

Occupational Health and Safety Branch

Specialized Professional Services Plan

2011-2012

Safe At Work Ontario
Enforcement > Compliance > Partnership >

Ministry of Labour

Contents

Introduction	2
Ergonomics services	3
Description	3
Injury and illness trends	3
Ergonomics inspection focus	4
Hygiene services	6
Description	6
Injury and illness trends	6
Hygiene inspection focus	7
Engineering services	9
Description	9
Engineering-related health and safety hazards	9
Engineering inspection focus	9
Radiation protection services	11
Description	11
Injury and illness trends	12
Radiation protection inspection focus	12
Emergency Management Program	14
Description	14
Ministry of Labour Emergency Management Program	14

Introduction

Safe At Work Ontario is the Ministry of Labour (MOL) strategy for enforcing the Occupational Health and Safety Act (OHSA) and its regulations. As part of *Safe At Work Ontario*, MOL develops annual sector-specific enforcement plans that focus on hazards and outline what inspectors will be looking for during an inspection. This Specialized Professional Services (SPS) Sector Plan outlines the ministry's strategy to protect Ontario's workers from occupational injury and illness.

On November 1, 2010, Ontario launched a new provincial toll-free number – 1-877-202-0008 – to report workplace health and safety incidents or unsafe work practices. Anyone, anywhere in Ontario, may call to report a workplace health and safety incident, critical injury, fatality or work refusal, or with general inquiries. The number operates 24 hours a day, seven days a week.

Specialized Professional Services within the Occupational Health and Safety Branch (OHSB) of the Ministry of Labour (MOL) provides technical expertise to each of the ministry's health and safety sectors, including industrial, construction, mining and health care. Specific professional expertise within SPS includes ergonomics, occupational hygiene, engineering and radiation protection. Accordingly, this sector plan outlines the manner in which the MOL will enhance occupational health and safety compliance through *Safe At Work Ontario* when inspecting for the presence of risks associated with musculoskeletal disorders (MSDs), occupational disease, and exposure to complex machinery and equipment, chemicals, and radiation.

In addition, the emergency management program within SPS coordinates the work of developing, implementing and maintaining a comprehensive emergency management program to ensure a robust system of emergency response is in place within the MOL.

Please refer to the e-laws website to download a copy of the OHSA and its regulations: www.e-laws.gov.on.ca/navigation?file=browseStatutes&reset=yes&menu=browse&lang=en.

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 contribute to the cause of acute injuries such as falls, burns and vehicular accidents.

Ergonomists within the Ministry of Labour 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 and 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.labour.gov.on.ca/english/hs/topics/pains.php

The ergonomics work plan for 2011-2012 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* workplace visits to employers within WSIB rate groups that have a history of MSDs
- support the inspectors while they are conducting their *Safe At Work Ontario* inspections
- support the *Safe At Work Ontario* cross program inspector MSD blitz
- support other relevant *Safe At Work Ontario* blitzes with MSD hazard information
- participate in regional inspection initiatives, and
- conduct investigations into fatalities, critical injuries, work refusals and reprisal complaints.

