

**AVON MAITLAND DISTRICT SCHOOL BOARD
ADMINISTRATIVE PROCEDURE
NO. 544**

SUBJECT: Hazardous Energy Control - Lockout

Legal References *Occupational Health And Safety Act; Regulation 851 Industrial Establishments s(42), (74), (75), (76), (78); CSA z460 Standard: Control of Hazardous Energy – Lockout and Other Methods*

Related References *Administrative Procedure 175 Accidents, Incidents, Occupational Illness; AP 570 Maintenance, Repair and General Care of Property; AP 573 Vandalism/Property Damage; AP 414 Refusing Unsafe Work; AP 410 Environmental Health and Safety*

1.0 Purpose

The purpose of this procedure is to establish the performance expectations for protecting workers from the accidental release of energy. The unexpected movement, start-up or exposure to energy sources of machinery, equipment or processes can cause serious and even fatal accidents or injuries.

2.0 Scope

This procedure applies to all Avon Maitland District School Board Personnel and any contractors retained by the Board to perform work that could expose workers to the release of energy sources. These energy sources could include electricity, pneumatic, hydraulic, chemical, water, gravity, natural gas, steam, or kinetic. Exposure to energy sources occurs any time a worker or contractor must conduct activities that place any part of their body in the danger zone.

3.0 Definition

Affected Workers	Workers whose job is to operate machines, equipment, or processes on which servicing, maintenance, or construction is being performed.
Authorized Workers	A person who physically locks out machines, equipment or processes in order to perform servicing, repair, or maintenance.
Danger Zone	Any area of a machine, equipment or process that exposes a worker to a hazardous energy source such as moving parts, or physical contact with energy source (electricity, chemical, steam, fluid, etc.).
Energy Isolating Device	A mechanical device that physically prevents the transmission or release of a hazardous energy source. Examples include electrical disconnect switches, electrical plugs, breakers, fuses, various types of valves, etc.
Hazardous Energy Source	An energy source that can place a worker at risk of being injured if not properly controlled. Examples include: electrical, pneumatic, hydraulic, mechanical, kinetic, chemical, steam, gravity sources

Lockout	The action of placing appropriate lockout devices on energy isolating devices that are in the safe position.
Lockout Devices	Devices that hold energy isolating devices in a safe position and prevent the energizing of the machine, equipment or process. This includes standard key operated padlocks and other lockout devices such as valve covers, breaker covers, plug cover boxes, etc.

4.0 Responsibilities

4.1 Board

- 4.1.1 Establish a Hazardous Energy Control – Lockout Procedure for use in all buildings to minimize the risk of worker injury when working in the danger zones of machines, equipment, and processes.
- 4.1.2 Provide site locations and authorized workers with appropriate lockout devices.
- 4.1.3 Provide necessary training for affected and authorized workers on the use of the Hazardous Energy Control – Lockout Procedure.
- 4.1.4 For outside workers (contractors, etc.) confirm they have documented training records for hazardous energy control (ie lockout) and provide a copy of this Hazardous Energy Control – Lockout Procedure that they will be expected to follow.
- 4.1.5 Facilities Administrators/Supervisors will physically inspect and complete appropriate documentation for any unattended lockout devices.

4.2 Principal/Supervisor

- 4.2.1 Ensure workers are knowledgeable in the Hazardous Energy Control – Lockout Procedure and use of the procedure as intended.
- 4.2.2 Ensure appropriate lockout devices are available at the location.
- 4.2.3 Ensure that lockout devices are only removed by the authorized worker who is directly responsible for the locks or Facilities Administrators/Supervisors who have physically inspected and signed off in writing for the removal of unattended lockout device(s).

4.3 Affected Worker

- 4.3.1 Shall not attempt to start, energize, remove locks or use any machine, equipment or process that is locked out.
- 4.3.2 Report any abnormal conditions that may occur during a lockout situation.
- 4.3.3 Receive training about the Hazardous Energy Control – Lockout Procedure and use of the procedure as intended.

