Lambton Kent District School Board

PROCEDURES NO: A-OP-437-12

ADMINISTRATIVE PROCEDURES

SUBJECT: Technology Shop Safety Procedures

The following procedures were developed to assist schools in maintaining a safe environment in Construction, Manufacturing, Transportation and other technology shops.

Technology Shop Safety

1. Each September and February, the Technology Curriculum Leader will ensure that the Administrative Procedures: Technology Shop Safety Procedures has been reviewed by all Technology Staff in his or her school.

Access to Technology Areas:

1. Technology Staff have specialized training in their area of practice. Therefore, a qualified Technology Staff member, in the area being worked in, must be present whenever a shop is being used for technology purposes. Students must never be allowed to use shop equipment unless a Technology Staff Member is present.

2. The School Principal should ensure that the technology shops are keyed separately from the remainder of the building. Only the School Principal, Technology Staff, School Custodial Staff and the appropriate Board Departments should have access. The School Principal will be responsible for ensuring that keys are not copied and given to other staff members.

3. Non-Technology Staff wanting to use the shops or technology equipment to complete Board/School projects (i.e. drama sets, etc.) need to have written authorization from the School Principal. Arrangements must also be made to have a qualified Technology Staff Member supervise the project.

4. Technology shops are to be locked during non-class time or when Technology Staff Members are not available or not present. The only school staff members allowed access after hours are Custodial and Maintenance Staff for cleaning/repair purposes.

5. Contractors using shop facilities and equipment in the shops must have approval from the School Principal and the Building Services Department or other appropriate Board Department (i.e. Health & Safety) and be supervised accordingly.

6. Any projects that are to be completed during non-class time or after normal business hours must have approval of the School Principal in consultation with the Technology Curriculum Leader. This approval must be communicated to the Custodial staff that it is authorized use and a qualified Technology staff member must be present during the completion of the work.

7. Any Technology Staff Members who normally use Technology shops after regular school hours must have written permission from the School Principal. A copy of the written permission slip should be placed in area that is visible to others or easily accessible so that it can be produced upon request.

8. Technology Staff are responsible to ensure that all electrical panels are locked out so electricity is not available to machines, etc. when the Technology staff member is not present.

9. Technology Staff are responsible for ensuring that shops are properly secured during extended periods of non-use. (i.e. summer, March Break, Christmas.)

Storage of Flammable and Combustible Materials and Hot Work

1. The rules for storage of flammables and combustibles need to be reviewed by all Technology Staff who utilize these materials at the beginning of each semester.

2. School Principals should ensure that there is a minimum of one flammable-storage cabinet in each shop at their school, unless there are absolutely no flammables in these shops.

3. An inventory of all flammable materials shall be developed and maintained by Technology Staff at the site. This inventory shall be updated each January and a copy sent to the Health & Safety Department. Technology Staff must make sure that the material safety data sheet is available on the Board's MSDS website prior to bringing any flammable products onto Board property.

4. Technology Staff are responsible to ensure that all barrels of used motor oil are stored in the storage bunker. All materials in the storage bunkers must be stored in approved containers. The maximum amount of used motor oil allowed to be kept on site is two 24-gallon drums (or equivalent). Under no circumstances are these barrels to be stored in the shops.

5. Oily rags/shop cloths should be stored in an approved container until such time as they can be exchanged, cleaned, or disposed of in a regulated manner.

6. Technology Staff are responsible to ensure that all compressed gases such as acetylene are properly secured over the summer months in the following manner:

    i) Technology Staff will identify all empty cylinders and full-unused gas cylinders that will not be retained over the summer, and place them in a designated area for pick up by the compressed gas supplier. The Technology Curriculum Leader is responsible for making arrangements for pick-up prior to leaving for the summer.

ii) Technology Staff will ensure that partially filled cylinders attached to the oxy-fuel welding manifold are disconnected and capped prior to leaving for the summer. Capped cylinders are to be secured in an upright position in the gas cylinder storage area.

iii) Technology Staff will be responsible for ensuring the manifolds for both oxygen and acetylene are taken out of service prior to leaving for the summer (i.e. drained and purged). Plugs or other covers should be used to prevent inhabitation of these lines by insects.

iv) Technology Staff members are responsible for ensuring that all regulators and gauges, except those on the welding manifold, are removed and stored in a clean, dry area before leaving for summer.

