of the key to the equipment. If there are two workers working on the piece of equipment, the key to the equipment will be placed in a lockable box and both workers will place their personal padlocks on the box.

For equipment that does not require a key, the service switch (commonly known as the night switch) must be disconnected and access to the switch must be closed and locked or otherwise rendered inoperable. (i.e. Disconnect the battery)

If servicing must be done with the equipment operating, a written safe procedure must be followed.

Restarting After Lockout:

Before locks are removed and the equipment or machinery is re-energized:

- Remove all nonessential tools and equipment or machinery from the work area.
- Make sure all equipment or machinery components are back in place.
- Notify all affected employees that the locks will be removed.
- Check the work area to be sure all workers are clear of the equipment or machinery.
- Verify that the equipment or machinery is in neutral.

Removing Another Worker's Lock:

- The only way someone can remove a padlock other than their own, is by following the lock removal procedure as follows:
- Implement the lock removal procedures only if a lock is inadvertently left on a lockout point.
- The supervisor must make every effort to contact the employee whose lock is on the equipment or machinery.
- If the employee can be contacted, the employee must remove their lock personally, or give permission to remove their lock.
- If the employee cannot be contacted, the supervisor, or person in charge, may remove the lock after following these procedures:
    - The supervisor, or person in charge, must document the steps taken to contact the employee, using the Lock Removal Form.
    - The supervisor, or person in charge, must station guards at every danger point on the equipment or machinery prior to startup.
    - The supervisor may now remove the lock.
    - The supervisor takes full responsibility for any mishap as a result of starting the equipment or machinery.
    - The supervisor must notify the worker by the start of the worker's next shift if the worker's personal lock has been removed.

Contractor Lockout:

If contractor employees are performing maintenance or inspecting equipment or machinery where unexpected startup or release of energy could cause injury, the equipment or machinery must be locked out.

Qualified Contractors:

If contracted employees are familiar with the equipment or machinery and its hazards, they will submit their written lockout procedure and their lock identification system to **the Operations Supervisor** who will ensure the procedure eliminates all of the hazards.

Contracted employees will then be allowed to follow their own written lockout procedure.

Non-qualified Contractors:

If contracted employees are not familiar with all the hazards of the equipment or machinery, they are not allowed to lock out on their own.

The person who authorized the contractor to come on site will ensure a qualified person, a School District employee, who is knowledgeable and experienced with the equipment or machinery, accompanies the contractor, shuts down the equipment or machinery, puts on a personal lock, and tests the equipment or machinery.

Contracted employees will then apply their personal locks.

When the work is complete, the contracted employees will remove their locks.

Once all of the contractor employees' locks are removed, the School District employee will remove their lock and activate the equipment or machinery.

Training Requirements

Goal

To ensure that all workers who may be required to lockout have all the information necessary about the lockout program to safely perform their duties.

Objectives

Supervisors and workers will understand the requirements of lockout including:

- When it is required
- Why lockout is required
- Terminology
- Lockout responsibilities
- Lockout procedures

Summary of Training

- Definition of terms used in lockout
- OH&S regulatory requirements
- Responsibilities of the organization, supervisors and workers
- Risk assessments
- Lockout sequence
- Verifying lockout
- Lockout procedures – individual and general
- Re-starting after lockout
- Removing another worker's lock
- Working on energized equipment or machinery
- Group lockout procedures

Program Maintenance

Whenever new powered equipment or machinery is purchased it will be added to the equipment list. Any changes to equipment or machinery that could affect the lockout procedures will be reviewed the by Operations Supervisor. The lockout procedure will be revised as required.

Documentation

The documentation for this program includes:

- Lists of equipment or machinery
- Risk assessments
- Lockout procedures
- Lock identification forms
- Lock removal forms
- Procedures for working on energized equipment or machinery

This documentation is kept in the Operations Supervisor's office.