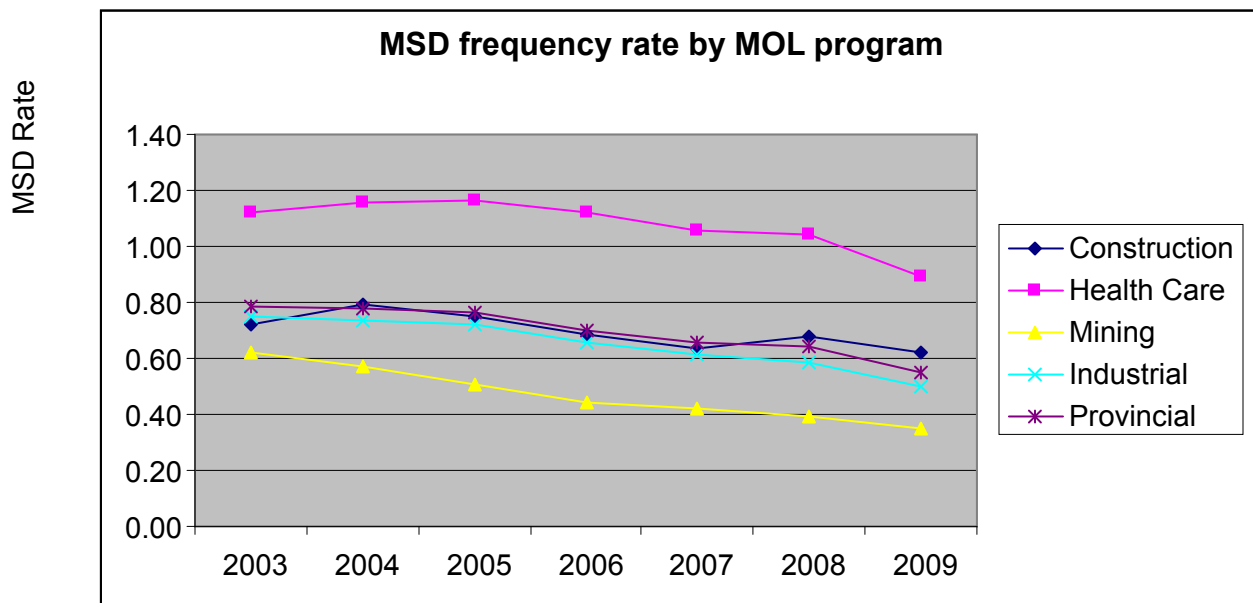
Injury and illness trends

Musculoskeletal disorders continue to be the leading cause of lost time injuries (LTI) in Ontario. MSD claims represent 44 per cent of all lost time claims and claim costs. In 2009, this equated to over 28,000 claims, 900,000 days lost and over \$111 million in WSIB costs. The decline of MSDs from 2003 to 2009 has been 30 per cent. The most significant decline occurred between 2008 and 2009 when there was a 14 percent decrease in lost time MSDs.

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

The following chart illustrates the MSD lost time injury rates by MOL program. In 2009, in the industrial sector, MSDs represented 44 per cent of all lost time injury claims. From 2003-2009, the MSDs in this

sector declined by 33 per cent. In the health care sector, MSDs represented 50 per cent of all lost time injury claims in 2009. From 2003-2009, MSDs in health care declined 20 per cent. In the construction sector, MSDs represented 36 per cent of all lost time injury claims and there was a 14 per cent decline in the MSD rate from 2003 to 2009. The MSD lost time injury rate in mining represents 40 per cent of the total lost time injuries in 2009. From 2003-2009, the MSD rate declined by 43 per cent.



Ergonomics inspection focus

All MOL inspectors are encouraged to include an MSD focus during inspections of workplaces with a history of MSD lost time claims and during inspections at workplaces that are within a sector or WSIB rate group, recognized as having a history of MSDs. Inspectors have access to regional ergonomists to provide technical expertise during any of their proactive or reactive workplace visits.

An MSD blitz will be held in 2011-2012 across all MOL programs. Inspectors will focus their attention on a particular MSD-related hazard, identified by the Ministry, during the blitz. Details of the inspection will be announced by the minister before the blitz.

In addition to supporting the general inspectorate, ergonomists conduct 15 per cent of their workplace visits to high-priority workplaces. Priority is given to workplaces that have been identified as manufacturing food goods, warehousing, nursing services, and constructing institutional, commercial and industrial buildings. Consideration is given to factors such as the workplaces' MSD frequency rate, number of workers and number of high impact back-injury claims.

Construction, Health Care, Mining, and Industrial inspectors conduct proactive and reactive workplace inspections to ensure compliance with the OHSA and relevant regulations, including requirements to prevent hazards related to ergonomics and MSDs. In addition, the inspectors within each of the four areas place specific focus on ergonomics as outlined in the following table.

