

Occupational Health and Safety Branch

Construction Sector Plan

2010-2011

Safe At Work Ontario
Enforcement > Compliance > Partnership >

Ministry of Labour

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Introduction

The Construction Sector Plan outlines the Ministry of Labour's (MOL) strategy to protect Ontario's workers from occupational injury and illness. It covers two distinct industries: construction and diving. Each industry is unique, presenting challenges and opportunities for the MOL and its health and safety partners in their ongoing efforts to keep construction workers and divers safe.

The 2010-2011 Construction Sector Plan (the Plan) describes sector-specific hazards and compliance issues, and the MOL's enforcement focus for inspections within the construction and diving industries. The Plan also acknowledges recent changes to Ontario's [Occupational Health and Safety Act](#) (OHSA) and the Construction Regulation (O. Reg. 213/91) that will have an impact on occupational health and safety, workplace parties and the ministry's enforcement practices.

Effective June 15, 2010 new statutory provisions under the OHSA will strengthen protection for workers from workplace violence and address workplace harassment. These define workplace violence and harassment and describe employer duties, and will apply to all workplaces covered by the OHSA.

Effective January 1, 2010, the Construction Regulation (O. Reg. 213/91) under the Occupational Health and Safety Act was amended. Changes were made to the requirements regarding:

- stilts
- wooden guardrails
- CSA standards for fall protection equipment
- electrical utility safety rules
- marine safety equipment and lifejackets
- "locates" of underground services
- engineering drawings for certain structures.

Further information about these changes and the latest version of the consolidated regulations can be found at the Ministry's website:

www.labour.gov.on.ca/english/hs/sawo/pubs/fs_workplaceviolence.php

and by visiting www.e-laws.gov.on.ca/html/source/regs/english/2009/elaws_src_regs_r09443_e.htm.

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:

www.labour.gov.on.ca/english/hs/sawo/sectorplans/index.php.

Ontario's construction industry

There are about 35,000 employers/contractors in Ontario's construction industry employing up to 409,000¹ workers and tradespersons. The industry comprises both large and small firms and includes unionized and non-unionized workplaces.

Construction is a dynamic industry characterized by workplaces and workforces that change constantly. Through the course of a typical project, 10 or more different employers may be involved, with as many as 10 different trades and trade unions on site as well. These multiple-employer and multiple-union workplaces are quite different from those in other industries. Moreover, "construction" may describe all of the work being done, but the individual activities are quite diverse.

Under the Occupational Health and Safety Act (OHSA), "construction" includes erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project (excluding any work or undertaking underground in a mine).

Most of the approximately 35,000 construction contractors in Ontario are small-to-mid-size employers. Almost 90 per cent of construction employers have less than eight employees. About one per cent employ more than 50 workers; however, these personnel are deployed across several projects.

Although Ontario's construction industry is one of the safest in the world with the lowest frequency of lost-time injuries (LTIs) in all of Canada at 1.38 LTIs per 100 employed construction workers², there is a high potential for incidents that may lead to injury, given the nature and conditions of the work. The MOL continues to work actively with its health and safety partners and external stakeholders to control and, where possible, eliminate the top hazards in each sector and to promote compliance and the development of a strong health and safety culture in the workplace.

Another unique feature of the construction sector in Ontario is the special relationship between labour and management. Many construction managers and owners are often former trades-people. Ontario's construction industry includes both unionized and non-unionized employers and, on some sites, they work side-by-side with employees.

Over the years, the unique needs of construction have been recognized and entrenched in Ontario legislation. A significant portion of the Labour Relations Act, 1995 is written specifically for the construction industry. Furthermore, the Employment Standards Act, 2000, the Workplace Safety and Insurance Act, 1997 and, most notably, the OHSA, all include distinct requirements for the construction sector.

Construction looking forward — 2009-2017

The Construction Sector Council report *Looking Forward 2009-2017 Key Highlights* has identified that while the recession has weakened housing and industrial construction in Ontario, the balance of the construction industry is expected to see important employment gains in 2010-2011 and beyond. Government-related construction, especially with strong stimulus programs announced in new budgets, is providing most of the jobs.

¹ Source(s): Ontario's Labour Market Employment by Industry; adjusted January 2010, and Statistics Canada, Labour Force Survey

² Source: 2007 Association of Workers' Compensation Boards of Canada, "National Work Injury, Disease and Fatality Statistics 2005 – 2007"

Privately funded residential, commercial and industrial projects will see drastic reductions in activity over the next couple of years.¹

Aggressive public spending has provided a strong dose of economic stimulus that is expected to continue through 2010². Construction works in the institutional sub-sector (e.g., hospitals and institutions of higher learning, etc.) and on civil engineering projects (e.g., infrastructure renewal, roads and bridges) are receiving federal and provincial funding and should benefit from the significant allocations of government stimulus dollars.

From 2012 to 2017, growth in construction employment will average 2.7 per cent annually³. These additions to the workforce will come as the overall growth in the Ontario labour force slows to one per cent or less. Construction employers will be competing for a steadily growing share of the provincial workforce⁴.

Ontario's diving industry

In Ontario, a “diving operation” means work performed under water by divers or work performed on the surface in support of divers and includes underwater inspection, investigation, excavation, construction, alteration, repair or maintenance of equipment, machinery, structures or ships and the salvage of sunken property. There are approximately 100 diving contractors in Ontario employing 400 workers. The MOL receives between 1,000 and 1,200 notices of diving operations every year.

Ontario diving contractors carry out business across all regions of the province and compete with out-of-province contractors for their work.

The construction sector

Ontario's diverse and complex construction industry is made up of a number of primary sectors, each with a number of sub-sectors:

Asbestos operations

- Includes work carried out before the start of demolition or renovation of buildings, structures and ships. For the purposes of enforcement of O. Reg. 278/05 (Asbestos on Construction Projects and in Buildings and Repair Operations), operations that may expose a worker to asbestos are classified as Type 1, Type 2 and Type 3 operations.

Industrial, Commercial and Institutional (ICI)

- Made up of both high-rise and low-rise industrial, commercial and institutional building projects, and above-ground mining plants.

Residential

- Made up of both high-rise (i.e., apartment and other multiple housing) and low-rise residential projects, including “in-fill” housing, single homes, multiple housing (e.g., townhouses) and renovations and additions. The sector is characterized by multiple contractors and independent operators.

¹ Source: Ontario Construction Secretariat: “Eye on ICI” newsletter, December 2009

² Source: Ibid

³ Source: Construction Sector Council: Construction Looking Forward 2009-2017 Key Highlights

⁴ Source: Ibid

Roads

- Includes heavy civil works or infrastructure comprising highway and road construction, both new construction and rehabilitation of existing highways and roads, bridge work, and paving operations.

Underground

- Mostly sewer and water main construction, trenching, caisson construction, shaft construction and tunnelling.

Utilities

- Includes the construction of underground utilities (gas, power, telephone, cable, gateways, etc.) and above-ground power and distribution lines, transmission and electrical towers.

Window cleaning

- Consists of window cleaning services for buildings and the cleaning of windows where a worker may fall a vertical distance of three metres or more.

Other construction

- Projects not captured in other sectors such as silo construction, water drilling, moving buildings and structures, landscaping.

Ministry of Labour compliance focus in Construction for 2010-2011

Compliance: intervention based on need

Some projects in the construction industry require targeted and focused enforcement intervention up to and including prosecution of the workplace parties to deter non-compliance. Owing to the nature of construction activities and associated high-risk work, the MOL will continue to pay particular attention to constructors and employers who repeatedly violate the OHSA and regulations and who have poor health and safety records.

Other construction industry firms require tools, information, and education on compliance. The various health and safety associations (HSAs) are the system partners tasked with providing educational services to workplace parties. The HSAs also use information from other system partners, such as trends seen by inspectors, to develop material to keep workplaces current and safe. In January 2010, the Infrastructure Health and Safety Association (IHSA) was formed by amalgamating the Construction Health and Safety Association of Ontario (CSAO), the Electrical and Utilities Safety Association (E&USA), and the Transportation Health and Safety Association of Ontario (THSAO). New partnerships are being established with the IHSA to help the construction and electrical utilities industries prevent occupational injury and illness.

There are also firms that have best practices, compliance advice and business solutions to share with others. The MOL's system partners are especially interested in spreading these best practices to other firms. In the construction industry, the Provincial Labour-Management Health and Safety Committee (PLMHSC), a Section 21 Advisory Committee to the Minister of Labour (Minister), and the PLMHSC's labour-management network managed by the IHSA (formerly the CSAO), advises the Minister and the MOL's Construction Health and Safety Program (CHSP) on matters of health and safety. There is a

separate section 21 advisory committee for the electrical utilities industry (which is governed by both Construction and Industrial regulations).

The Internal Responsibility System – fostering a culture of safety

The MOL has a primary responsibility to ensure that workplaces comply with the OHSA and regulations. This includes ensuring that a strong Internal Responsibility System (IRS) is in place that will foster a sustained culture of workplace health and safety. One of the indicators of a sound IRS is a well-functioning Joint Health and Safety Committee (JHSC), where required.

A strong health and safety workplace culture comprises:

Competence (appropriate knowledge and training, systems for responding to events, a properly functioning JHSC and other IRS components),

Commitment (demonstration by the employer of leadership on safety, appropriate policies and procedures to protect workers, low tolerance for poor health and safety practices, insistence upon full compliance), and

Capacity (adequate resources for preventing injuries, a good system for obtaining assistance from HSAs and the WSIB).

