



East Elgin Sportsmen's Association

LEAD CONTROL PROGRAM

1. Introduction

- 1.1 The Occupational Health and Safety Act requires employers to have a program in place to control the exposure of workers to designated substances found in the workplace where an assessment discloses that the health of a worker may be affected by exposure.
- 1.2 The purpose of the program is to provide measures and procedures to control worker's exposure to lead. This program has been designed to comply with O. Reg. 490/09 respecting designated substances.
- 1.3 The program is intended to be applied to all workers whose health may be affected by exposure to lead in the workplace. Those workers are exposed to lead affected are users of the range and custodial personnel who clean or maintain the range and its systems. Any contractors and third parties performing work, for or on behalf of the East Elgin Sportsmen's Association, are expected to adhere to this control program.

2. Components of the Lead Control Program

2.1 Periodic Assessment of Range Activities

2.1.1. The Joint Health and Safety Committee (Board of Directors) will make periodic assessments of range activities with the goal to assess and make recommendations that may help control worker's exposure to lead.

2.2 Engineering Controls

2.2.1. No range practice will be conducted on the indoor range without the ventilation system properly operating.

2.2.2 Ventilation filters will be changed in accordance with manufacturer's guidelines.

2.2.3 Any person assigned to clean the range will be equipped with a respirator and disposable coveralls. The person will be trained on PPE use and the safe handling of lead.

2.2.4 The ventilation system is set up to provide air flow so as to take contaminants away from the shooter. There is negative air pressure in the range relative to the rest of the building. This is apparent when opening the interior range door while the ventilation system is functioning.

2.3 Work Practices

2.3.1. When the range is in use, the floor will be cleaned of cartridges daily. No spent cartridges will be left to accumulate. While the floor is being cleaned of cartridges or other maintenance is being conducted the ventilation system will be left running (unless it is unsafe to do so). Consideration will be given to the method and tools used that could reduce airborne particulates.

2.3.2. All work practices must be performed in a manner designed to ensure the health and safety of workers and building occupants. Cleaning activities are to be performed in a manner designed to minimize the potential for lead particles to become airborne. Examples of appropriate cleaning methods include HEPA vacuuming.

2.3.3. Cleaning of the range, beyond the "housekeeping" of picking up spent cartridges, must be performed by trained personnel attired in protective clothing to include: disposable coveralls, disposable gloves, disposable booties or CSA approved rubber boots, eye and face protection, and HEPA filtered respiratory protection.

2.3.4. Only HEPA vacuums and filters specific to lead removal will be used to vacuum the range floor.

2.4 Hygiene Facilities and Practices

2.4.1. To limit contamination from footwear to the rest of the building, a pad will be maintained at the entrance to the firing range that will remove particulates from footwear of those leaving the range.

2.4.2. Members using the range and maintenance staff who clean, or maintain the range or its systems (HVAC filters) will wash their hands and other exposed skin thoroughly before leaving the range or service area.

2.4.3. Safety glasses and ear protection will be worn during target practice. This will be posted as part of the range rules.

2.4.4. No food or beverages will be permitted in the range facility. This rule will be posted at the entrance to the firing range.

2.5 Monitoring

2.5.1. EESA will have airborne monitoring conducted at least every three years to measure the amount of lead dust and fumes in the breathing zone or work areas where workers/members may be exposed to airborne lead.

2.5.2. The current TWAEV of a worker for exposure to airborne lead is 0.05 milligrams lead per cubic meter of air.

2.5.3. Monitoring, sampling and determining the concentration of airborne lead in the atmosphere of a workplace and a worker's exposure to airborne lead shall be in accordance with standard methods for workplace air sampling and analysis (NIOSH methodologies).

2.5.4. The Range Officer will keep a written record/database of each member's exposure on the range.

2.6 Medical Surveillance

2.6.1. Medical surveillance is conducted to protect the health of workers/members by ensuring that their individual level of health is appropriate, that data exists to recognize problems when encountered, and to ensure that remedial action will follow if a problem is encountered.

2.6.2. The purpose of medical surveillance is to protect the health of the worker/member by:

- Ensuring their fitness for exposure to lead;
- Evaluating their absorption of lead;
- Enabling remedial action to be taken when necessary;
- Providing health education.

2.6.3. Range staff and the maintenance staff who are assigned cleaning and maintenance of the range or its systems should undergo medical surveillance by a family physician.

2.6.4. Pre-placement medical examinations are to include:

- A medical history. This should include enquiries about the worker's previous exposure to lead (both occupational and non-occupational), personal hygiene

habits (smoking), and history of present or past gastrointestinal, hemopoietic, renal, reproductive, endocrine, or nervous disorders.

- A general physical examination during which particular attention should be directed to those systems that may be affected by lead. Personal hygiene should also be noted.
- Clinical tests including analysis of blood or urine or both as required by the examining physician.