Appendices

Appendix A: *Basic Lockout Procedures for Employees*
Appendix B: *Lockout Risk Assessment Instructions,* including:

- Lockout Hazard Identification and Risk Assessment Work Sheet
- Lockout Identification Form
- Equipment/Machinery Lockout Procedure
- SAMPLE Equipment/Machinery Lockout Procedure (2)
  Lock Removal Form
- Procedure for Working on Energized Equipment/Machinery
- SAMPLE Procedure for Working on Energized Equipment/Machinery

Appendix A: Basic Lockout Procedures for Employees

Vancouver Island West School District 84 has developed a lockout program for production and maintenance work where there is a risk of injury to workers due to the inadvertent movement of equipment or machinery

Locks

Personal locks have been issued to appropriate Operations employees. Each personal lock set for each employee is keyed with its own key. Lockout locks or keys are for the sole use of each employee – they are never to be loaned to another employee.

Whether this is a permanent lockset or a temporary lockset, the Operations Supervisor has a written record that the lock set has been assigned to the employee. It is clearly marked as your lock set if it is your permanent lockset.

Alternate Procedure

Shut down and lock out any equipment or machinery prior to working on it. THIS IS YOUR RESPONSIBILITY. If the equipment or machinery will not accept a lock, such as some breaker panels and mobile equipment, IT IS YOUR RESPONSIBILITY TO LOCATE THE alternate written procedure and follow it.

During troubleshooting, where part of the equipment or machinery must remain energized, follow the written procedure. Power to that part of the equipment or machinery that must be energized is the only power or energy allowed.

Lockout Points

There is a "lockout procedure" for each piece of equipment or machinery. The lockout procedure clearly indicates the lockout points. There may be more than one lockout point and therefore more than one of your personal locks must be applied in order for you to proceed to work on that piece of machinery or equipment. You must apply a lock to EVERY lockout point.

Shut Off

Use the power control device, which is usually the start stop switch on the equipment or machinery, to turn it off.

De-energization and Isolation

Prior to working on the equipment or machinery, notify affected persons including the responsible operator and advise them of the work to be done. If the shutdown is complicated or hazardous (for example electrical equipment over 600 volts) inform a qualified person (who may be the operator) who will identify and shut down each piece of equipment or machinery necessary to make the systems safe. If you are trained and competent with the shutdown procedure, initiate shutdown.

Exception

If you are repairing or maintaining **equipment such as power tools or shop machinery which has the following:**

- an electrical cord and plug, or a local energy disconnect device; **and,**
- this plug or energy disconnect device is within your exclusive and immediate control; **and,**
- you are the only one working on the equipment or machinery
- then you can disconnect the switch or pull the plug and put it in a position that is readily visible; no further lockout is necessary.

If the energy disconnect device or plug is not within your exclusive and immediate control, or you are not the only one working on the equipment or machinery, apply lockout scissors to the switch or put a lockable cover on the plug and apply your personal lock.

Other Lockout Points

If the equipment or machinery is connected to a piping system containing hazardous material, then a control valve may be the lockout point to isolate. It must be mechanically fixed in the closed position. This can be done using chains, cables, or other securing devices. Apply your personal lock chains or cables to disable the valve.

On pneumatic and hydraulic systems there may be lockable self-bleeding valves to isolate as well as the electrical disconnect device. The valves may not be self-bleeding, in which case, bleeding off the residual pressure must be included as part of the specific lockout procedure.

Gravity may create a hazard that must be controlled through lockout. Incline conveyor belts and truck box lifts are two examples of hazards that may require lockout.

Verify Lockout

After applying your personal lock, test the lockout. Try to start the equipment or machinery using the start/stop button or other power control device. **NOTE:** Interlocks upstream of the equipment or machinery that can give a false reading at the start stop button. This means that you MUST identify any potential interlocks in your lock-out procedure to ensure everyone is aware that testing the lock-out, in this case, may not PROVE that the machinery is locked-out.