A strong IRS produces a strong culture of health and safety. Strong leadership by senior executives and other managers sets the tone and establishes a corporate culture that nurtures the IRS. A health and safety culture requires all work place parties to pay constant, appropriate attention to workplace health and safety.

A sustainable workplace health and safety culture needs a strong commitment by everyone to prevent injuries and illness and to reduce risk.

The functioning of the IRS in the construction sector will continue to be the key focus of inspections this year.

Partnerships: a key success factor

The MOL is one of several partners in the health and safety system in Ontario focused on preventing and reducing injuries and illnesses. The CHSP works collaboratively to improve workplace health and safety at Ontario construction sites.

To achieve its goals, the MOL works co-operatively with:

[Workplace Safety & Insurance Board](#) (WSIB)

[Ministry of Training Colleges and Universities](#) (TCU)

[Infrastructure Health and Safety Association](#) (IHSA)

[Electrical Safety Authority](#) (ESA)

[Technical Standards and Safety Authority](#) (TSSA).

Working with these and other system partners, as well as our stakeholders, the CHSP will continue to increase the provision of information to employers and workers while ensuring that workplace parties comply with the law.

Along with the MOL's system partners, the CHSP will focus the efforts of construction inspectors in ways that minimize overlap of resources and put the right system partner in the right workplace. All HSAs and the CHSP's industry partners have been active in supporting construction workplace safety enforcement activities by providing information related to the enforcement focus by offering support to workplaces that need additional assistance to comply with workplace health and safety legislation.

Enforcement focus: targeted enforcement to maximize impact

Special enforcement focus for 2010-2011

MOL inspectors enforce the OHSA and its regulations at workplaces across the province. As part of the *Safe At Work Ontario* strategy, they will focus on specific industry sectors where there are high injury rates, chronic violators, and workplace hazards. They will also 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, and will take enforcement action appropriate for the conditions at each workplace inspected.

Injury rates and chronic violators

Working with data supplied by the WSIB, CHSP inspectors will focus their proactive inspections on workplaces that have higher than average rates of LTIs, are chronic violators or are serious repeat violators. For the 2010-2011 fiscal year, the CHSP (including the Diving Health and Safety Program) has planned approximately 23,000 inspections throughout the province.

Inspections will include province-wide and regional visits to construction projects in high-risk sectors. These will address sector-specific hazards known to the MOL. The CHSP will also conduct several provincial and regional heightened enforcement campaigns (blitzes) that provide enhanced targeted enforcement on known hazards or subjects of interest to the CHSP.

During their workplace visits, inspectors will focus on the functioning of the IRS at projects and the sector-specific hazards. Inspectors will pay particular attention to the following hazards: falls, use of equipment (both heavy and light), occupational illness and disease (including musculoskeletal disorders, hazardous substances and noise) and “struck by” construction vehicles/equipment and non-construction vehicles. The MOL will rigorously enforce regulations when it finds priority hazards; this includes prosecuting, when appropriate, those found to be in breach of the law.

In addition, inspectors have been directed to pay attention to construction activity with trade-specific hazards for the seven trades that have the highest injury rate. These are: formwork and demolition, siding and outside finishing, masonry, residential, roofing, heavy civil construction, and mill-wrighting and welding. These operations all have a LTI rate above the industry’s average of 1.38 per 100 workers (2007).

Heightened enforcement campaigns

Provincial heightened enforcement campaigns (blitzes) are intended to raise the level of compliance at construction projects, diving operations, and window cleaning operations. The campaigns focus on hazards that are inherent in the work process or contribute to significant injuries or illness. Over the course of a health and safety campaign, the MOL also seeks to raise the workplace parties’ awareness of the issues addressed by the campaign. It works with its system partners to get the message out to the entire industry.

In addition to their general inspection duties, inspectors will participate in provincial and regional construction health and safety campaigns. In 2010-2011, the CHSP will conduct two comprehensive,

provincial safety campaigns focusing on hazardous industry work practices known to the MOL. The CHSP program uses MOL workplace injury data (i.e., fatalities and critical injuries) and LTI data from the WSIB.

The CHSP's provincial heightened enforcement campaigns are described below:

- **Fall hazards at construction projects: April 2010**

This campaign includes fall hazards at Ontario construction projects, diving operations and window cleaning at buildings where a worker could fall a vertical distance of three metres or more.

Wherever a worker is at risk of falling, CHSP inspectors will ensure that workplace parties comply with the OHSA and regulations, making certain that adequate measures and procedures for the safe use of fall protection equipment are in place. There will be ongoing attention to worker training, provision and maintenance of equipment, written measures and procedures and supervision. The April enforcement activities were initiated in January 2010 and were completed April 16, 2010.

- **Safe use of construction vehicles and equipment (heavy and light): June and July 2010**

Vehicular and equipment-related injuries (i.e., struck by or struck against) are the second leading cause of LTIs at Ontario construction sites, accounting for some 30 per cent of all traumatic injuries. The focus of this campaign is on safe operating procedures for vehicles and equipment (both large and small) and securing loads or materials that might fall from a vehicle. There will be ongoing attention to worker training, provision and maintenance of equipment, written measures and procedures and supervision.

Cross Program Heightened Enforcement Campaigns

In addition to the two provincial heightened enforcement campaigns planned for the 2010-2011 fiscal year, the CHSP will participate in two ministry-wide, cross-program heightened enforcement campaigns.

- **Musculoskeletal disorders**

Musculoskeletal disorders (MSDs) are injuries of the muscles, nerves, tendons, ligaments, joints, cartilage, or spinal discs. Most work-related MSDs develop over time and are caused either by the work itself or by employees' working environments. Health problems can range from discomfort and minor aches and pains, to more serious medical conditions requiring time off work.

Preventing MSD-related injury and illness is a priority for the CHSP. The CHSP, working with the MOL's ergonomists, aims to reduce the number of MSDs, their associated WSIB costs when workers are injured, and the additional costs to the health care system as well as to the lives of the families affected by an injured worker. Construction worksite MSD hazards will continue to be a focus for inspectors.

Building on the 2009-2010 blitz that focused on musculoskeletal disorders in the homebuilding industry, the CHSP will extend its outreach and enforcement activities to the ICI sector, paying attention to selected work activities such as lifting, that may lead to MSD injuries, especially back injuries. During visits, the MOL will continue to refer workplace parties to the MSD resource materials and tools available at the MOL and IHSA website. There will be ongoing attention to worker training, provision and maintenance of equipment, written measures and procedures and supervision.

- **New and young workers**

According to the Institute for Work and Health (Toronto), work-related injuries of young persons in Ontario (aged 15 to 24 years) are six times more likely to occur in the first month of employment than at any other time.

During the summer months, it is quite common to find summer students used as traffic control persons, labourers and helpers to family members owning or working at construction projects. Throughout the school year, students participating in the Ontario Youth Apprenticeship Program may be working on a construction site. Workers between the ages of 16 and 24 are considered to be young workers. Workers and persons at Ontario construction sites must be at least 16 years of age.

In 2010-2011, where there are new and young workers employed at residential projects (especially homebuilding), road-building and landscaping projects, inspectors will focus on worker training, provision and maintenance of personal protective equipment, written safety measures and procedures, and supervision.

In addition to proactive inspections carried out under the *Safe At Work Ontario* strategy and the Construction Program Sector Plan, inspectors also conduct investigations in response to complaints, work refusals, fatalities, critical injuries and other incidents.

Violence in the Workplace

New in 2010 are the amendments to the OHSA to address workplace violence and harassment that are effective as of June 15, 2010. Workplaces in the province will be required to have a policy and program in place to deal with the issues of workplace violence and harassment. Inspectors will, as part of their routine workplace visits, be ensuring compliance with the new legislative requirements.

Injury and illness trends

The CHSP uses an integrated planning process with the WSIB to identify injury and illness trends. Trend analyses of the number of fatalities, critical injuries, LTIs, LTI rates and the costs associated with WSIB claims for each sector are used by inspectors to plan their inspections of projects. Hazards inherent in the work and compliance history are other selection criteria.

When reviewing occupational injury and illness data, inspectors encourage workplaces to establish and enhance their workplace health and safety culture. During their workplace visits to enforce the OHSA and its regulations, inspectors also consider hazards that contribute to the root cause of injuries.

The tables below, arranged by construction sector and sub-sector, quantify the CHSP activity from 2006 to 2009. They provide a trend analysis regarding the number of workplace visit days, number of inspections, investigations and consultations, and the number of orders issued. The investigation data ("events"), are broken down into the number of fatalities, critical injuries, work refusals, complaints and other incidents. The number of LTIs, the LTI rates, and the five most costly injuries are also presented for each sector and sub-sector.

The following table shows significant improvements since 2005 in the fatality and critical injury rates in Ontario's construction industry. According to recent statistics compiled by the IHSA, Ontario continues

to experience Canada's lowest frequency of LTIs in construction at 1.38 LTIs per 100 employed construction workers¹.

The fatality rate in Ontario's construction sector has significantly improved over the last five calendar years (2005 to 2009), especially since 2006. In 2009, the annual fatality rate dropped by 20 per cent from the previous year.

