



Specialized Professional Services

2014-2015

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Introduction

Safe At Work Ontario is a Ministry of Labour (MOL) initiative to raise awareness about, and increase compliance with, the *Occupational Health and Safety Act* (OHSA) and its regulations. As part of *Safe At Work Ontario*, the MOL develops annual sector-specific enforcement plans that focus on hazards and outline what Inspectors will be focusing on during an inspection. This Specialized Professional Services (SPS) Sector Plan outlines the ministry's enforcement initiatives to protect Ontario's workers from occupational injury and illness.

Every year the MOL holds consultations to shape and improve its occupational health and safety compliance strategy and to build closer partnerships with its stakeholders. These sessions help us to improve the ministry's approach and to better meet the public's needs. It is also an opportunity to learn from the ministry's partners, obtain feedback on how the program is working, increase support for new directions, and identify areas for improvement.

SPS within the MOL Occupational Health and Safety Branch (OHSB) provides technical expertise to each of the ministry's health and safety programs, including industrial, construction, mining and health care. Specific professional expertise within SPS includes ergonomics, occupational hygiene, engineering and radiation protection. Accordingly, the 2014-2015 SPS sector plan outlines the manner in which the MOL enhances occupational health and safety compliance through *Safe At Work Ontario* when inspecting workplaces for risks associated with musculoskeletal disorders (MSDs), occupational disease, and exposure to complex machinery and equipment, chemicals, and radiation. This sector plan contains a brief description of some of the main topics that an Inspector may address at workplaces during an inspection. As part of the *Safe At Work Ontario* strategy, Inspectors focus on specific industry sectors where there are high injury rates, a history of non-compliance, and specific workplace hazards. They will also continue to inspect for overall compliance with the OHSA and its regulations. While each workplace is unique and the circumstances presented to an Inspector may result in a different inspection focus than what is outlined in this document, this sector plan provides a general overview of the MOL's enforcement focus for the mentioned hazards.

In addition, the emergency management program within SPS coordinates the development, implementation and maintenance of a comprehensive emergency management program to ensure a robust system of emergency response within the MOL.

You are encouraged to familiarize yourself with the plan and share copies of it with others in your workplace. [Sector plans](#) for other MOL programs may be downloaded from the MOL website.

Ontario provides a toll-free number to report workplace health and safety incidents or unsafe practices. Call the MOL at 1-877-202-0008 to:

- Report critical injuries, fatalities, work refusals anytime
- Workplace health and safety information, weekdays 8:30am – 5:00pm
- Emergency? Always call 911 immediately

Note: This document does not constitute legal advice. To determine your rights and obligations under the Occupational Health and Safety Act and its regulations, please contact your legal counsel or refer to the legislation at www.e-laws.gov.on.ca.

Ergonomics services

Description

The protection of workers from ergonomic-related hazards is the key health and safety focus for ergonomics services. Occupational ergonomics is concerned with interactions between workers and the elements within their workplaces such as equipment, work stations, work processes, and environmental influences. Effective application of ergonomics optimizes worker well-being and overall system performance. Ineffective consideration of ergonomics can lead to musculoskeletal disorders (MSDs) and cause acute injuries such as falls, burns and vehicular accidents.

Ergonomists within the MOL provide technical support to Ministry Inspectors and conduct inspections focusing on ergonomics.

The changing demographics of Ontario's workforce and the ongoing evolution of workplaces, equipment and technology within those workplaces pose challenges to ensuring ongoing ergonomic health and safety for workers. This compounds the need for workplaces to address ergonomics and the prevention of musculoskeletal disorders. The MSD Prevention Guideline for Ontario, its accompanying Resource Manual and Toolbox and the sector-specific resources available through Ontario's health and safety associations provide workplace parties with a solid framework to refer to when addressing MSD issues: www.ontario.ca/msd.

The ergonomics work plan for 2014-2015 includes an inspection component that supports the *Safe At Work Ontario* initiative as well as investigative support to Inspectors in response to events.