All residual pressure must be bled from the system. This is because hydraulic and pneumatic machinery may still cycle after being locked out if pressure is not bled from the system.

Remember that if you are the first person to lockout the equipment or machinery, you are responsible to ensure it is safe for anyone else who locks out.

Using Lockout Scissors

If more than one person is required to work on machinery or equipment and apply their locks to the machinery or equipment, lockout "scissors" must be applied by the FIRST person to lockout. If you are going to work on equipment or machinery that is already locked out, apply your own lock to the lockout scissors. Never put your lock in the last space in the lockout scissors. Use another scissors. If you find that the last space has been filled in by a scissors, contact your supervisor who will have one person remove their lock so that another scissors can be applied.

Group Lockout

If several workers are working on the equipment or machinery, or if there are many lockout points, a group lockout procedure may be in place. There will be a container holding two keys to all of the locks that are locking out the equipment or machinery. That container will be locked closed. There will be a group lockout form at the container. Check the form to make sure that it is for the piece of equipment or machinery you are working on. Put your personal lock on the lockout scissors on the container.

End of Shift Transfer

If you must leave the worksite before the job has been completed, you must remove your personal lock. If there is important information about the safety of other workers to be passed on, or if the equipment or machinery is unsafe to operate, you must contact your supervisor to ensure no one starts the equipment or machinery. A "Do Not Operate" tag or departmental lock will be applied to the equipment or machinery.

De-Locking

When the work is completed, remove all your tools from the equipment or machinery. Ensure all the necessary guards are put back in place. Notify all affected employees, including responsible operators that the lockout will be removed. Remove your locks.

NEVER REMOVE ANOTHER PERSON'S LOCK.

The last person to remove their personal lock must check the work area to be sure that all workers are clear of the equipment or machinery.

Lock Removal

If you forget to remove your personal lock when you leave the worksite, you will be contacted to come back and remove your lock. If you cannot be contacted, the lock removal procedure will be instituted, and you will be informed by the beginning of your next shift. **This is the only situation in which someone may remove a lock other than their own.**

Appendix B: Lockout Risk Assessment Instructions

Instructions

Start by identifying the piece of equipment or machinery and its location. Use the best descriptors you can so that no one will make a mistake later about which piece of equipment or machinery the hazard assessment is for. If you need to identify the piece of equipment by a laminated tag or other means, then ensure that this is done. In some cases two pieces of equipment can be very similar and a novice locking out the piece of equipment will need to have the difference CLEARLY identified by name or numbers.

- In Column C under "Task to be Performed", list the task(s) that must be done on this piece of equipment or machinery.
- In Column D list the specific hazards that will affect each task. (Column B shows some typical examples that might apply.)
- In Column E, list the method of isolating the energy that will be most effective for each of the hazards. This may be blocking, closing valves, undoing linkage, bleeding hydraulics, etc.
- If de-energization or lockout is not possible, write "alternative procedures" in this column. This will require written procedures that provide equal or better protection to workers.
- In Column F clearly identify where the lockout point will be for this isolation source. If there is a number or other method of identification, use it.
- Once you have completed the form, you can transfer the information for the piece of equipment or machinery in Column F onto the Lockout Procedure Form. This will form a permanent record of the lockout required for that equipment or machinery. It will also provide a permanent record of the risk assessment that you used to develop the lockout procedure.