Critical injury rates for the same period have also improved over the same period (2005-2009). The critical injury rate for the construction sector has declined by 11 per cent since 2005.

Construction injury performance indicator	2005	2006	2007	2008	2009
Traumatic fatalities, all causes	20	27	16	20	16
Deaths due to occupational disease	36	40	42	N/A	N/A
Traumatic critical injuries, all causes	218	208	195	183	195
Fatalities per 100,000 employed construction workers	5	7	4	4	2
Critical injuries per 100,000 employed construction workers	55	49	47	35	35
Lost-time injuries per 100 employed construction workers	1.58	1.45	1.38	N/A	N/A

While these results are impressive, additional improvement is still possible and desirable. Continued investment in health and safety is needed to build on these advances.

¹ Sources: 2007 Association of Workers' Compensation Boards of Canada, "National Work Injury, Disease and Fatality Statistics 2005 –2007 and 2008 CSAO Annual Report

Asbestos operations

Health and safety characteristics

The asbestos operations sector includes high risk work where asbestos workers and others may be exposed to health hazards (biological, physical [including ergonomic hazards] and chemical). This sector is further divided into three sub-sectors that correspond to the type of asbestos involved in an asbestos operation and the measures and procedures associated with that operation such as abatement or safe removal as prescribed by O. Reg. 278/05 (Asbestos on Construction Projects and in Buildings and Repair Operations):

- Asbestos operation Type 1;
- Asbestos operation Type 2; and
- Asbestos operation Type 3.

O. Reg. 278/05 also applies in other circumstances involving asbestos such as certain types of installations, the application of sealants and the cleaning of certain filters.

Asbestos removal (all types)	2006	2007	2008	3-year total
Lost-time injuries	31	34	25	90
Lost-time injury rate per 100 full-time workers	1.42	1.45	1.97	1.63

In 2008 (latest available figures), a total of 25 LTI claims amounted to \$151,756. The five most costly types of injuries in descending order were:

- struck by object (\$58,115);
- overexertion (\$43,737);
- repetitive motion (\$16,021);
- caught in, or compressed by, equipment or objects (\$13,031); and
- fall to lower level (\$10,272).

From 2006 to 2009 one traumatic fatality was reported to MOL. This fatality occurred in 2007, and was related to a Type 2 an asbestos operation. There were no traumatic critical injuries reported during this time.

According to WSIB data, the most costly injuries in this sector related to occupational illnesses and diseases. Available data for fatalities from occupational disease in the construction sector show that mesothelioma and lung cancer are the top occupational diseases, accounting for 82 per cent of all occupational disease fatalities for 1998-2007. Mesothelioma usually results from exposure to asbestos. Lung cancer may be attributed to exposure to asbestos and other carcinogens, such as lead and silica.

Details of the CHSP activities and events and injuries reported for each type of asbestos operation are presented in the tables below.

Asbestos operation – Type 1

Trend analysis					
Asbestos operation - Type 1					
Sector size		2006	2007	2008	2009
Registered projects		129	161	134	85
Registered workers		657	798	624	268
Program activities		2006	2007	2008	2009
# Workplace visit days		3	4	10	4
# Proactive visits ⁸		10	13	21	15
# Workplace visits		16	19	42	19
" inspections		10	11	18	12
" consultations		0	2	3	3
" investigations ⁹		6	6	21	4
# Orders issued		16	11	27	2
Events and injuries		2006	2007	2008	2009
Complaints		4	5	14	5
Work refusals		0	0	0	0
Fatalities		0	0	0	0
Critical injuries		0	0	0	0
Other incidents		2	0	0	0

⁸ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations.

⁹ Investigations are reactive workplace visits, which include investigations of complaints, work refusals, fatalities, critical injuries and other incidents.

Asbestos operation – type 2

Trend analysis				
Asbestos operation - Type 2				
Sector size	2006	2007	2008	2009
Registered projects	335	544	611	500
Registered workers	1,773	3,140	3,772	2,748
Program activities	2006	2007	2008	2009
# Workplace visit days	8	35	19	11
# Proactive visits ¹⁰	15	63	50	35
# Workplace visits	34	97	81	45
" inspections	14	62	45	35
" consultations	1	1	5	0
" investigations ¹¹	19	34	31	10
# Orders issued	30	19	72	34
Events and injuries	2006	2007	2008	2009
Complaints	5	9	13	6
Work refusals	0	0	0	0
Fatalities	0	1	0	0
Critical injuries	0	0	0	0
Other incidents	0	1	1	1

¹⁰ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations.

¹¹ Investigations are reactive field visits, which include complaints, work refusals, fatalities, critical injuries and other incidents.

Asbestos operation – type 3

Trend analysis				
Asbestos operation - Type 3				
Sector size	2006	2007	2008	2009
Registered projects	1,358	1,278	1,356	1,180
Registered workers	12,740	8,562	9,037	8,078
Program activities	2006	2007	2008	2009
# Workplace visit days	50	46	29	41
# Proactive visits ¹²	121	155	112	131
# Workplace visits	188	192	136	157
" inspections	120	148	109	129
" consultations	1	7	3	2
" investigations ¹³	67	37	24	26
# Orders issued	178	113	101	113
Events and injuries	2006	2007	2008	2009
Complaints	20	12	17	9
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	0	0
Other incidents	2	2	2	2

Major hazards and inspection focus

MOL inspectors enforce the OHSA and its regulations at workplaces across the province. As part of the *Safe At Work Ontario* strategy, inspectors will focus on sector-specific workplace hazards, while continuing 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP for the asbestos operations sector.

In addition to general enforcement of the OHSA and its regulations, MOL inspectors will carry out proactive visits to workplaces in support of *Safe At Work Ontario* in 2010-2011.

¹² Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations.

¹³ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents.

Inspectors will use organizations' LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Electrical hazards	Routine inspections, including ESA partnering during investigations
Equipment, all types	Heightened enforcement campaign on heavy and light equipment (June – July) focusing on: - adequate training - maintenance of vehicles, machinery, tools and equipment so that they do not endanger workers - manufacturers' operating manuals and instructions available where required by regulation - adequate written measures and procedures where required by regulation, and - routine inspections of asbestos abatement and removal operations at construction projects and in buildings and repair operations
Ergonomic issues	Cross program MSD heightened enforcement campaign and routine, proactive inspections
Falls	Heightened enforcement campaign on fall hazards: Completion of the January to April campaign. Routine inspections, including regional initiatives (rigorous enforcement of OHSA and regulations and referrals to IHSA educational programs and industry outreach)
Noise	Ensure adequate hearing protection as necessary to protect a worker from exposures to excess noise at construction projects. (O. Reg. 213/91 s 21)
Occupational diseases and noise	During inspections involving asbestos, other designated substances or toxic substances inspectors focus on: - ensuring compliance with O. Reg. 278/05 (Asbestos on Construction Projects and in Buildings and Repair Operations) - if controlled products are used at the project, ensuring that WHMIS requirements and training requirements are met; reviewing datasheets to ensure that they are up to date - ensuring that adequate personal protective equipment is used e.g., glasses, face shields, respirators - ensuring that adequate measures and procedures are in place to control exposure to substances such as lead, silica, mould, and man-made vitreous fibres
WHMIS (Exposures to hazardous chemicals and substances)	Cross-program heightened enforcement campaign

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Industrial, Commercial and Institutional (ICI)

Health and safety characteristics

The four sub-sectors of this sector comprise a variety of building construction, including schools and universities, hospitals and health care institutions, manufacturing and other industries as well as commercial enterprises and above ground mining plant construction. The four sub sectors are:

- Industrial building construction;
- Commercial building construction;
- Institutional building construction; and
- Mining plant construction, above ground.

Industrial Commercial and Institutional	2006	2007	2008	3-year total
Lost-time injuries	303	282	317	902
Lost-time injury rate per 100 full-time workers	1.48	1.28	1.34	1.36

In 2008 (latest available figures), a total of 902 LTI claims amounted to \$2,963,557. The five most costly types of injuries in descending order were:

- overexertion (\$772,026);
- fall to lower level (\$521,146);
- bodily reaction (\$458,614);
- struck by object (\$343,762); and
- fall on same level (\$253,918).

Sixty-two critical injuries and three fatalities were reported to the MOL during the period from 2006 to 2009. The WSIB injury profile for this sector is drawn from nine different rate groups. The three-year average sector LTI rate (LTIs per 100 workers) is 1.36 on par with the overall performance of the construction industry (1.38).

Details of the CHSP activities and events and injuries reported for each of the four the ICI sub-sectors are presented in the tables below.

Industrial building construction

Trend analysis				
Industrial building construction				
Sector size	2006	2007	2008	2009
Registered projects	5,549	4,875	4,485	4,231
Registered workers	433,517	423,508	419,506	403,723
Program activities	2006	2007	2008	2009
# Workplace visit days	574	613	489	351
# Proactive visits ¹⁴	1,618	1,895	1,476	1,121
# Workplace visits	2,078	2,320	1,824	1,375
" inspections	1,599	1,870	1,451	1,108
" consultations	19	25	25	13
" investigations ¹⁵	460	425	348	254
# Orders issued	4,524	4,733	3,218	2,066
Events and injuries	2006	2007	2008	2009
Complaints	165	127	86	68
Work refusals	0	0	0	0
Fatalities	5	1	3	1
Critical injuries	18	8	21	7
Other incidents	71	58	58	37

¹⁴ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations.