Ergonomists:

- initiate *Safe At Work Ontario* visits to workplaces with MSD and ergonomic-related hazards or to workplaces that have a history of MSDs
- support the Inspectors while they are conducting their *Safe At Work Ontario* inspections
- support relevant *Safe At Work Ontario* blitzes with ergonomic and MSD hazard information
- participate in regional inspection initiatives, and
- conduct investigations into work refusals and complaints and support investigations into fatalities and critical injuries

Injury and illness trends

Musculoskeletal disorders continue to be the leading cause of lost time injuries (LTI) in Ontario. In 2012, MSD claims represented 39 per cent of all lost time claims, 36 per cent of all lost-time days, and 32 per cent of all lost-time claim costs for Schedule 1 and Schedule 2 employers under the Workplace Safety and Insurance Act, 1997. This equated to over 21,600 claims, over 460,000 days lost and over \$68 million in Workplace Safety and Insurance Board (WSIB) costs. The decline in the MSD LTI rate for Schedule 1 employers from 2003 to 2012 has been 51 per cent.

Attention to MSDs is essential to assist in the ongoing decline of the overall lost-time injury rate within Ontario.

The following paragraphs illustrate the MSD lost-time injury rates by MOL program.

In 2012 in the industrial sector, MSD claims represented 39 per cent of all lost time injury claims. From 2003-2012, the MSD LTI rate in this sector declined by 54 per cent.

In the health care sector, MSD claims represented 42 per cent of all lost time injury claims in 2012. From 2003-2012, the MSD LTI rate in health care declined by 44 per cent.

In the construction sector, MSD claims represented 32 per cent of all lost time injury claims in 2012 and there was a 43 per cent decline in the MSD LTI rate from 2003 to 2012.

The MSD claims in the mining sector represented 38 per cent of the total lost time injury claims in 2012. From 2003-2012, the MSD LTI rate in mining declined by 63 per cent.

Ergonomics inspection focus

All MOL Inspectors are encouraged to include an MSD focus during inspections of workplaces, wherever appropriate. Inspectors have access to regional ergonomists to provide technical expertise during any of their proactive or reactive workplace visits.

In addition to supporting the general Inspectorate, ergonomists conduct proactive inspections (approximately 15 per cent of ergonomists' workplace visits consist of proactive inspections). Priority is given to workplaces that have been identified as having a history of MSDs and that are known to have MSD or ergonomic-related hazards. The specific focus for this fiscal year's proactive work for ergonomists includes:

- workplaces that have a history of MSDs,
- vehicle-pedestrian interaction at industrial workplaces, construction projects, and mines,
- manual transfer of mobile industrial waste containers,
- workplaces that employ temporary workers,
- manual keg handling at workplaces that have kegs, and
- storage and manual materials handling at construction projects.

Construction, Health Care, Mining, and Industrial Inspectors conduct proactive and reactive workplace inspections to check compliance with the OHSA and relevant regulations, including requirements to prevent hazards that can be related to ergonomics and MSDs. In addition, the Inspectors within each of the four areas will focus specifically on MSDs as outlined in the following table.

Sector	Ergonomics focus for general Inspectorate
Industrial	• manual materials handling (e.g., lifting, lowering, pushing, pulling and carrying) • manual materials handling while working on ladders • unnecessary manual materials handling due to obstructions • team lifting of heavy objects • use and maintenance of work carts • cashier work stations • policies, procedures, training, and supervision Links to MOL MSD Resources for Industrial Workplaces: Video: Manual Materials Handling in Industrial Workplaces Poster: Safe Lifting Ladder Ergonomics Manual Materials Handling at Industrial Workplaces Back Belts in Manual Materials Handling
Health care	• client handling (lifting, transferring and repositioning clients) • engagement of the joint health and safety committee with respect to MSD hazards • manual materials handling (e.g., lifting, lowering, pushing, pulling and carrying of objects) • providing and maintaining equipment • written measures and procedures, training, and supervision • laboratory work stations Links to MOL MSD Resources for Health Care Workplaces: Video: Client Handling in Health Care Poster: Safe Client Handling Client Handling and MSDs in the Health Care Sector Manual Materials Handling in Health Care Workplaces Back Belts in Manual Materials Handling
Construction	• emphasizing safe material handling, particularly during access/egress above/below ground level and while climbing ladders • proper storage and movement of material and equipment • maintaining unobstructed work routes • maintenance of equipment • boxes not being used as work platforms • training on MSD prevention