7. Portable propane torch-type cylinders are <u>not</u> allowed to be used or stored on Board property.

8. Incandescent trouble lights must not be used in Technology Shops.

9. Technology Staff will be responsible to monitor all work/projects in their shops that involve hot work that is part of the Educational Program. Hot work is any activity that creates heat, flame, sparks, or smoke. Examples of hot work include but are not limited to welding (gas or arc), cutting, grinding, brazing, and/or soldering.

10. Technology Staff will check the area where the hot work was performed one hour after completion of the work or make arrangements for a Custodial staff member to check the area. For more information on Hot Work Procedures, staff should refer to the Board's Hot Work Administrative Procedure A-OP-429-03.

11. The cutting of any used container for any purpose is not allowed.

<u>Workplace Hazardous Material Information System (WHMIS)</u>

1. Each school must have in place a process to ensure that the material safety data sheet is available for all WHMIS-controlled products on the Board's MSDS website. Where the MSDS is not available on the website, a copy must be secured from the supplier of the material before the material is brought on to Board property and a copy sent to the Health & Safety Department for future inclusion on the website. (See section on Student Safety in regards to products brought in by students.)

2. The School Principal and Technology Staff are responsible to ensure that all controlled products are labeled in accordance with WHMIS legislation.

Hazardous Waste Removal Program

1. The Board's Health & Safety Officer is responsible for organizing two (2) hazardous waste pick-ups per year at each Secondary School in order to prevent the long-term storage of hazardous waste. The School Principal is responsible for ensuring that the Ministry of Environment manifest is signed and sent to the Health & Safety Department.

2. In addition to the pick-up above, The Board's Health & Safety Officer is responsible for arranging an annual pick-up of used motor oil in June to prevent storage over the summer months. Any schools requiring additional pick-ups should contact the Health & Safety Department to have this arranged.

3. Transportation Technology Staff are responsible to ensure that used tires are not collected and stored on Board Property. All tire changes require removal of the old tires from Board property on the same day that the new ones are installed.

Projects Outside Ontario Curriculum Policy Documents or Approved Board Program

1. A written outline of the project must be developed and submitted to the School Principal and Technology Curriculum Leader for approval prior to starting any project outside the Ontario Curriculum Policy Documents. Principals need to be informed of projects occurring in the shops, especially when completing larger or out-of-ordinary projects which may require unusual materials. Principals are responsible to take all reasonable precautions under the Occupational Health & Safety Act.

2. Completion of off-site Technology projects also requires a written outline and Principal approval.

Shop Safety Inspections

1. The Health & Safety Officer will be responsible for arranging an annual inspection of all hoists and lifting equipment in the Technology shops in accordance with the Industrial Establishment Regulations made under the Occupational Health & Safety Act.

2. The Health & Safety Officer will be responsible for arranging for an annual safety inspection of all manifolds in the welding areas as well as all woodworking and manufacturing equipment by qualified inspectors.

3. The Health & Safety Officer will be responsible for making arrangements for an annual inspection of all cooking hoods in Technology classes.

4. The Health & Safety Officer will be responsible for making arrangements for an annual inspection of all dust collection systems and all fume-exhaust systems in Technology Shops.

5. The Health & Safety Officer is responsible to ensure that all safety inspection reports are circulated to the appropriate School Principal, Curriculum Leader and site-based Health & Safety Reps. Copies should also be forwarded to the Consultant for Secondary Technology, the Secondary Coordinator for Student Achievement and the Secondary Facilities Joint Health & Safety Committee and made accessible to all staff. All reports will be posted in a timely matter on the staff intranet/portal. Any inspection reports secured by the Board's Building Services Department must be forwarded to the Health & Safety Department.