¹⁵ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents.

Commercial building construction

Trend analysis					
Commercial building construction					
Sector size		2006	2007	2008	2009
Registered projects		12,183	14,255	14,265	15,070
Registered workers		104,357	128,329	131,190	130,724
Program activities		2006	2007	2008	2009
# Workplace visit days		1,304	1,981	1,876	1,791
# Pro-active visits ¹⁶		4,604	7,574	6,674	6,637
# Workplace visits		5,805	8,852	8,117	8,000
" inspections		4,556	7,524	6,626	6,583
" consultations		48	50	48	54
" investigations ¹⁷		1,201	1,278	1,443	1,363
# Orders issued		12,808	18,590	17,360	14,399
Events and injuries		2006	2007	2008	2009
Complaints		588	593	616	601
Work refusals		1	0	1	0
Fatalities		2	4	2	5
Critical injuries		25	31	32	33
Other incidents		140	125	156	145

¹⁶ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations.

¹⁷ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents.

Institutional building construction

Trend analysis					
Institutional building construction					
Sector size		2006	2007	2008	2009
Registered projects		4,950	5,034	4,747	5,283
Registered workers		50,823	55,305	52,896	61,041
Program activities		2006	2007	2008	2009
# Workplace visit days		629	852	771	823
# Proactive visits ¹⁸		2,017	2,875	2,522	2,700
# Workplace visits		2,514	3,449	3,056	3,217
" inspections		1,986	2,842	2,492	2,660
" consultations		31	33	30	40
" investigations ¹⁹		497	574	534	517
# Orders issued		5,460	6,821	5,703	5,821
Events and injuries		2006	2007	2008	2009
Complaints		208	228	217	238
Work refusals		2	2	1	0
Fatalities		0	1	2	0
Critical injuries		19	15	13	15
Other incidents		84	85	85	79

¹⁸ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

¹⁹ Investigations are reactive field visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Mining plant construction, above ground

Trend analysis				
Mining plant construction				
Sector size	2006	2007	2008	2009
Registered projects	316	334	319	302
Registered workers	3,691	5,163	6,730	4,887
Program activities	2006	2007	2008	2009
# Workplace visit days	25	49	34	11
# Proactive visits ²⁰	54	80	85	33
# Workplace visits	60	107	100	34
" inspections	50	66	71	32
" consultations	4	14	14	1
" investigations ²¹	6	27	15	1
# Orders issued	90	199	85	24
Events and injuries	2006	2007	2008	2009
Complaints	5	1	3	0
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	1	4	0	0
Other incidents	4	4	6	1

Major hazards and 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 will focus on specific sector and workplace hazards. They will also 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP in the ICI sector.

²⁰ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

²¹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

In addition to general enforcement of the OHSA and its regulations, inspectors will carry out proactive visits in support of *Safe At Work Ontario* in 2010-2011.

Inspectors will use an organization's LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Electrical hazards	Routine inspections proactive, including ESA partnering during investigations
Equipment, all types	Heightened enforcement campaign on heavy and light equipment (June and July) focusing on: - adequate training - maintenance of vehicles, machinery, tools and equipment so that they do not endanger workers - manufacturers' operating manuals and instructions available where required by regulation - adequate written measures and procedures where required by regulation
Ergonomic issues	Cross-program MSD heightened enforcement campaign
Falls between levels and slips and falls	Routine inspections proactive and reactive, including regional initiatives. Rigorous enforcement of requirements and referrals to IHSA educational programs and industry outreach. Heightened enforcement campaign on fall hazards: January to April campaign completed.
Noise	Ensure adequate hearing protection as necessary to protect a worker from exposures to excess noise (O. Reg. 213/91 s 21)
Occupational diseases	Routine inspections both proactive and reactive
WHMIS (Exposure to hazardous chemicals and substances)	Routine inspections proactive and reactive, including regional initiatives

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Residential

Health and safety characteristics

This sector is made up of both high-rise (i.e., apartments and condominiums) and low-rise residential projects, including “in-fill” housing, single homes, and multiple housing (e.g., townhouses). The sector is characterized by multiple contractors and independent operators. In 2008, injuries and illnesses in the residential sector amounted to more than \$3.6 million.

High-rise residential

Apartment and condominiums	2006	2007	2008	3-year total
Lost-time injuries	23	26	39	88
Lost-time injury rate	1.42	1.45	1.97	1.63

In 2008, the number of LTIs and the LTI rate has increased from levels in 2006. In 2008 (latest available figures), a total 39 LTI claims amounted to \$390,913. The five most costly injuries in descending order were:

- overexertion (\$165,505);
- bodily reaction (\$74,550);
- bodily reaction and exertion (Not Elsewhere Classified) (\$61,721);
- contact with temperature extremes (\$55,474); and
- fall to lower level (\$18,122).

Seventy-four critical injuries and 12 fatalities were reported to the MOL in this sub-sector during the period from 2006 to 2009. The three year average LTI rate (LTIs per 100 workers) for the sector is 1.63 (2008), about 18 per cent higher than that of the construction industry overall (1.38).

Details of the CHSP activities and events and injuries reported for the high-rise residential sector are presented in the table below:

Trend analysis				
Apartment and condominiums				
Sector size	2006	2007	2008	2009
Registered projects	3,634	4,097	4,185	4,699
Registered workers	42,815	49,337	60,860	55,425
Program activities	2006	2007	2008	2009
# Workplace visit days	793	1,245	1,083	1,127
# Proactive visits ²²	2,212	3,776	3,074	3,240
# Workplace visits	3,016	4,833	4,195	4,409
" inspections	2,200	3,746	3,050	3,223
" consultations	12	30	24	17
" Investigations ²³	804	1,057	1,121	1,169
# Orders issued	8,478	12,385	11,041	10,047
Events and injuries	2006	2007	2008	2009
Complaints	404	460	509	536
Work refusals	1	1	0	0
Fatalities	3	3	2	4
Critical injuries	16	23	17	18
Other incidents	99	85	113	117

There are far fewer injuries and claims costs in the high-rise residential industry versus the low-rise residential/ homebuilding industry. A higher number of non-unionized, migrant and vulnerable workers (e.g., both new and young workers) seek employment in the homebuilding industry which contributes to increased injuries and higher claim costs.

As part of the 2010-2011 Sector Plan, the CHSP will launch a heightened enforcement campaign on vulnerable workers (i.e., new and young workers) at low-rise residential construction sites where homebuilding is taking place. Inspectors will focus on worker training, provision and maintenance of personal protective equipment, written measures and procedures, minimum age requirements (age 16 years) and supervision.

²² Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

²³ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Low-rise residential — single-family housing

Single-family housing	2006	2007	2008	3-year total
Lost-time injuries	499	503	564	1,566
Lost-time injury rate	2.39	2.24	2.17	2.26

In 2008, the number of LTIs and the LTI rate has increased from levels in 2006, although the LTI rate decreased somewhat over the same period. The three year average sector LTI rate (LTIs per 100 workers) is 2.26 (2008), about 64 per cent higher than the overall performance of the construction industry (1.38).

In 2008 (latest available figures), a total 1,566 LTI claims amounted to \$3,268,125. The five most costly injuries in descending order were:

- struck by object (\$472,319);
- overexertion (\$461,592);
- bodily reaction (\$442,062);
- fall on same level (\$378,772), and
- fall to lower level (\$246,249).

The number of critical injuries reported to the MOL during the period from 2006 to 2009 was 277. Seventeen fatalities were reported.

Details of the CHSP activities and events and injuries reported for the low-rise residential/homebuilding sector are presented in the table below:

Trend analysis				
Single family housing				
Sector size	2006	2007	2008	2009
Registered projects	14,656	17,293	17,348	16,771
Registered workers	932,421	954,057	946,068	928,883
Program activities	2006	2007	2008	2009
# Workplace visit days	1,630	2,722	2,187	1,920
# Proactive visits ²⁴	6,033	10,916	8,553	7,605
# Workplace visits	7,437	12,741	10,409	9,444
" inspections	5,974	10,863	8,496	7,575
" consultations	59	53	57	30
" investigations ²⁵	1,404	1,825	1,856	1,839
# Orders issued	20,792	33,556	27,498	21,007
Events and injuries	2006	2007	2008	2009
Complaints	627	767	820	959
Work refusals	0	0	0	0
Fatalities	5	2	5	5
Critical injuries	77	62	58	80
Other incidents	179	255	223	187

Major hazards and 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 will focus on specific sector and workplace hazards. They will also 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP in the residential sector.

²⁴ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

²⁵ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

In addition to general enforcement of the OHSA and its regulations, MOL inspectors will carry out proactive visits in support of *Safe At Work Ontario* in 2010-2011.