4.4 Authorized Worker:

- 4.4.1 Shall comply with all procedures and practices contained in this Procedure.
- 4.4.2 Are responsible for the use and maintenance of all lockout devices provided to them.
- 4.4.3 Receive training about the Hazardous Energy Control – Lockout Procedure and use of the procedure as intended.

4.5 Outside Worker (ie Contractor etc.):

- 4.5.1 Must be able to provide proof that all outside workers have appropriate hazardous energy control (ie lockout) training.
- 4.5.2 Shall be provided with a copy of this procedure and comply will all procedures and practices contained in it.

- 4.5.3 Shall provide their own lockout devices for conducting lockout activities as outlined in this procedure.

5.0 Procedures

5.1 Issuing Lockout Devices

- 5.1.1 Each authorized worker will be issued an appropriate number of personal key operated padlocks (no combination locks) made by a reputable manufacturer. These locks shall:

- have only 1 unique key (no master, duplicate or spare keys)
- be labelled with the authorized worker name (if the name becomes unreadable, the worker must replace the lock label or attach the lock with a danger tag stating their name, date and reason for the lockout)
- be used and maintained only by the authorized worker (do not loan or transfer locks between workers)
- be used only for hazardous energy control (ie lockout)
- be distributed by Facilities Administrators/Supervisors with a unique code engraved on the lock and this number is recorded on a master record retained by the Facilities Department.

- 5.1.2 **Each department will have colour coded locks for their workers.**

Maintenance	Red
Custodial	Orange
Teachers/Principals	Blue

- 5.1.3 Each school and maintenance worker will receive a lockout kit which will contain other lockout devices such as valve covers, electrical plug boxes, breaker covers, tags, etc.

5.2 General Lockout Procedure

- 5.2.1 When it is determined that the work activities require authorized workers to place any part of their bodies in the danger zone, the following general lockout procedure will be followed:

1. Prepare For Lockout – notify affected workers that the machine, equipment or process will be locked out; place machine components in appropriate position; determine all hazardous energy sources that power the machine.
2. Shutdown – turn off or shutdown the machine, equipment or process using regular controls.
3. Zero The Energy Sources – place all energy isolating devices from the active position to the safe position so that transmission or release of the hazardous energy source is not permitted.
4. Apply Lockout Devices – place appropriate lockout devices (ie locks and other devices) on the energy isolating devices and ensure they cannot be moved to an active position. Keys for the locks will be placed in the authorized worker pocket and remain under their control.
5. Dissipate Any Stored Energy – any trapped energy source should be relieved such as bleeding air/fluid lines, dissipating capacitors, waiting for hot/cold components to reach room temperature, etc.
6. Verify Isolation – ensure that all energy sources are truly at zero energy such as attempting to operate machine, observing gauges move to zero, voltage tests, etc.

- 5.2.2 When the work is completed and the machine, equipment or process is ready to be put back into operation, authorized workers shall:

1. Ensure all machine, equipment or process components are operationally intact

2. Ensure all workers, tools or other items are cleared.
3. Remove the lockout devices and return energy isolated devices to the active position. Each authorized worker is responsible for removing their own locks.
4. Operate machine, equipment or process to ensure it functions properly.
5. Notify affected workers that machine, equipment or process is ready for regular use.

5.3 Multiple Worker Lockout

- 5.3.1 The first authorized worker will attach a hasp (ie multiple locking device) on each energy source and each authorized worker will attach their locks to this hasp.
- 5.3.2 Each authorized worker will also conduct their own verification on each energy source. If workers start work at the same time, verifications can be done together. If work has already started and another worker enters the area, they will attach their own locks, ask all workers to exit the danger zones, and conduct their own verification actions.
- 5.3.3 Whenever a multiple lockout is conducted a primary authorized worker must be identified and ultimately responsible for the lockout situation. This will be the first person to conduct the lockout or the most senior person if a several lockout at the same time.