Sector	Ergonomics focus for general Inspectorate
	Links to MOL MSD Resources for Construction Projects: Video: Manual Materials Handling in Construction Poster: Construction Sites Manual Materials Handling at Construction Projects Back Belts in Manual Materials Handling
Mining	• access to work areas and equipment (including vehicles) • interior of vehicle cabs • roadway conditions • stationary operator work stations • how items are being stored and manually transported • how items such as supplies and equipment are being handled • whether devices are being used to assist in the handling of objects Links to MOL MSD Resources for Mines Manual Materials Handling in Mines Back Belts in Manual Materials Handling

Occupational Hygiene services

Description

The protection of workers from exposures to hazardous substances and the prevention of occupational diseases and illnesses are the key focus of the Occupational Hygiene 2014-2015 work plan. In the work environment, workers may be exposed to chemical, biological, and physical agents, which may cause sickness and impaired health. MOL Occupational Hygienists conduct inspections, investigations, and industry-wide air quality surveys to identify and assess the risk factors which contribute to occupational diseases and illnesses among workers. Occupational Hygienists also provide professional and technical support to sector program Inspectors.

Assessment of occupational health hazards and control of associated risks are achieved through enforcement of the OHSA and relevant regulations such as the Designated Substance Regulations (O. Reg. 490/09), the Control of Exposure to Biological or Chemical Agents Regulation (Regulation 833) and federal/Ontario Workplace Hazardous Materials Information System (WHMIS) legislation (Regulation 860).

The occupational hygiene work plan for 2014-2015 includes proactive field visits to workplaces by Occupational Hygienists for the prevention of a major occupational disease being dermatitis. In addition, they will conduct a WHMIS compliance initiative to determine the current adherence to Regulation 860/90, as well as to discuss the GHS (Globalized Harmonization System).^{*} Occupational Hygienists will also participate in blitzes and regional initiatives under the *Safe At Work Ontario* enforcement strategy.

** Canada's Workplace Hazardous Materials Information System (WHMIS) will be replaced by the Global Harmonization System (GHS) by June 2015.*

Injury and illness trends

In Ontario, occupational diseases account for greater mortality than occupational injuries. Occupational disease is often harder to diagnose and monitor for a number of reasons, including the long latency periods after the exposure, difficulties distinguishing occupational diseases from non-occupational diseases, and a lack of awareness about the occupational origins of some diseases. In 2012, occupational diseases contributed to 75 per cent of all allowed WSIB fatality claims in the workplace. The chart below shows that from 2003 to 2012 the proportion of allowed occupational disease claims rose from 68 per cent to almost 75 per cent.

Fatalities 2003 – 2012*

Year	Total	Traumatic	Occupational disease	% Occupational disease
2003	266	88	178	67.9
2004	243	82	161	66.2
2005	304	73	231	75.9
2006	270	74	196	72.6
2007	311	83	228	73.3
2008	281	60	221	78.6
2009	292	62	229	78.4
2010	313	63	250	79.9
2011	261	71	190	72.8
2012	254	64	190	74.8

*Source: By the Numbers 2012 WSIB Statistical Report, Schedule 1 – June 20, 2013

Regulations that address WHMIS, Designated Substances, Biological and Chemical Agents and Occupational Exposure Limits prescribe requirements for occupational exposure recognition, evaluation and controls. Sector regulations (Industrial, Construction, Mining, and Health Care) also deal with hygiene issues such as noise, personal protective equipment, and safety equipment. Enforcement of relevant regulatory requirements will affect the control of occupational exposures and prevention of occupational diseases.

Occupational Hygiene inspection focus

Occupational Hygienists provide professional and technical support to the sector program Inspectorate in proactive and reactive field enforcement and compliance activities. In addition, as part of the *Safe at Work Ontario* enforcement strategy, hygienists participate in proactive occupational hygiene initiatives for occupational disease prevention. Occupational Hygienists also participate in sector program blitzes and regional initiatives that have significant occupational hygiene components.