Inspectors will use an organization's LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Electrical hazards	Routine inspections proactive and reactive, including ESA partnering during investigations
Equipment, all types	Heightened enforcement campaign on heavy and light equipment (June and July) focusing on: - adequate training - maintenance of vehicles, machinery, tools and equipment so that they do not endanger workers - manufacturers' operating manuals and instructions available where required by regulation - adequate written measures and procedures where required by regulation
Ergonomic issues (moving equipment, lifting and material handling)	Cross-program MSD heightened enforcement campaign
Falls between levels and slips and falls	Routine inspections proactive and reactive, including regional initiatives. Rigorous enforcement of requirements and referrals to IHSA educational programs and industry outreach Heightened enforcement campaign on fall hazards: Completion of the January to April activity.
Formwork design, build and inspection	Routine inspections of forming operations, both proactive and reactive
Ladders, safe use and access/egress	Routine inspections, both proactive and reactive
Noise	Ensure adequate hearing protection as necessary to protect workers from exposures to excess noise (O. Reg. 213/91 s 21)
Occupational diseases (exposures to hazardous chemicals and substances)	Routine inspections, both proactive and reactive
WHMIS (Exposure to hazardous chemicals and substances)	Routine inspections proactive and reactive, including regional initiatives

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Roads

Health and safety characteristics

This sector includes heavy civil works or infrastructure works. It has three sub-sectors which are;

- highway and road construction (both new construction and the rehabilitation of existing highways and roads);
- bridge construction; and
- asphalt paving.

Roads and highways (includes bridges)	2006	2007	2008	3-year total
Lost-time injuries	211	211	213	635
Lost-time injury rate	1.49	1.39	1.33	1.40

In 2008, there were two more LTIs than in the previous two years, although the LTI rate decreased somewhat over the same period. The three-year (2006-2008) average sector LTI rate for the sector is 1.40, par with the overall performance of the construction industry (1.38).

In 2008 (latest available figures), the 213 LTI claims accounted for \$2,441.66. The five most costly injuries in descending order were:

- struck by object (\$652,820);
- overexertion (\$412,210);
- fall to lower level (\$372,446);
- bodily reaction (\$277,398); and
- non-highway accident, except rail, air, water (\$161,948).

Twenty-eight critical injuries and four fatalities were reported to the MOL in this sector during the period from 2006 to 2009.

Details of the CHSP activities and events and injuries reported for the highway and road construction sector are presented in the table below:

Highway and road construction

Trend analysis					
Highway and Road Construction					
Sector size		2006	2007	2008	2009
Registered projects		2,288	2,347	2,513	2,969
Registered workers		224,658	215,227	219,576	219,154
Program activities		2006	2007	2008	2009
# Workplace visit days		159	250	250	277
# Proactive visits ²⁶		478	797	759	964
# Workplace visits		668	986	967	1,168
" inspections		453	770	732	941
" consultations		25	27	27	23
" investigations ²⁷		190	189	208	204
# Orders issued		1,044	1,449	1,264	1,434
Events and injuries		2006	2007	2008	2009
Complaints		72	68	86	90
Work refusals		2	1	1	1
Fatalities		1	2	1	0
Critical injuries		5	6	10	7
Other incidents		44	42	46	42

In 2009, the number of highway and road works projects increased from the previous three years resulting in a greater number of inspections and orders issued than previous years.

²⁶ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

²⁷ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Bridge construction

In 2009, the CHSP began tracking the injury and illness profile for bridge construction due to the large infusion of government spending resulting in increased activity of the building of new bridges and the remediation of existing bridges.

Details about the MOL's field activity at bridge work projects presented in the table below:

Trend analysis				
Bridge construction				
Sector size	2006	2007	2008	2009
Registered projects	433	543	545	352
Registered workers	3,979	4,682	4,972	3,101
Program activities	2006	2007	2008	2009
# Workplace visit days	60	135	108	55
# Proactive visits ²⁸	224	294	336	213
# Workplace visits	255	398	398	244
" inspections	221	294	327	208
" consultations	3	0	9	5
" investigations ²⁹	31	104	62	31
# Orders issued	393	546	666	298
Events and injuries	2006	2007	2008	2009
Complaints	11	14	19	12
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	2	2	1	0
Other incidents	7	9	10	7

Five critical injuries (no fatalities) were reported to the MOL during the period from 2006 to 2009. In 2009, 60 percent of all projects involving the construction and remediation of bridges reported to the MOL were inspected.

²⁸ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

²⁹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Asphalt paving

In 2009, the CHSP began tracking the injury and illness profile for asphalt paving (a sub-sector of road construction) due to the large infusion of federal government spending for infrastructure renewal.

Asphalt paving	2006	2007	2008	3-year total
Lost-time injuries	65	55	59	179
Lost-time injury rate	2.73	2.10	2.12	2.30

In 2008, the number of LTIs and the LTI rate has slightly increased from the previous year. The three year average sector LTI per 100 workers is 2.30, 67 per cent higher than the overall performance of the construction industry (1.38).

In 2008 (latest available figures), a total 59 LTI claims amounted to \$619,991. The five most costly injuries in descending order were:

- fall on same level (\$166,092);
- overexertion (\$128,021);
- struck by object (\$85,926);
- jump to lower level (\$60,007); and
- bodily reaction (\$54,564).

Seven critical injuries and three fatalities were reported to the MOL during the period from 2006 to 2009.

Further details about the CHSP activities, events and injuries reported for the asphalt sub-sector (part of the road sector) are presented in the table below:

Trend analysis				
Asphalt paving				
Sector size	2006	2007	2008	2009
Registered projects	1,099	1,216	1,245	1,370
Registered workers	355,512	357,161	358,191	361,276
Program activities	2006	2007	2008	2009
# Workplace visit days	59	77	58	75
# Proactive visits ³⁰	178	255	172	221
# Workplace visits	249	326	238	295
" inspections	174	249	161	212
" consultations	4	6	11	9
" investigations ³¹	71	71	66	74
# Orders issued	525	580	382	403
Events and injuries	2006	2007	2008	2009
Complaints	31	29	29	38
Work refusals	0	0	0	0
Fatalities	1	0	1	1
Critical injuries	1	2	3	1
Other incidents	7	19	11	8

Major hazards and 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 will focus on specific sector and workplace hazards. They will also 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP in the roads sector.

³⁰ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

³¹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

In addition to general enforcement of the OHSA and its regulations, MOL inspectors will carry out proactive visits in support of *Safe At Work Ontario* in 2010-2011.

Inspectors will use an organization's LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Electrical hazards	Routine inspections including ESA partnering during investigations
Equipment, all types	Heightened enforcement campaign on heavy and light equipment (June and July) focusing on: • Adequate training • Maintenance of vehicles, machinery, tools and equipment so that they do not endanger a worker • Manufacturers' operating manuals and instructions available where required by regulation • Adequate written measures and procedures where required by regulation
Ergonomic issues	MSD Cross-program heightened enforcement campaign
Falls between levels and slips and falls	• Routine inspections including regional initiatives. Rigorous enforcement of requirements and referrals to IHSA educational programs and industry outreach • Heightened enforcement campaign on fall hazards: January to April campaign completed.
Noise	Ensure adequate hearing protection as necessary to protect a worker from exposures to excess noise. (O. Reg. 213/91 s 21)
Occupational diseases	Routine inspections
WHMIS (Exposure to hazardous chemicals and substances)	Routine inspections

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Utilities

Health and safety characteristics

The utilities sector is divided into the following five sub-sectors:

- hydro electric (underground services);
- gas and oil pipelines;
- cable;
- hydro electric power plants and above-ground power and distribution lines, transmission and electrical towers; and
- telephone service Installations.

All utilities	2006	2007	2008	3-year total
Lost-time injuries	147	156	177	480
Lost-time injury rate	2.07	1.92	2.12	2.04

In the utilities sector in 2008, there were 30 more LTIs than in 2006 and the LTI rate has increased from levels in 2006. The three year average sector LTI rate (LTIs per 100 workers) is 2.04, 48 per cent more than the overall performance of the construction industry (1.38).

In 2008 (latest available figures), a total 480 LTI claims amounted to \$1,257,368. The five most costly injuries in descending order were:

- overexertion (\$304,378);
- fall to lower level (\$272,245);
- struck by object (\$130,237);
- fall on same level (\$118,799); and
- bodily reaction (\$113,468).

Injury and illness statistics and CHSP activities and events compiled by the MOL are reported for each sub-sector in the tables below.

Hydro-electric (underground)

Seven critical injuries and one fatality have been reported to the MOL during the period from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for the hydro-electric construction sub-sector (part of the utilities sector) are presented in the table below.

Trend analysis				
Electric (underground)				
Sector size	2006	2007	2008	2009
Registered projects	2,413	2,604	2,633	2,673
Registered workers	21,744	23,086	24,419	27,803
Program activities	2006	2007	2008	2009
# Workplace visit days	31	80	52	50
# Proactive visits ³²	109	212	170	157
# Workplace visits	147	315	221	210
" inspections	107	210	167	154
" consultations	2	2	3	3
" Investigations ³³	38	103	51	53
# Orders issued	119	292	181	160
Events and injuries	2006	2007	2008	2009
Complaints	2	10	7	12
Work refusals	1	0	0	0
Fatalities	0	1	0	0
Critical injuries	2	3	1	1
Other incidents	11	37	16	19

³² Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

³³ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Gas and oil pipelines

Gas and oil pipelines	2006	2007	2008	3-year total
Lost-time injuries	14	11	17	42
Lost-time injury rate	1.30	1.15	1.06	1.15

In the gas and oil pipelines sub-sector (part of the utilities sector) in 2008, there were 3 more LTIs than in 2006 and the LTI rate has decreased from levels in 2006. The three year average sub-sector LTI rate (LTIs per 100 workers) is 1.15, 17 per cent less than the overall performance of the construction industry (1.38).

No critical injuries or fatalities reported to the MOL for this sub-sector during the period from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for the gas and oil pipelines construction sub-sector (part of the utilities sector) are presented in the table below.