6. The Health & Safety Officer is responsible to ensure that all changes to this Administrative Procedure are circulated in a timely fashion to the groups noted above in point 5.

7. Building Services will be responsible for checking floor drains in Transportation shops and ensuring they are functioning properly.

Shop Attire

1. School Principals are responsible to ensure that all Technology Staff wear attire appropriate to the shop activity. Similarly, Technology staff shall ensure students wear appropriate attire. This includes having long hair tied back, no loose jewelry and no open-toed shoes.

2. School Principals are responsible for ensuring that Technology Staff wear all personal protective equipment (i.e. safety glasses, hearing protection, etc.) as required by the Board and/or the Occupational Health & Safety Act and its regulations. See Administrative Procedure A-OP-405.1 for additional information in regards to Hearing Protection Requirements in Woodworking Technology Shops

3. Technology Staff are responsible to ensure that they have been properly fit-tested where a dust mask is worn. Arrangements for fit-testing can be made through the Board's Health & Safety Department.

4. Technology Staff are responsible to ensure that, where welding helmets/face shields are shared, a procedure is put in place to ensure they are disinfected after use. Virox wipes may be used for this purpose.

Student Safety

1. Technology Staff will teach and model a safe, positive work environment and ensure that safety instruction is an integral part of the Technology Program.

2. As per the Ontario School Board Insurance Exchange (O.S.B.I.E.) recommendations, Technology staff will develop, in conjunction with the School Principal, a Shop Practice Agreement that requires student signatures, whereby the students acknowledge that they have been taught and now understand the shop safety practices. These agreements should be kept on file at that school. Examples of these agreements are available on the OCTE website.

3. Students sometimes bring in their own materials to work on school projects. Some of these products may be WHMIS-controlled and as such are subject to WHMIS legislation. Technology Staff shall ensure that the material safety data sheets for these approved products are available on the Board's MSDS website. Controlled products where there is no MSDS available are not allowed on site.

Additional Safety Procedures

1. The School Principal is responsible to ensure that all safety equipment and signs are clearly visible and identified within each shop (i.e. fire extinguishers, emergency stop buttons, first aid kits, eye wash stations, shut off valves, emergency exits, etc.)

2. Technology Staff are responsible to ensure that required guarding on equipment/machinery is in place and operational. Machines missing the proper guarding must be locked-out of service until the proper repairs can be made. Under no circumstances should staff members fabricate or modify a guard on a machine or piece of equipment.

3. Technology staff are responsible to ensure that jacks stands or other locking mechanisms are properly in place whenever a car is raised on any lifting device.

4. Donated items must be donated to the Board in accordance with proper Board Polices and Procedures.

5. Technology Equipment Installation Checklist is to be completed and submitted with the capital and furniture budget request form. The proper forms must also be completed for donated equipment. This is to ensure that all proper Board Departments have had a chance to review it to ensure the facility systems (i.e. electrical, ventilation, etc.) are capable of handling it and that it meets all safety requirements (i.e. CSA Standards, guarding, manuals etc.) Building Services will be available to assist with cost estimates related to installation. .

6. Isocyanate paint is a designated substance under the Occupational Health & Safety Act and is not allowed on Board property.

7. Only sand with the lowest possible silica content should be purchased for use in sand blasters.

8. Compressed air must not be used for cleaning purposes.

9. Technology Staff must not engage in any work that requires or results in alterations, repairs or modification to the facility. This includes, but is not limited to electrical, gas lines, water lines or the fabric of the building.

10. Equipment from home should not be brought in for use in Technology shops. Similarly, Technology shops and equipment should not be used for non-school (i.e. personal) projects.

11. Technology Staff are responsible for ensuring that the appropriate manual is present for all major power equipment.

12. Construction Technology Teachers are responsible to ensure that a procedure is in place to have the dust collection system emptied on a regular basis.

13. Technology staff are responsible for ensuring for the safe-keeping of the keys for the cars used in the Automotive shops.

14. Technology staff should make sure the area is clear of students and equipment prior to moving a vehicle. Vehicles are to be moved only by Technology staff or the insured vehicle owner with a spotter present. It is recommended that this be done outside of class time.