Dermatitis initiative

In January 2011, the WSIB released a report, "Occupational Disease" that included an Occupational Disease Claim Cost Study for 2007. Dermatitis was recognized as the second highest (noise is the highest) source of claims at 43,415. Dermatitis has become a significant occupational illness in Ontario. As part of the *Safe at Work Ontario* Occupational Hygiene occupational disease prevention initiatives, 10 per cent of Occupational Hygienists' total workplace visits will include visits to those industries using metal working fluids, organic solvents, resins and corrosives.

WHMIS compliance initiative

Another 10 per cent of their total workplace visits is targeted for proactive visits to various sector workplaces with emphasis on WHMIS compliance to labels, MSDS and worker education. This initiative will also include communication of components of the GHS.

Occupational Hygienists continue to promote control of exposure to toxic agents in workplaces through enforcement of the Designated Substances Regulation (DSR), Control of Exposure to Biological or Chemical Agents, and WHMIS regulations. Hygiene workplace interventions will also have the following emphasis, measures to control the use of substances that are considered to be carcinogens, sensitizing agents, and reproductive hazards and promotion of toxic exposure reduction through substitution of chemical substances with substances with lower toxicity.

Ongoing program support

In addition to the above two initiatives, hygienists will continue to conduct air quality surveys to support the proposed Occupational Exposure Limits (OELs) and enforcement of adopted OELs.

Occupational hygienists are designated federal WHMIS Inspectors and have the mandate of conducting investigations related to the Inter-Jurisdictional Referral (IJR) process of federal WHMIS issues.

Construction, Health Care, Mining, and Industrial Inspectors conduct proactive and reactive workplace inspections to check compliance with the OHSA and relevant regulations including those related to occupational hygiene issues. Occupational hygienists provide professional and technical support to Inspectors during program and regional enforcement and compliance initiatives. The table below outlines the specific hygiene inspection focus for Inspectors within each of the four programs as part of the 2014-2015 *Safe At Work Ontario* initiative.

Sector	OHS Inspection Focus
Industrial	Cutting Fluids
Construction	- Hygiene awareness - Asbestos abatement
Mining	- Asbestos management plans - Dust exposure
Health care	- Exposure to chemicals - Safe handling of hazardous drugs

Engineering services

Description

The key health and safety focus for engineering services is workplace safety hazards. Regional engineers provide engineering support to all four MOL programs during inspections and investigations involving complex engineering issues. The competitive global economy and constant technological advancement in manufacturing, mining, health care and construction are placing higher demands on employers to introduce new and advanced technologies. MOL engineers and Inspectors are encountering, and will continue to encounter, new and changing technologies with complex engineering principles that will often require the expertise of an engineer to address any associated health and safety risks. MOL engineers are also involved in updating regulatory requirements to account for changes in technology and methodology so that workers are adequately protected from new hazards introduced into the workplace.

Engineering-related health and safety hazards

The protection of workers from the hazards associated with lifting devices, racking and mezzanine structure, excavation, heavy equipment, access equipment, suspended stages, ground stability, electric controls, chemical exposure, and mobile equipment are the key areas of focus of the engineering services 2014-2015 work plan.

The plan outlines the key issues and initiatives for the enforcement of the engineering sections in the regulations for Industrial Establishments, Construction Projects, Health Care and Residential Facilities and Mines and Mining Plants. It provides guidance regarding visits by field engineers for specific sectors and priority safety hazards, and their participation in special projects related to the enforcement of regulations or for completing investigations.

Engineering inspection focus

MOL Inspectors enforce the OHSA and its regulations at workplaces across the province. As part of the *Safe At Work Ontario* strategy, they focus on specific industry sectors where there are high injury rates, a history of non-compliance, and specific workplace hazards. They will also continue to inspect for overall compliance with the Act and its regulations. Inspectors are not limited to inspecting with respect to the issues identified in this document as *Safe At Work Ontario* areas of focus, and will take enforcement action as appropriate to the situation at each workplace inspected.