5.4 Changing Work Locations/Shift Changes/Extended Lockout

- 5.4.1 If the authorized worker has to change locations or work continues into the next shift and the machine, equipment or process is not ready to go back into operation, the worker will leave their locks attached to the energy sources. Lockout is never interrupted if the machine is not fit for operation.
- 5.4.2 If new workers arrive to work on the already locked out machine, equipment or process, they will treat it like a multiple worker lockout (see above).
- 5.4.3 If the machine, equipment or process is expected to be locked out for an extended period of time (ie several days, weeks, months), the authorized worker will attach a danger tag in addition to the lock stating their name, date and reason for lockout.

5.5 Unattended Lockout Device Removal

- 5.5.1 In the event that an authorized worker leaves their lock and lockout devices on an energy isolating device, leaves the facility and there is suspicion that it should be removed, the following procedure shall be followed.
 1. Every effort shall be made to find the authorized worker in the facility
 2. If the authorized worker cannot be found, the appropriate Facilities Administrator/Supervisor will be contacted and an **Unattended Lockout Device Removal Form** will be completed to document all actions.
 3. The Facilities Administrators/Supervisors will make every effort to contact the authorized worker outside the facility.
 - If the authorized worker is contacted and the machine, equipment or process is not operational, the lockout will stay in effect.
 - If the authorized worker is contacted and the machine, equipment or process is operational, they will return to the facility to remove their lockout devices themselves.
 - If the authorized worker is not contacted or is unable to return to the facility, the Facilities Administrators/Supervisors will arrive onsite, inspect the condition of the machine, equipment or process and determine if it is operationally safe to remove the lock. If it is determined to be operationally safe, the Facilities

Administrators/Supervisors may remove the lockout device(s) with bolt cutters.

- If an authorized worker has their lockout device cut off, a special **Lockout Device Removal Warning** will be placed at the worker's time card/mail box indicating that their lockout device has been removed and report to their supervisor immediately.

5.5.2 The previous procedure will also be followed if an authorized worker loses their key and their lockout devices must be removed.

5.6 **Outside Worker (ie Contractor, etc.)**

5.6.1 When work is conducted by outside contractors or sub-contractors that places any part of the worker in the danger zone, they will be expected to comply with this Hazardous Energy Control – Lockout Procedure

5.6.2 If the Facilities Administrator/Supervisor or Principal/Supervisor who is responsible for bringing in the contractor knows lockout will be necessary, they will be responsible for confirming the outside workers have documented lockout training and are provided with this Hazardous Energy Control – Lockout Procedure.

5.6.3 Shall provide their own lockout devices for conducting lockout activities as outlined in this procedure.

6.0 **Training**

6.1 **Authorized Workers**

6.1.1 Each authorized worker will receive training in this procedure.

6.1.2 They will be trained on the proper use and application of various lockout devices.

6.2 **Affected Workers**

Each affected worker will receive a briefing on Hazardous Energy Control – Lockout principles, this procedure and their responsibilities. This will take place during their orientation.



Unattended Lockout Device Removal Form

This Lockout Device Removal form is required any time a Facilities Administrator/Supervisor is contacted due the suspicion that a lockout device should no longer be engaged the authorized worker cannot be found.

Location: _____ Machine/Equipment/Process: _____

Employee's/Contractor's Name: _____

Date Lock and Tag Removed: _____ Time: _____

Reason for Requesting Removal of Lock and Tag

Please check that the following actions were taken:

_____ Every effort was made to find the authorized worker/contractor in the facility.

_____ An attempt was made to contact the authorized worker/contractor at home.

_____ The time the authorized worker/contractor was contacted.

_____ The authorized worker/contractor was able to return to the facility to remove their own lockout device(s).

_____ The authorized worker/contractor could not be reached or return to the facility

_____ An inspection of the locked out machine/equipment/process was conducted

_____ The machine/equipment/process was found not to be operational and the lockout remained in effect

_____ The machine/equipment/process was found to be operational and the lockout devices were physically removed by the Board Department Manager/Supervisor

Other Comments: _____

Manager's Signature: _____

Date: _____

Witness's Signature: _____

Date: _____



LOCKOUT DEVICE REMOVAL WARNING

Notice to Employee

Name: _____

Lockout Device Removal

Hazardous Energy Control – Lockout Procedure

Please report to your immediate Supervisor

Date: _____