Attached:

- Lockout Hazard Identification and Risk Assessment Work Sheet
- Lockout Identification Form
- Equipment/Machinery Lockout Procedure
- SAMPLE Equipment/Machinery Lockout Procedure (2)
  Lock Removal Form
- Procedure for Working on Energized Equipment/Machinery
- SAMPLE Procedure for Working on Energized Equipment/Machinery

Lc it

Lockc.. Hazard Identification & Risk Assessm..it Work Sheet

Equipment Identifier & Location: _____

Assessment Done By: _____

Equipment or Machinery Description: _____

Date: _____

(A) Kinds of Hazard (Based on Analysis by Qualified Workers)	(B) Examples	(C) Task to be performed List task(s) affected by any hazard of Column (A)	(D) Specific lockout hazards for this task	(E) De-energization method	(F) Energy control device & lockout point
Stored Energy	Bins, chutes, elevated equipment, pressurized vessels/ pipes, volumes of liquid, stacked materials, springs under pressure				
Mechanical Energy	Hydraulic, air valving or operation, tools, equipment, machinery				
Energy Inadequate Or stopped	Failure of part or linkage, external influence, fuel sources, spills, lack of ventilation, blocked exits, lighting				
Kinetic Energy	Struck by, struck against, pinch points, falling - same level, falling to lower level, high angle work, animal attack				
Chemical Energy	Corrosion, oxidation, asphyxiation, poisoning, explosion, infection, drowning				
Thermal Energy	Fire, ultra-violet & infrared radiation, steam, hot materials, cold, freezing				
Electrical Energy	Power lines, step potential, static, grounding, lightning,				
Nuclear Energy	Radioactive isotopes, microwave sources, X-ray, laser light				
Other					

Special Instructions:

Lc it

Work Sheet EXAMPLE

Equipment Identifier & Location: Lift Pump #276
Assessment Done By: Mr. Expert
Equipment/Machinery Description: Effluent Pump
Date:

(A) Kinds of Hazard (Based on Analysis by Qualified Workers)	(B) Examples	(C) Task to be performed List task(s) affected by any hazard of Column (A)	(D) Specific lockout hazards for this task	(E) De-energization method	(F) Energy control device & lockout point
Stored Energy	Bins, chutes, elevated equipment, pressurized vessels/ pipes, volumes of liquid, stacked materials, springs under pressure	Changing Pump	Back Pressure Of liquid	Close valves	Valve #327 and #236
Mechanical Energy	Hydraulic, air valving or operation, tools, equipment or machinery				
Energy Inadequate Or stopped	Failure of part or linkage, external influence, fuel sources, spills, lack of ventilation, blocked exits, lighting				
Kinetic Energy	Struck by, struck against, pinch points, falling - same level, falling to lower level, high angle work, animal attack				
Chemical Energy	Corrosion, oxidation, asphyxiation, poisoning, explosion, infection, drowning				
Thermal Energy	Fire, ultra-violet & infrared radiation, steam, hot materials, cold, freezing				
Electrical Energy	Power lines, step potential, static, grounding, lightning,	Changing pump	Power to pump	Throw switch	MCC # 3
Nuclear Energy	Radioactive isotopes, microwave sources, X-ray, laser light				
Other					

Instructions:

Lock Identification Form

LOCK NUMBER	ISSUED TO	DATE ISSUED	DATE RETURNED

Equipment/Machinery Lockout Procedure

Name of Equipment/Machinery:	
Task to be Performed:	
Location:	
Preliminary Precautions Required:	
(Ex: special lighting, cleaning, alert operations, use qualified person etc.)	

Specific Process/ Equipment to be De-energized	Lockout Procedure	No. of Locks Required Per Worker	Location of Lockout Point

Additional Notes or Alternative Procedures: (Attach extra sheets if required)

Prepared by:	Date:

SAMPLE Equipment/Machinery Lockout Procedure

Name of Equipment/Machinery:	*Press Brake*
Task to be Performed:	*Backstop adjustment*
Location:	*Machine Shop*
Preliminary Precautions Required:	*Ensure flywheel has stopped coasting*
(Ex: special lighting, cleaning, alert operations, use qualified person etc.)	