Trend analysis				
Gas and oil pipelines				
Sector size	2006	2007	2008	2009
Registered projects	221	264	291	307
Registered workers	2,141	2,754	3,335	3,859
Program activities	2006	2007	2008	2009
# Workplace visit days	4	3	10	11
# Proactive visits ³⁴	9	15	29	36
# Workplace visits	17	15	38	47
" inspections	9	15	29	36
" consultations	0	0	0	0
" investigations ³⁵	8	0	9	11
# Orders issued	5	11	33	27
Events and injuries	2006	2007	2008	2009
Complaints	2	0	3	2
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	0	0
Other incidents	3	0	3	1

³⁴ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

³⁵ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Cable

Three critical injuries and two fatalities were reported to the MOL during the period from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for the cable construction sub-sector (part of the utilities sector) are presented in the table below.

Trend analysis				
Cable				
Sector size	2006	2007	2008	2009
Registered projects	269	278	286	243
Registered workers	2,068	1,729	1,973	2,038
Program activities	2006	2007	2008	2009
# Workplace visit days	12	36	12	11
# Proactive visits ³⁶	28	29	34	21
# Workplace visits	42	85	52	43
" inspections	28	29	34	21
" consultations	0	0	0	0
" investigations ³⁷	14	56	18	22
# Orders issued	95	192	73	53
Events and injuries	2006	2007	2008	2009
Complaints	6	4	2	5
Work refusals	0	0	0	0
Fatalities	0	2	0	0
Critical injuries	1	1	1	0
Other incidents	1	7	9	9

³⁶ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

³⁷ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Hydro electric power plants, above-ground power and distribution lines, transmission and electrical towers

Thirteen critical injuries and one fatality were reported to the MOL during the period from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for this sub-sector (part of the utilities sector) are presented in the table below.

Trend analysis				
Hydro electric power plants & related electrical distribution & transmission				
Sector size	2006	2007	2008	2009
Registered projects	335	411	420	409
Registered workers	9,228	10,314	12,366	10,158
Program activities	2006	2007	2008	2009
# Workplace visit days	55	89	89	79
# Proactive visits ³⁸	106	201	177	147
# Workplace visits	161	243	290	277
" inspections	102	200	176	135
" consultations	4	1	1	12
" investigations ³⁹	55	42	113	130
# Orders issued	186	239	291	221
Events and injuries	2006	2007	2008	2009
Complaints	14	10	29	25
Work refusals	1	1	2	0
Fatalities	1	0	0	0
Critical injuries	1	2	7	3
Other incidents	12	10	17	28

³⁸ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

³⁹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Telephone service installations

Two critical injuries and one fatality were reported to the MOL during the period from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for this sub-sector (part of the utilities sector) are presented in the table below.

Trend analysis				
Telephone service installations				
Sector size	2006	2007	2008	2009
Registered projects	224	243	235	263
Registered workers	1,792	1,913	2,124	2,101
Program activities	2006	2007	2008	2009
# Workplace visit days	3	10	14	15
# Proactive visits ⁴⁰	9	30	31	37
# Workplace visits	14	43	52	60
" inspections	9	30	31	36
" consultations	0	0	0	1
" investigations ⁴¹	5	13	21	23
# Orders issued	28	57	71	55
Events and injuries	2006	2007	2008	2009
Complaints	4	3	5	7
Work refusals	0	0	0	0
Fatalities	0	1	0	0
Critical injuries	0	1	1	0
Other incidents	2	4	5	7

⁴⁰ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁴¹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Major hazards and 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 will focus on specific sector and workplace hazards. They will also 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP in the utilities sector.

In addition to general enforcement of the OHSA and its regulations, MOL inspectors will carry out proactive visits in support of *Safe At Work Ontario* in 2010-2011.

Inspectors will use an organization's LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Hazards common to roads and underground sectors	See inspection focus for roads and underground sectors

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Underground

Health and safety characteristics

The underground sector is divided into the following seven sub-sectors:

- Sewer and water main construction;
- Trenching;
- Caisson construction;
- Water well drilling;
- Excavation/shaft construction;
- Tunnelling; and
- Subway construction.

Underground (all forms)	2006	2007	2008	3-year total
Lost-time injuries	263	270	281	814
Lost-time injury rate per 100 full-time workers	2.16	2.10	2.06	2.11

In 2008, the number of LTIs has increased from levels in 2006, although the LTI rate decreased somewhat over the same period. The three year average sector LTI rate (LTIs per 100 workers) is 2.11, 53 per cent higher than the overall performance of the construction industry (1.38).

In 2008 (latest available figures), a total 814 LTI claims amounted to \$2,484,562. The five most costly injuries in descending order were:

- struck by object (\$472,319);
- overexertion (\$461,592);
- bodily reaction (\$442,062);
- fall on same level (\$378,772); and
- fall to lower level (\$246,249).

Injury and illness statistics and CHSP activities and events compiled by the MOL are reported by each sub-sector in the tables below.

Sewer and water main construction

Sewer and water main	2006	2007	2008	3-year total
Lost-time injuries	112	110	105	327
Lost-time injury rate	2.50	2.46	2.32	2.43

In 2008, the number of LTIs and the LTI rate decreased from the previous two years. The three year average sector LTI rate (LTIs per 100 workers) is 2.43, 76 per cent higher than the overall performance of the construction industry (1.38).

Nineteen critical injuries and five fatalities were reported to the MOL from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for the sewer and water main sub-sector (part of the underground sector) are presented in the table below:

Sewer/water main construction

Trend analysis				
Sewer/water main construction				
Sector size	2006	2007	2008	2009
Registered projects	3,596	3,754	3,584	3,772
Registered workers	37,826	33,429	33,069	37,080
Program activities	2006	2007	2008	2009
# Workplace visit days	228	334	271	339
# Proactive visits ⁴²	793	1,124	904	1,091
# Workplace visits	986	1,405	1,150	1,400
" inspections	782	1,115	897	1,077
" consultations	11	9	7	14
" investigations ⁴³	193	281	246	309
# Orders issued	1,600	2,173	1,527	1,478
Events and injuries	2006	2007	2008	2009
Complaints	87	101	93	88
Work refusals	0	0	0	0
Fatalities	3	0	1	1
Critical injuries	3	7	1	8
Other incidents	48	54	48	47

⁴² Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁴³ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Trenching

Three critical injuries and two fatalities were reported to the MOL from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for the trenching sub-sector (part of the underground sector) are presented in the table below:

Trend analysis				
Trenching				
Sector size	2006	2007	2008	2009
Registered projects	665	697	730	732
Registered workers	2,093	2,246	2,406	2,331
Program activities	2006	2007	2008	2009
# Workplace visit days	37	60	49	56
# Proactive visits ⁴⁴	93	168	180	165
# Workplace visits	145	237	211	218
" inspections	92	165	178	164
" consultations	1	3	2	1
" investigations ⁴⁵	52	69	31	53
# Orders issued	344	420	291	203
Events and injuries	2006	2007	2008	2009
Complaints	20	26	16	17
Work refusals	0	0	0	0
Fatalities	1	1	0	0
Critical injuries	2	1	0	0
Other incidents	11	9	4	14

⁴⁴ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁴⁵ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Caisson construction

Caisson construction	2006	2007	2008	3-year total
Lost-time injuries	9	8	14	29
Lost-time injury rate	2.08	1.15	2.51	1.92

In 2008, the number of LTIs and the LTI rate has increased from levels in 2006. The three year average sector LTI rate (LTIs per 100 workers) is 1.92, 38 per cent higher than the overall performance of the construction industry (1.38).

Two critical injuries (no fatalities) were reported to the MOL from 2006 to 2009.

Details of the CHSP activities and events and injuries reported for the caisson sub-sector (part of the underground sector) are presented in the table below:

Trend analysis				
Caisson construction				
Sector size	2006	2007	2008	2009
Registered projects	92	137	131	153
Registered workers	411	572	564	976
Program activities	2006	2007	2008	2009
# Workplace visit days	5	6	11	11
# Proactive visits ⁴⁶	20	29	35	43
# Workplace visits	25	38	40	47
" inspections	20	27	35	43
" consultations	0	2	0	0
" investigations ⁴⁷	5	9	5	4
# Orders issued	19	33	56	43
Events and injuries	2006	2007	2008	2009
Complaints	4	2	0	1
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	1	1
Other incidents	0	1	0	0

⁴⁶ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁴⁷ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Water well drilling

Water well drilling	2006	2007	2008	3-year total
Lost-time injuries	18	14	16	48
Lost-time injury rate	4.29	3.33	3.54	3.71

In 2008, there were two fewer LTIs than in 2006 and the LTI rate decreased from 2006 levels. The three-year average sector LTI rate (LTIs per 100 workers) is 3.71, more than double that of the construction industry overall (1.38).

One critical injury (no fatality) was reported to the MOL from 2006 to 2009.

Details of the CHSP activities and events and injuries reported for the water well drilling sub-sector (part of the underground sector) are presented in the table below.