Sector	Ergonomics inspection focus for general inspectorate
Industrial	Inspectors will continue to focus on MSD hazards that were a priority during the 2010 MSD blitz, which included manual materials handling and work on ladders (MSD/Ergonomics Guidance for Stakeholders Regarding the Use of Ladders in Industrial Workplaces), manual team lifting, unnecessary manual materials handling due to obstructions, use of work carts and cashier workstations. In addition, inspectors will include ergonomics as a particular focus of attention when conducting inspections within restaurants and transportation-related workplaces.
Health care	Inspectors will continue to focus on MSD hazards that were a priority during the 2010 MSD blitz, which included patient lifting, transferring and repositioning, safe use and transportation of carts in support services such as dietary, housekeeping and maintenance, and laboratory workstation clearances.
Construction	Inspectors will continue to focus on MSD hazards that were a priority during the 2010 MSD blitz, emphasizing safe material handling, particularly during access/egress above/below ground level and while climbing ladders, unobstructed work routes, maintenance of equipment, and boxes not being used as work platforms. Sectors of particular focus for ergonomic issues will be homebuilding and industrial/commercial/institutional construction. Specific trades within those types of workplaces will also be prioritized.
Mining	Inspectors will continue to focus on MSD hazards that were a priority during the 2010 MSD blitz, including access into large vehicles and safe handling of drill rods.

Hygiene services

Description

The protection of workers from exposures to hazardous substances and prevention of occupational diseases and illnesses are the key priorities of the Occupational Hygiene 2011-2012 work plan. In the work environment, workers may be exposed to chemicals, biological, and physical agents which may cause sickness and impaired health among workers.

Regional occupational hygienists provide professional and technical support to inspectors. Hygienists also conduct hygiene inspections, investigations, and industry-wide air quality surveys to identify and assess the risk factors which contribute to occupational diseases and illnesses among workers. Mitigation of occupational health hazards and their associated ergonomic risks are achieved through enforcement of regulations, such as sector regulations, the Designated Substance Regulation (DSR), the Control of Exposure to Biological or Chemical Agents Regulation (Regulation 833) and federal/Ontario Workplace Hazardous Materials Information System (WHMIS) legislation.

In the occupational hygiene work plan for 2011-2012, hygienists also participate in blitzes and regional initiatives under the *Safe At Work Ontario* enforcement strategy. In addition, hygienists will conduct proactive workplace visits to address hygiene issues in health care workplaces and to enforce noise exposure criteria in high noise exposure workplaces.

Injury and illness trends

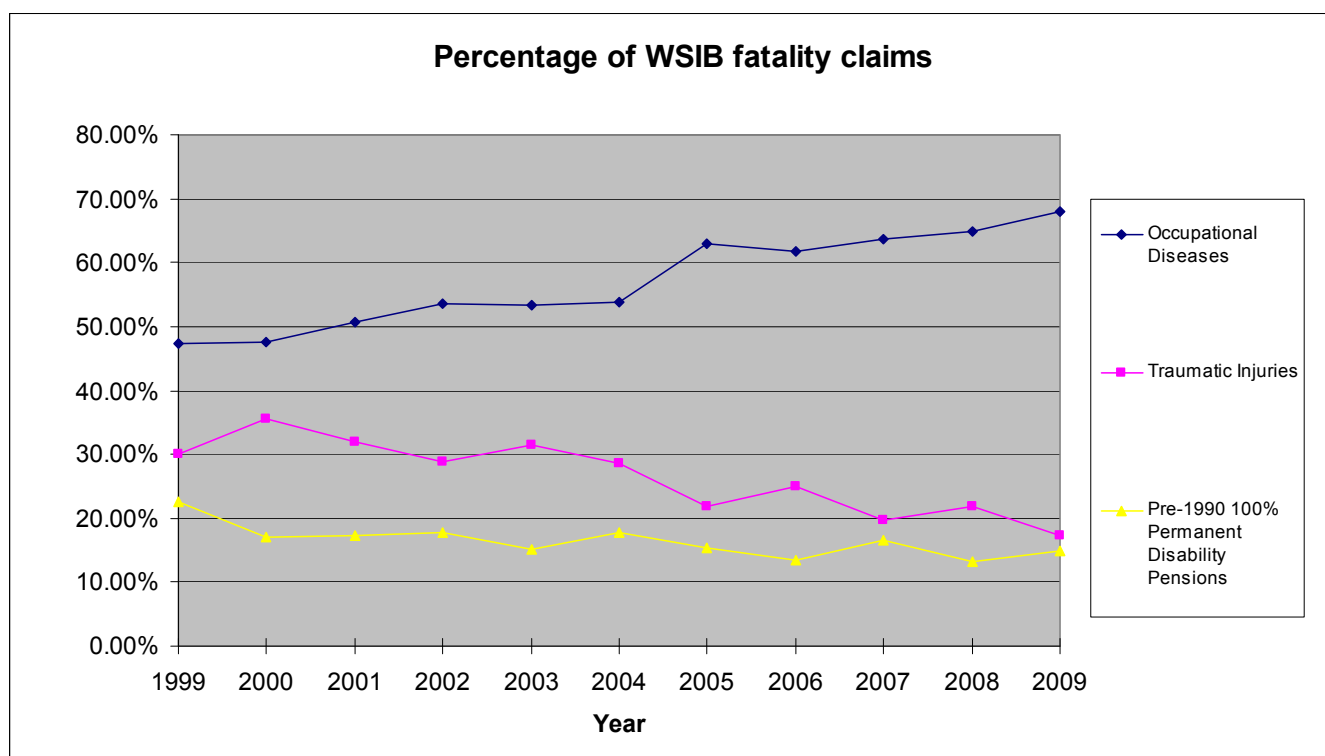
Hygiene-related sources of injury/disease remain a low portion of WSIB lost time claims (5.1 per cent in 2008). However, hygiene-related exposure sources can induce much more serious health consequences. Often overlooked, occupational disease is still the leading cause of fatality in workplaces. In 2008, occupational diseases contributed to 65 per cent of all approved WSIB fatality claims in the workplace.