16. Technology staff are responsible for ensuring that vehicle blocks are to be placed on vehicles being worked on in the shop.

17. Technology staff are responsible to ensure that proper procedures are followed in their shops for lock out and control of hazardous energy as per the Board's lockout procedures

18. When upgrading shops, the School Board's Building Services Department should consider installing audio and visual warning devices that can be activated by Technology Staff both inside and outside the shop when vehicles are being moved in and out of the shop.

19. When upgrading shops, the Building Services Department should consider installing protective barriers, such as concrete-filled posts to be incorporated into the work area where cars are being worked on.

Implementation Date: September 15, 2004
Revised: September 18, 2006
February 5, 2008
March 2012

Lambton Kent District School Board

TECHNOLOGY EQUIPMENT INSTALLATION CHECK LIST

SUPPLIER _____ CONTACT _____
ADDRESS _____ TELEPHONE _____
CITY _____ POSTAL CODE _____ FAX _____

EQUIPMENT SPECIFICATIONS MANUFACTURER _____
MAKE _____ MODEL _____ TYPE _____

WARRANTY ON EQUIPMENT

PARTS _____ YRS LABOUR _____YRS ON LOCATION ☐ SHIPPING? ☐

	Yes	No	
EXTENDED WARRENTY	☐	☐	COST $ _____
SERVICE AGREEMENT ☐	☐	☐	COST $ _____
CONSUMABLES REQUIRED	☐	☐	COST $_____

*If yes provide list.

REPAIR SERVICE
WHO _____
WHERE _____
COSTS _____

REGULAR MAINTENANCE
WHAT _____
RECOMMENDED INTERVALS _____
OTHER _____

ENVIRONMENTAL CONCERNS

	Yes	No		Type
VENTILATION REQUIRED	☐	☐		_____
POTENTIAL EMMISSIONS:				
NOISE	☐	☐	dB.s	_____
HEAT	☐	☐	B.T.U.s	_____
FINE PARTICLES	☐	☐	Microns	_____
RADIATION	☐	☐	Type	_____
LIGHT	☐	☐	Ft. Candles	_____
VIBRATION	☐	☐	Hz.	_____
OTHER (PLEASE SPECIFY)	☐	☐		_____

OPERATOR SAFETY CONCERNS

	Yes	No		
GUARDING INCLUDED	☐	☐	EXTRA	$ _____
EMERGENCY SHUT OFF EQUIP.	☐	☐	EXTRA	$ _____
ACCEPTS LOCKOUT DEVICE	☐	☐	EXTRA	$ _____
PERSONAL PROTECTION EQUIP REQ.D	☐	☐	EXTRA	$ _____

OPERATIONAL REQUIREMENTS

POWER REQUIRED VOLTS _____ PHASES _____ CONSUMPTION AMPS _____

	Yes	No	
C.S.A. APPROVED	☐	☐	CONNECTION TYPE _____
COMPRESSED AIR REQUIRED	☐	☐	C.F.M. _____ P.S.I. _____
GAS REQUIRED	☐	☐	TYPE _____ VOLUME _____
CGA APPROVED	☐	☐	

CHEMICAL REQUIREMENTS

	Yes	No	Type
CUTTING FLUIDS	☐	☐	*PLEASE SPECIFY _____
BY-PRODUCT DISPOSAL	☐	☐	*PLEASE SPECIFY _____
MSDS SHEET AVAILABLE ON WEBSITE	☐	☐	
OTHER	☐	☐	*PLEASE SPECIFY _____

SPECIAL INSTALLATION CONCERNS

INSTALLED PRICE $ _____

	Yes	No	Type
SPECIAL REQUIREMENTS	☐	☐	*PLEASE SPECIFY _____
COST TO DISPOSE OF EQUIPMENT	☐	☐	*PLEASE SPECIFY _____
OTHER	☐	☐	*PLEASE SPECIFY _____

Principal's Signature _____ **School** _____ **Date** _____
**Please attach to capital & Furniture Budget Request Form*