Specific Process/ Equipment to be De-energized	Lockout Procedure	# of Locks Required Per Worker	Location of Lockout Point
Electrical motor	*Lockout disconnect switch*	*1*	*Motor control room*
Hydraulic ram	*Install block*	*0*	*On the table*

Additional Notes or Alternative Procedures: (Attach extra sheets if required)

None

Prepared by: Joe Operator	Date: *October 3, 1997*

SAMPLE Equipment/Machinery Lockout Procedure

Name of Equipment/Machinery:	*Air conditioning system*
Task to be Performed:	*Servicing cooling fan impeller*
Location:	*Roof of municipal hall*
Preliminary Precautions Required:	
Water pump pressure switch acts as interlock. Ensure motor switch in manual position before attempting to verify lockout	
(Ex: special lighting, cleaning, alert operations, use qualified person etc.)	

Specific Process/ Equipment to be De-energized	Lockout Procedure	# of Locks Required Per Worker	Location of Lockout Point
Fan motor	*Lockout motor circuit*	*1*	*Boiler room*

Additional Notes or Alternative Procedures: (Attach extra sheets if required)

Motor starter relay is control powered. Do not use for lockout. After disconnecting motor circuit, switch start selector switch to manual and push motor start relay button.

If switch is left on automatic pump pressure switch will act as interlock.

Prepared by: Electrical Superintendent	Date: *November 8, 1998*

Lock Removal Form

This form must be completed and signed before a supervisor removes a worker's lock from a piece of equipment/machinery:

DATE: _____ TIME: _____

Worker's name whose lock is to be removed:

_____

Name of equipment/machinery:

_____

Location of lock:

_____

Steps taken to contact worker:

_____

_____

Contact made with worker: Yes ☐ No ☐

Permission given to remove lock: Yes ☐ No ☐

If the answer to the above 2 questions is "No", list the steps taken to make sure the worker is not on company premises:

_____

_____

STATEMENT:

I have checked the work area to determine the locked out equipment/machinery is safe to operate and no workers are endangered.

Checked by: _____

Lock Removed by: _____
(Signature) (Print)

Witness: _____
(Signature) (Print)

Procedure For working on Energized Equipment/Machinery

Description of Equipment/Machinery:	Date of Last Revision:
Procedures Prepared by:	Approved by:
Reasons for Lack of Lockout: ☐ Equipment must remain energized ☐ Equipment cannot be locked out	Hazards to Workers:

Details:

Step by step alternate procedures:

SAMPLE Procedure for Working on Energized Equipment/ Machinery

Description of equipment/machinery: *Sewage collection debris rake*	Date of last revision: *July, 2002*
Procedures prepared by: *Martin Jones, Operator/Attendant*	Approved by: *Phil Santion, Supervisor*
Reasons for lack of lockout: ☑ Equipment/machinery must remain energized ☑ Equipment/machinery cannot be locked out	Hazards to workers: *Pinched in articulating arm nip point*

Details:

The amount of lift of the rake must be adjusted during its automatic cycle. If the power is turned off to the rake, it cannot be adjusted.

Step by step alternate procedures:

1. *This procedure must always be performed by two workers*
2. *Turn the power switch off to the debris rake.*
3. *Remove the guard on the debris rake.*
4. *One worker will be positioned at the power switch, while the other worker completes the adjustment.*
5. *The worker at the adjustment screw will be positioned to the left of the articulating arm. At no time insert tools or body parts between the articulating arm and the slide.*
6. *The worker at the power switch will turn the power on, cycling the rake through one complete cycle. At the end of the cycle, turn the power switch off*
7. *The worker at the adjustment screw will note the height of the rake at the top of its cycle.*
8. *Using a deep socket, adjust the screw clockwise for increased movement and counter clockwise for decreased movement. One full turn of the screw will increase or decrease the movement by 1/4 inch.*
9. *After the adjustments are made, stand away from the articulating arm, while the worker at the power switch turns on the switch to complete another cycle. Note the height of the rake at the top of the cycle. If any further adjustments are required, follow procedures 4 through 8 again.*
10. *Throughout this procedure, whenever the power switch is in the "on" position, all workers will stay to the left and away from the reach of the articulating arm.*