Even with the recognition that the claim statistics may be confounded by a variety of factors such as an aging workforce, increased physician awareness of occupational diseases, or disease latency period, occupational disease remains the leading cause of fatality in workplaces. Continuing efforts are needed to improve workplace occupational hygiene through recognition, evaluation, and control of exposure hazards.

Enforcement of the DSR, Regulation 833, and WHMIS regulations has a positive impact on the control of occupational exposures in workplaces.

The noise exposure criteria in the Industrial Regulation were amended in respect of specified types of industrial workplaces in 2007; enforcement of these amended criteria can reduce the hazard of occupational noise exposure and the risk of noise-induced hearing loss in specified types of workplaces.

The trend chart below shows that from 1999 to 2008, the number of occupational disease claims rose from 47 per cent to 65 per cent.



Hygiene inspection focus

The primary role of regional hygienists is to provide professional and technical support to the sector program inspectorate at their proactive and reactive workplace enforcement and compliance activities. With respect to the *Safe At Work Ontario* enforcement strategy, hygienists also participate on blitzes and regional initiatives.

Hygienists will conduct 10 per cent of their total workplace visits to support the proactive occupational exposure strategy of the Health Care Unit with emphasis on hygiene assessment and controls of health hazards in health care workplaces. Another 10 per cent of their total workplace visits is planned for proactive visits to high noise exposure workplaces to ensure compliance with the noise exposure criteria amended in 2007; this includes workplaces in the smelting and refining, vehicle parts and accessories, motor vehicle assembly, pulp and newsprint, and mechanical and sheet metal work industries.

Hygienists continue to ensure controls of exposure to toxic agents in workplaces through enforcement of the DSR, Control of Exposure to Biological or Chemical Agents, and WHMIS regulations. There is also an emphasis on measures to control the use of substances that are considered to be carcinogens, sensitizing agents, and reproductive hazards.

The hygiene inspection focus will include promotion of toxic exposure reduction through management of hazardous chemicals involving appropriate control measures; an important consideration is the substitution of chemical substances with substances with lower toxicity.

Air quality surveys will also be conducted to support the proposed occupational exposure limits (OELs) and enforcement of adopted OELs.

Construction, Health Care, Mining, and Industrial inspectors conduct proactive and reactive workplace inspections to ensure compliance with the OHSA and relevant regulations, including those related to occupational hygiene issues. In addition, the inspectors within each of the four areas place specific hygiene inspection focus as outlined in the following table.