Field engineers support the *Safe At Work Ontario* initiative by responding to requests for professional support from the Inspectorate that arise out of their proactive inspections. In 2014-2015 their work may include:

- participating in proactive inspections
- participating in regional inspection initiatives
- supporting relevant *Safe At Work Ontario* blitzes with complex engineering components
- reviewing engineering reports
- conducting workplace inspections to determine compliance with Pre-Start Health and Safety Review (PSR) requirements
- scoping work, reviewing reports, interpreting results and preparing engineering reports
- participating in investigating fatalities, critical injuries, work refusals and complaints

Engineers support the program's *Safe At Work Ontario* blitzes by providing guidance materials and checklists to help Inspectors to identify hazards accurately.

The following table highlights the engineering inspection focus for the general Inspectorate within each of the four programs as part of the 2014-2015 Safe at Work Ontario initiative.

Sector	Engineering inspection focus for general Inspectorate
Industrial	• Fall Protection • Guarding • The use and failure of lifting devices • Lock out • Design and construction of mezzanine structures
Construction	• Fall Protection • Scaffolding • Roofing
Mining	• Ground control stability • Hoisting plants • Electronic controls • Control systems • Water management
Health Care	• Hazards associated power plant such as in-running nip, crushing, entanglement • Storage and racking • Loading docks

Radiation protection services

Description

Occupational X-ray safety is regulated under X-Ray Safety Regulation (Regulation 861). Radiation Protection Field Services (RPFS) staff administers and enforces this regulation.

RPFS staff also enforce occupational health and safety requirements with respect to the following sources of radiation not addressed in Regulation 861 with reference to the OHSA general duty clause:

- ionizing radiation (in the form of naturally occurring radioactive materials [NORM]), and
- non-ionizing radiation (electromagnetic extremely low and very low frequency, radio-frequency, microwave, magnetic resonance imaging, ultra-violet, laser).

X-ray, non-ionizing radiation and NORM sources can be found in virtually every sector of the economy. Major sectors with respect to X-ray sources are:

- Health care – Hospitals and radiological clinics (human medical and dental) and veterinary facilities
- Industrial – thickness gauges in steel/coating, fill-height detection in bottling/canning, contaminant detection in food processing, etc.
- Educational – training of X-ray operators in medical, dental, forensic, chiropractic, non-destructive testing and security
- Construction – industrial radiography of buildings, pipelines, etc.
- Analytical – used for quality assurance/control and investigation in major manufacturing, testing and research
- Policing – security screening in courthouses, public buildings and correctional centres and in bomb detection

Radiation Protection Officers (RPOs) are appointed as Inspectors under the OHSA and as Provincial Offences Officers under the *Provincial Offences Act*, which enables them to commence prosecutions in respect of offences under the OHSA. RPOs specialize in dealing with ionizing and non-ionizing radiation for the protection of workers in Ontario workplaces. They conduct proactive inspections and reactive investigations to address worker concerns and work refusals. In addition to field activities, the RPOs register employers in possession of an X-ray source and review/accept installation plans of X-ray sources used in veterinary, industrial, analytical and training applications.

The number of employers in possession of X-ray machines continues to increase year by year and the installation approval of X-ray machines has also increased, most notably in dental veterinary, and security screening applications.

Injury and illness causes

- Exposure to a hazardous physical agent (X-rays) may induce cancer, or cause genetic damage, tissue damage, and — in unborn children — developmental defects
- High-powered lasers in industrial, medical, cosmetic and research applications may injure skin and eyes
- Safety issues related to the magnetic field of a magnetic resonance imaging system may result in an injury from a projectile or severe frostbite/freeze burns from exposure to cryogenic gas
- Radio frequency/microwave exposure can heat tissue
- Ultraviolet radiation can induce cancer and damage skin and eyes
- External gamma radiation exposure and/or internal alpha/beta particle radiation exposure from inhalation/ingestion of naturally occurring radioactive material (NORM) may induce cancer, or cause genetic damage, tissue damage and — in unborn children — developmental defects

Radiation protection inspection focus

MOL Inspectors enforce the OHSA and its regulations at workplaces across the province. As part of the *Safe At Work Ontario* strategy, they devote special attention to certain sector-specific workplace hazards. However, they will continue to ensure overall compliance with the OHSA and its regulations. Inspectors are not limited to the issues identified in this document as major hazards or key health and safety issues; they take appropriate enforcement action according to conditions at individual workplaces.