Trend analysis				
Water well drilling				
Sector size	2006	2007	2008	2009
Registered projects	85	85	89	108
Registered workers	576	544	617	990
Program activities	2006	2007	2008	2009
# Workplace visit days	5	10	8	8
# Proactive visits ⁴⁸	16	34	26	19
# Workplace visits	20	39	30	25
" inspections	15	34	26	19
" consultations	1	0	0	0
" investigations ⁴⁹	4	5	4	6
# Orders issued	23	39	63	42
Events and injuries	2006	2007	2008	2009
Complaints	0	1	0	3
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	1	0	0
Other incidents	3	0	2	0

⁴⁸ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁴⁹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Excavation/shaft construction

In 2008, there were six fewer LTIs than in 2007, but six more than in 2006. The LTI rate has followed a similar trend, increasing in 2007 and returning to 2006 levels in 2008. The three-year average LTI rate (LTIs per 100 workers) for the sector is 2.85, more than double that of the construction industry overall (1.38).

Excavation/shaft construction	2006	2007	2008	3-year total
Lost-time injuries	14	26	20	60
Lost-time injury rate per 100 full-time workers	2.43	3.68	2.43	2.85

No critical injuries or fatalities were reported to the MOL from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for the shaft construction sub-sector (part of the underground sector) are presented in the table below.

Trend analysis					
Excavation/shaft construction					
Sector size		2006	2007	2008	2009
Registered projects		61	62	59	53
Registered workers		298	437	317	253
Program activities		2006	2007	2008	2009
# Workplace visit days		1	7	5	1
# Proactive visits ⁵⁰		3	21	15	6
# Workplace visits		3	24	16	6
" inspections		3	21	15	6
" consultations		0	0	0	0
" investigations ⁵¹		0	3	1	0
# Orders issued		11	47	41	3
Events and injuries		2006	2007	2008	2009
Complaints		0	2	0	0
Work refusals		0	0	0	0
Fatalities		0	0	0	0
Critical injuries		0	0	0	0
Other incidents		0	1	1	0

⁵⁰ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁵¹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Tunnelling

One critical injury (no fatality) was reported to the MOL from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for the tunnelling sub-sector (part of the underground sector) are presented in the table below.

Trend analysis				
Tunnelling				
Sector size	2006	2007	2008	2009
Registered projects	245	250	256	241
Registered workers	1,310	1,233	1,073	1,071
Program activities	2006	2007	2008	2009
# Workplace visit days	27	37	20	38
# Proactive visits ⁵²	61	86	50	99
# Workplace visits	80	117	63	126
" inspections	57	85	49	99
" consultations	4	1	1	0
" investigations ⁵³	19	31	13	27
# Orders issued	109	159	73	134
Events and injuries	2006	2007	2008	2009
Complaints	7	7	0	4
Work refusals	1	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	0	1
Other incidents	5	6	5	7

⁵² Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁵³ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Subway Construction

No fatalities or critical injuries were reported to the MOL from 2006 to 2009 in this sub-sector.

Further details about the CHSP activities and events and injuries reported for the subway construction sub-sector (part of the underground sector) are presented in the table below.

Trend analysis				
Subway construction				
Sector size	2006	2007	2008	2009
Registered projects	16	16	17	12
Registered workers	430	533	503	252
Program activities	2006	2007	2008	2009
# Workplace visit days	1	0	2	1
# Proactive visits ⁵⁴	1	2	5	2
# Workplace visits	4	2	8	4
" inspections	1	2	4	2
" consultations	0	0	1	0
" investigations ⁵⁵	3	0	3	2
# Orders issued	8	0	11	4
Events and injuries	2006	2007	2008	2009
Complaints	0	0	1	0
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	0	0
Other incidents	1	0	0	1

⁵⁴ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁵⁵ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Major hazards and 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 will focus on specific sector and workplace hazards. They will also 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP in the underground sector.

In addition to general enforcement of the OHSA and its regulations, MOL inspectors will carry out proactive visits in support of *Safe At Work Ontario* in 2010-2011.

Inspectors will use an organization's LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Confined space entry	Inspectors will enforce the confined space requirements in Part II.1 of O. Reg. 213/91, including but not limited to ensuring that: - the constructor prepares a co-ordination document, and - the employer prepares a written program and adequate hazard assessment and that an adequate written plan is developed and is in place at the project Inspectors will also ensure that - workers are fully trained - entry permits are present before a worker enters a confined space - adequate rescue procedures, personal protective equipment (PPE) and other forms of protection are in place Compliance with additional regulatory requirements also will be routinely audited
Electrical hazards, power line contacts	Routine proactive inspections, including ESA partnering during investigations
Equipment, all types	Heightened enforcement campaign on heavy and light equipment (June and July) focusing on; - adequate training - maintenance of vehicles, machinery, tools and equipment so that they do not endanger a worker - manufacturers' operating manuals and instructions available where required by regulation - adequate written measures and procedures where required by regulation

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Ergonomic hazards, moving of equipment and materials, overturning of equipment	Cross program MSD heightened enforcement campaign Inspectors will focus on backhoe use and safe use of other material handling devices, equipment and vehicles (e.g., Roll Over Protection Systems)
Falls into excavation, trenches	Rigorous enforcement of requirements and referrals to IHSA educational programs and industry outreach Safety campaign on fall hazards. Completed January – April campaign
Noise	Ensure adequate hearing protection as necessary to protect a worker from exposures to excess noise (O. Reg. 213/91 s. 21)
Occupational diseases	Routine inspections both proactive and reactive
WHMIS (Exposure to hazardous chemicals and substances)	Routine inspections

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Window cleaning

Health and safety characteristics

This sector consists of window cleaning services for buildings and the cleaning of windows where a worker may fall a vertical distance of three metres or more.

Window Cleaning	2006	2007	2008	3-year total
Lost-time injuries	21	13	27	61
Lost-time injury rate per 100 full-time workers	3.78	2.17	4.38	3.44

In the window cleaning sector in 2008, there were 6 more LTIs than in 2006 and the LTI rate has increased from levels in 2006. The three year average sector LTI rate (LTIs per 100 workers) is 3.44, 1.5 times higher than the overall performance of the construction industry (1.38).

In 2008 (latest available figures), a total 61 LTI claims amounted to \$132,545. The five most costly injuries in descending order were:

- fall to lower level (\$61,207);
- overexertion (\$29,350);
- bodily reaction (\$17,014);
- fall on same level (\$17,000); and
- repetitive motion (\$6,242).

Three critical injuries (no fatalities) were reported to the MOL from 2006 to 2009.

Details of the CHSP activities and events and injuries reported for the window cleaning sector are presented in the table below.

Trend analysis					
Window cleaning services					
Sector size	2006	2007	2008	2009	
Registered projects	2,725	2,746	2,955	2,805	
Registered workers	412	498	430	1,388	
Program activities	2006	2007	2008	2009	
# Workplace visit days	23	24	24	16	
# Proactive visits ⁵⁶	65	103	86	100	
# Workplace visits	115	142	115	117	
" inspections	65	102	85	100	
" consultations	0	1	1	0	
" investigations ⁵⁷	50	39	29	17	
# Orders issued	178	199	159	108	
Events and injuries	2006	2007	2008	2009	
Complaints	19	15	16	11	
Work refusals	0	0	0	0	
Fatalities	0	0	0	0	
Critical injuries	2	0	0	1	
Other incidents	6	5	1	1	

Major hazards and 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 will focus on specific sector and workplace hazards. They will also 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP in the window cleaning sector.

In addition to general enforcement of the OHSA and its regulations, MOL inspectors will carry out proactive visits in support of *Safe At Work Ontario* in 2010-2011.

⁵⁶ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁵⁷ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Inspectors will use an organization's LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Electrical hazards, power line contacts	Routine proactive inspections, including ESA partnering during investigations.
Equipment, all types, including suspended access equipment such as swing stages, "spiders" and boatswain's chairs	Heightened enforcement campaign on heavy and light equipment (June and July) focusing on - adequate training - maintenance of vehicles, machinery, tools and equipment so that they do not endanger a worker - manufacturers' operating manuals and instructions available where required by regulation - adequate written measures and procedures where required by regulation
Ergonomic hazards, moving of equipment and materials, reaching, use of hand tools and suspended access equipment	Cross program MSD heightened enforcement campaign and routine inspections
Falls between levels, heights and slips and falls	Routine inspections Rigorous enforcement of requirements and referrals to IHSA educational programs and industry outreach Heightened enforcement campaign on fall hazards: January to April campaign completed.
Noise	Ensure adequate hearing protection as necessary to protect a worker from exposures to excess noise (O. Reg. 213/91 s. 21)
Occupational diseases	Routine inspections both proactive and reactive
WHMIS (Exposure to hazardous chemicals and substances)	Routine inspections proactive and reactive, including regional initiatives

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Other construction

Health and safety characteristics

This sector includes the moving of buildings and structures, landscaping operations and projects not captured in other sectors.

No critical injuries or fatalities were reported to the MOL from 2006 to 2009.

Further details about the CHSP activities and events and injuries reported for this sector are presented in the table below.

Trend analysis				
Other construction				
Sector size	2006	2007	2008	2009
Registered projects	10,742	10,558	10,569	10,534
Registered workers	38,707	36,936	36,326	35,815
Program activities	2006	2007	2008	2009
# Workplace visit days	30	34	31	7
# Proactive visits ⁵⁸	89	101	81	23
# Workplace visits	104	124	91	27
" inspections	88	97	70	23
" consultations	1	4	11	0
" investigations ⁵⁹	15	23	10	4
# Orders issued	332	279	176	39
Events and injuries	2006	2007	2008	2009
Complaints	6	4	5	1
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	0	0
Other incidents	4	7	1	2

⁵⁸ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁵⁹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Major hazards and 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 will focus on specific sector and workplace hazards. They will also 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP in the other construction sector.