Sector	Hygiene Inspection Focus
Industrial	• Management of hazardous chemicals with emphasis on enforcement of DSR, OELs, and WHMIS requirements • Enforcement of the amended noise exposure limits • Use of personal protective equipment and training
Health care	• Management of hazardous chemicals with emphasis on enforcement of DSR, OELs, and WHMIS requirements • Personal protective equipment program including respiratory protection program • Provision and maintenance of ventilation systems for buildings as well as for specific hazard controls
Construction	• Management of hazardous chemicals with emphasis on enforcement of DSR, OELs, and WHMIS requirements • Enforcement of Asbestos on Construction Projects and in Buildings and Repair Operations Regulation, O. Reg. 278/05 • Personal protective equipment program including respiratory protection program • Carbon monoxide in enclosed construction sites
Mining	• Enforcement of WHMIS requirements • Dust exposure and control measures • Noise exposure assessment control measures

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. In addition, 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 require the expertise of an engineer to address any associated health and safety risks. The need for up-to-date knowledge of current development in new technology and engineering will place a higher demand on the ministry's engineering resources. MOL engineers are also involved in the process of 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 mechanical, and electrical, equipment, chemical exposure, explosions and fire, fall of ground, and hazards associated with use and failure of lifting devices, storage racks, work platforms and scaffolds are the key foci of the Engineering Services 2011-2012 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 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

Ministry of Labour inspectors enforce the OHS Act and its regulations at workplaces across the province. As part of the *Safe At Work Ontario* strategy they will give special focus to certain specific sector and workplace hazards, but will continue to inspect for overall compliance with the Act and its regulations. Inspectors are not limited to the issues identified in this document as major hazards or key health and safety issues. The exercise of their enforcement discretion will depend upon the facts and conditions in each individual workplace.

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 2011-2012 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, review reports, interpreting results and preparing engineering reports
- participate 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.

Sector	Engineering inspection focus for general inspectorate
Industrial	• Mechanical hazards such as in-running nip, crushing, entanglement • Hazards associated with the use and failure of lifting devices • Chemical hazards/fire and explosion • Enforcement of Section 7 of Regulation 851, Pre-Start Health and Safety Reviews with particular attention to storage racks • Electrical contacts and working on or near live exposed parts of equipment or conductors and overhead power line • Lock-out
Construction	• Electrical contacts • Engineering engagement upon notification of multi-point suspension system (MPSS) or swing stages • Suspended Access Equipment, design, testing and maintenance • Excavation, tunnel support system and trench shoring
Mining	• Mechanical hazards such as in-running nip, crushing, entanglement and improper lock-out • Falls of ground, pit walls and slope stability • Improperly inspected and maintained hoisting plants, conveyance, mobile equipment and suspended work platforms • Electrical contact
Health Care	Power plant system hazards such as: • Mechanical hazards (e.g., in-running nip, crushing, entanglement) • Chemical hazards / fire and explosion

Radiation protection services

Description

Occupational x-ray safety is regulated under Regulation 861, the Regulation Respecting X-Ray Safety. Radiation Protection Field Services (RPFS) staff administer and enforce this regulation.

RPFS staff also enforce occupational health and safety requirements (using the OHSA general duty clause with reference to national or international standards/guidelines) with respect to the following other sources of radiation:

- 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, and
- 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.

- 2,469 MOL-registered employers are in possession of x-ray sources (non human applications).
- About 50,000 x-ray sources are registered with the X-ray Inspection Unit of the Ministry of Health and Long-Term Care.
- Approximately 400 workplaces in possession of non-ionizing sources are in the RPFS database as a result of reactive visits. These files are retained to provide historical information for potential future and similarly related worker complaints or work refusals.

Injury and illness trends

- 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 to 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 complementary proactive approach will:

- focus on the inspection of dental x-ray source installations in veterinary facilities
- investigate the highest personal x-ray exposures according to the national dose registry database
- confirm registration and review x-ray sources and installations (Regulation 861 [X-Ray Safety] requires employers to register with the Director, and the plan design must have been reviewed and accepted by an inspector)
- support the inspectorate on any regional initiatives with a radiation protection component, and
- support the inspectorate on reactive or proactive visits to a nuclear facility.

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 class 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 step on devices 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 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 end 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 (the Emergency Management Act), 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 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.