RPFS Inspectors will conduct joint workplace visits with other health and safety program Inspectors at workplaces identified for inspection this year where X-ray sources or other radiation hazards are known. They will also conduct proactive inspections on their own initiative according to the potential risk of radiation exposure, results of the last workplace visit, past non-compliance and time elapsed since the last visit.

A proactive approach will:

- focus on the inspection of dental X-ray source installations in veterinary facilities
- focus on veterinary facilities that have converted to digital imaging systems
- investigate the highest personal X-ray exposures at workplaces supplied by the national dose registry database which is the repository for occupational x-ray exposures (a focus will be on young (19 years of age and younger) and vulnerable (monitored for less than a year) X-ray workers)

- confirm registration and review X-ray sources and installations (Regulation 861 [X-Ray Safety] requires employers to register with the Director; in addition, an application for review, together with plan location drawings, of the installation must have been reviewed and accepted by an Inspector)
- focus on cosmetic use of high power lasers
- support the Inspectorate on any regional initiatives with a radiation protection component
- support the Inspectorate on reactive or proactive visits to a nuclear facility in respect of which the MOL has authority to enforce the OHSA

In addition to radiation hazards, the MOL is advising RPOs to pay particular attention to the enforcement focus topics and issues in the following table. This list, which is not exhaustive, applies mainly to veterinary facilities and other extended coverage workplaces (i.e., those not under the jurisdiction of the MOL's industrial, construction, mining or health care sectors).

Major hazards	MOL Radiation Protection Services inspection focus
Musculoskeletal disorders (MSDs)	Lifting policies and procedures as well as devices (where available) will be reviewed in animal hospitals/clinics. Narrations associated with field visit reports will contain links to the MSD toolkits.
Slips/trips and falls	The workplace should be free of materials, objects, substances, and inappropriate ladders to prevent hazards.
Exposures to radiological hazards	Health hazards found in a veterinary care setting include: the use of radioactive elements in nuclear medicine (I-131 for thyroid treatment of cats), physical agents such as X-rays, and other radiation hazards such as magnetic resonance imaging (MRI) and lasers.
Material safety data sheets and WHMIS	The veterinary care sector employs a wide variety of chemicals in liquid, solid, and gaseous states. Because workers are at risk of exposure to chemicals in the workplace, they are required to have access to current material safety data sheets and training in WHMIS.

Emergency management program

The following section addresses the Ministry of Labour's legal obligations under the Emergency Management and Civil Protection Act.

Description

The MOL, along with other provincial ministries, has adopted comprehensive emergency management programs based on a risk management approach and including activities in the five core components of emergency management: prevention, mitigation, preparedness, response, and recovery. These reforms aim to ensure that a proactive, coordinated and comprehensive approach to managing emergencies is in place to reduce the significant risks faced by Ontario communities.

The implementation of emergency management programs will ultimately save lives and money, protect property, public health and the environment, maintain economic stability, and help assure the continuance of critical infrastructure. This will be accomplished by preventing some emergencies from occurring, by lessening the frequency and severity of others, and by speeding recovery. The result will be a province comprising safe, secure, and disaster-resilient communities.

Provincial ministries and municipalities are required to develop, implement, and maintain comprehensive emergency management programs and to adopt standards for these programs established by regulation under the *Emergency Management and Civil Protection Act*. This requirement ensures that a consistent, accountable, and robust system of emergency management is established throughout the province.

Ministry of Labour Emergency Management Program

The *Emergency Management and Civil Protection Act*, R.S.O. 1990, c.E.9, and its associated Order in Council (OIC), O.C. 777/2009 dated May 13, 2009, provide the authority for the government of Ontario to prepare for, and respond to, emergencies in order to protect public health, safety, welfare and property in Ontario.

The *Emergency Management and Civil Protection Act* requires all ministers to develop an emergency plan for continuity of operations and services while the associated OIC requires 13 ministers to develop specific emergency plans for the type of emergency assigned.

The Ministry of Labour is assigned “any emergency that affects worker health and safety.” The responsibility for developing an emergency response plan for this additional OIC falls within the Specialized Professional Services.