2.6.5. Medical examinations and clinical tests (blood tests) are to be conducted on a yearly basis after pre-placement tests. At these subsequent examinations, the medical history should be updated to include information on the frequency and duration of exposure to lead since the previous examination and the occurrence of signs or symptoms that may be early indication of lead intoxication, e.g. abdominal pain, constipation, vomiting, asthenia, paraesthesia and psychological change.

2.6.6. The concentration in the blood can be used to determine: When a worker should be removed from lead exposure; when an enquiry regarding work practices and personal hygiene should be made; when further tests should be made; and, when a worker should be assigned different work.

2.6.7. The physician who conducts the medical examination or supervises the clinical tests shall advise the employee and the EESA whether the worker has an illness because of an exposure to lead and whether the worker has an illness because of an exposure to lead and whether the member is fit, fit with limitations, or unfit to continue working in exposure to lead. The advice of the physician shall be reported to the Board of Directors.

2.7 Training

2.7.1. Members using the firing range will be reminded of the importance of proper personal hygiene practices in reducing lead exposure. Washing exposed skin before leaving the range must be practiced and enforced.

2.7.2. Directors or committee chairs are to ensure that members working on the range in excess of exposure limits and those assigned to clean or maintain the range and its systems are knowledgeable of: The hazards of lead; adverse health effects from lead; procedures to follow to limit their exposure; proper personal hygiene practices; the use and care of appropriate protective equipment, including protective clothing; and respiratory protection.

2.7.3. Range Officers and maintenance Supervisor will ensure every worker/member affected by the control program will be acquainted with its provisions.

3. Hazards of Lead

3.1.1. Lead hazards of indoor firing ranges include:

- Lead dust created as bullet slugs hit bullet traps, walls, floors, and ceilings;
- Exploding primers that contain lead styphnate;
- Lead dust created by friction between the bullet slug and the barrel of the gun;
- Accumulation of lead in surface dusts due to inadequate ventilation or disruptions to laminar air flow; and
- Spent bullets and lead dust accumulating in the bullet traps.

3.1.2. Custodial/maintenance activities occurring in the firing range can expose workers/members to high levels of dust. PPE must be worn and properly disposed of or decontaminated as the case may be.

3.1.3. The primary toxicological exposure routes that lead enters the body are inhalation and ingestion. Lead is not typically absorbed through the skin. Inhalation of lead is considered the primary source of occupational exposure. When lead is in the air as either a dust or a fume, it can be inhaled and absorbed through the lungs and upper respiratory tract. Lead can also enter the digestive system if it enters the mouth and is swallowed. This can happen by handling food or cigarettes with lead contaminated hands.

Once lead enters the body, the majority of the lead is stored in either the bones or tissues. Over time with lead exposure, the amount and concentration of lead within the body increases when the body becomes unable to excrete all of the lead absorbed. This can result in lead poisoning.

Acute and Chronic Health Effects of Lead Exposure

Acute (short term) Extremely Rare

- *Seizures*
- *Unconsciousness*

Chronic (long term) Damage typically to the urinary, nervous, blood-forming, and reproductive systems.

- *Loss of appetite*
- *Metallic taste in the mouth*
- *Anxiety*
- *Constipation*
- *Nausea*
- *Pallor*
- *Insomnia*
- *Headaches*
- *Nervous Irritability*
- *Muscle and/or joint pain*
- *Tremors*

4. Disposal of Lead

4.1.1. Bulk lead will be removed, not less than once per year, packaged and labeled in accordance with the Act. The lead will only be disposed of to a party equipped and approved to handle toxic waste.

5. Joint Health and Safety Committee / Board of Directors

5.1.1. In accordance with the Occupational Health and Safety Act, when the EESA carries out an assessment of exposure or the likelihood of exposure of a worker to lead, the assessment will be made in consultation with the Board of Directors.

5.1.2. They shall consider and take into account the methods and procedures used in the processing, use, handling and storage of lead in the workplace and the measures and procedures that are necessary to control exposure to the designated substance (lead) by means of engineering controls, work practices, and hygiene facilities and practices.

5.1.3. A copy of the assessment will be provided to every member of the BOD.

5.1.4. A copy of the Lead Control Program will be supplied to every member of the BOD and made available to workers.

Glossary

CSA - Canadian Standards Association

Control Meas.- A measure used to control employee exposure to lead. May include PPE.

HEPA - High Efficiency Particulate Air

HVAC - Heating, Ventilation, and Air Conditioning

JHSC - Joint Health and Safety Committee

LCM - Lead Containing Materials

NIOSH - National Institute for Occupational Safety and Health

PPE - Personal Protective Equipment

Respiratory Protection - Device worn to either purify the air or that provides clean air to the wearer from another source. All respirators must conform to CSA Z94, 4-02.

TWAEV - Time Weighted Average Exposure Value