In addition to general enforcement of the OHSA and its regulations, MOL inspectors will carry out proactive visits in support of *Safe At Work Ontario* in 2010-2011.

Inspectors will use an organization's LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Confined space entry, excavation construction and drowning	Inspectors will enforce the confined spaces requirements in Part II.1 of O. Reg. 213/91, including but not limited to ensuring that - the constructor prepares a co-ordination document - the employer prepares a written program and adequate hazard assessment and that an adequate written plan is developed and is in place at the project Inspectors will also ensure that - workers are fully trained - entry permits are present before a worker enters a confined space - adequate rescue procedures, personal protective equipment and other forms of protection are in place Additional regulatory requirements also will be routinely audited
Electrical hazards	Routine proactive inspections, including ESA partnering during investigations
Ergonomic issues and initiatives, including moving of equipment and materials	Routine inspections and enforcement of O. Reg. 213/91, especially the safe use of cranes and other lifting devices
Falls into excavation, trenches	Routine inspections Rigorous enforcement of requirements and referrals to IHSA educational programs and industry outreach Heightened enforcement campaign on fall hazards: January to April campaign completed.
Traffic protection	Routine inspections, especially the traffic control requirements in O. Reg. 213/91

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Diving

Health and safety characteristics

Diving operations include underwater inspection, investigation, excavation, construction, alteration, repair or maintenance of equipment, machinery, structures or ships and the salvage of sunken property.

This includes diving operations on construction projects, mining premises (including pits and quarries) industrial establishments and environmental abatement projects where diving operations may be required for public safety (e.g., remedial work done on Ontario's lakes, rivers and waterways where salvage work or removal of hazardous substances may be required).

Shipbuilding and repairs and work performed on the surface in support of divers are also included in this sector.

The diving sector is divided into five sub-sectors:

- Diving construction;
- Diving environmental;
- Diving at industrial establishments;
- Diving at mining projects and at pits and quarries; and
- Shipbuilding and repairs.

There has been only one fatality since 2006. (See the "Diving at industrial establishments" sub-sector). A diver was trapped and killed when inspecting a dam on an Ontario waterway before remedial construction work was to be commenced.

Further details about the CHSP activities and events and injuries reported for each of the four sub-sectors that make up the diving sector are presented in the tables below.

Diving construction

Trend analysis				
Diving construction				
Sector size	2006	2007	2008	2009
Registered projects	373	243	197	331
Registered workers	1,088	722	530	944
Program activities	2006	2007	2008	2009
# Workplace visit days	16	19	21	11
# Proactive visits ⁶⁰	72	91	96	48
# Workplace visits	74	91	97	49
" inspections	71	89	95	48
" consultations	1	2	1	0
" investigations ⁶¹	2	0	1	1
# Orders issued	51	55	0	17
Events and injuries	2006	2007	2008	2009
Complaints	1	0	0	1
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	0	0
Other incidents	0	0	1	0

⁶⁰ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁶¹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Diving environmental

Trend analysis				
Diving environmental				
Sector size	2006	2007	2008	2009
Registered projects	104	71	84	63
Registered workers	333	181	168	117
Program activities	2006	2007	2008	2009
# Workplace visit days	3	5	6	2
# Proactive visits ⁶²	13	23	21	4
# Workplace visits	13	23	23	6
" inspections	13	21	17	2
" consultations	0	2	4	2
" investigations ⁶³	0	0	2	2
# Orders issued	3	12	0	0
Events and injuries	2006	2007	2008	2009
Complaints	0	0	0	0
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	0	0
Other incidents	0	0	1	4

⁶² Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁶³ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Diving at industrial establishments

Trend analysis				
Diving at industrial establishments				
Sector size	2006	2007	2008	2009
Registered projects	882	891	949	825
Registered workers	2,426	2,237	2,406	1,913
Program activities	2006	2007	2008	2009
# Workplace visit days	25	56	47	31
# Proactive visits ⁶⁴	85	217	166	107
# Workplace visits	113	222	173	113
" inspections	83	207	151	95
" consultations	2	10	15	12
" investigations ⁶⁵	28	5	7	6
# Orders issued	36	73	0	27
Events and injuries	2006	2007	2008	2009
Complaints	2	0	2	2
Work refusals	0	0	0	0
Fatalities	0	0	0	1
Critical injuries	0	0	0	0
Other incidents	1	0	3	6

⁶⁴ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁶⁵ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Diving at mining projects and pits and quarries

Trend analysis				
Diving at mining projects and pits and quarries				
Sector size	2006	2007	2008	2009
Registered projects	13	13	15	12
Registered workers	36	36	41	21
Program activities	2006	2007	2008	2009
# Workplace visit days	4	1	2	1
# Proactive visits ⁶⁶	24	4	17	2
# Workplace visits	24	4	19	3
" inspections	22	4	17	1
" consultations	2	0	0	1
" investigations ⁶⁷	0	0	2	1
# Orders issued	0	1	0	0
Events and injuries	2006	2007	2008	2009
Complaints	0	0	0	0
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	0	0	0	0
Other incidents	0	0	1	1

⁶⁶ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁶⁷ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

Shipbuilding and repairs

Trend analysis				
Shipbuilding and repairs				
Sector size	2006	2007	2008	2009
Registered projects	21	35	55	61
Registered workers	290	437	784	1,005
Program activities	2006	2007	2008	2009
# Workplace visit days	5	2	6	4
# Proactive visits ⁶⁸	13	6	20	11
# Workplace visits	18	8	25	18
" inspections	13	3	20	10
" consultations	0	3	0	1
" investigations ⁶⁹	5	2	5	7
# Orders issued	44	4	43	15
Events and injuries	2006	2007	2008	2009
Complaints	0	2	3	2
Work refusals	0	0	0	0
Fatalities	0	0	0	0
Critical injuries	1	0	0	0
Other incidents	0	0	0	2

Major hazards and 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 will focus on specific sector and workplace hazards. They will also 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, and will take appropriate enforcement action based on the facts at each individual workplace inspected.

The following section provides additional detail on the specific hazards, cause of injuries/illnesses and enforcement focus of the CHSP in the diving sector.

⁶⁸ Proactive visits are those made under the *Safe At Work Ontario* strategy, and include inspections and consultations

⁶⁹ Investigations are reactive workplace visits, which include complaints, work refusals, fatalities, critical injuries and other incidents

In addition to general enforcement of the OHSA and its regulations, MOL inspectors will carry out proactive visits in support of *Safe At Work Ontario* in 2010-2011.

Inspectors will use an organization's LTI injury history, field intelligence and information provided by workplace parties to inspect and pay attention to the following hazards:

Major hazards and key health and safety issues	MOL Construction Health and Safety Program inspection focus
Contaminated compressed breathing air	The MOL will continue to monitor employer's air quality control measures to ensure that all sources of diver's compressed breathing air, used by occupational divers, are in compliance with the requirements that are set out in the CSA Z180.1-05 Standard The diving inspectors will be looking for evidence of • a current air test certificate from an accredited laboratory • real time carbon monoxide analysis • maintenance records
Work around water control structures	Employers, owners and diving supervisors will be expected to ensure that adequate measures and procedures are in place for the detection of hazardous water flows in order to prevent divers from being trapped underwater
Unsafe salvage diving work and small projects that attract workers from the underground economy	Prevention strategies involve the assistance of effective communication from our partners in Spills Action Centre (SAC) and the Police Services about the sinking of vehicles, vessels, aircraft and equipment in Ontario's water ways
Work in contaminated environments, pipeline penetrations, unexploded ordinance and general construction projects.	Routine inspections checking for evidence of competency of all diving personnel, as required by section 4.1 of the Regulation for Diving Operations

Employers may obtain advice for addressing health and safety issues in this sector from the Infrastructure Health and Safety Association (IHSA): www.ihsa.ca.

Summary and highlights

The MOL Construction Sector Plan is based on Safe At Work Ontario, the MOL's compliance strategy for occupational health and safety. Through proactive enforcement, Safe At Work Ontario provides a modern, flexible, compliance-based program.

This sector plan contains a brief description of some of the main topics that an inspector may address in the workplace. While each workplace is unique, and the circumstances presented to an inspector may result in a different inspection focus, this sector plan provides a general overview of MOL's focus within the construction sector and the various types of construction projects.

The CHSP will continue its enforcement focus on:

- compliance with the Occupational Health and Safety Act and regulations;
- injury and illness performance of the construction industry's sectors and sub-sectors; and
- the hazards inherent in the nature and type of work involved, particularly
 - falls
 - safe use of vehicles and equipment, and
 - MSDs.

As part of a province wide multi-program heightened enforcement campaign, the program will also focus its attention on new and young workers employed at residential homebuilding projects, road and highway projects, and landscaping operations to promote compliance in these areas.

A health and safety culture requires all workplace parties to pay constant, appropriate attention to workplace health and safety, in other words to have a functioning internal responsibility system. Sustainable workplace health and safety culture needs a strong commitment by everyone to prevent injuries and illness and to reduce risk.

For further information, contact:

- Ontario Ministry of Labour at www.labour.gov.on.ca/english/hs
- Workplace Safety and Insurance Board at www.wsib.on.ca
- Infrastructure Health & Safety Association at www.ihsa.ca.