Construction Sector Plan 2008/09

Ministry of Labour

Occupational Health and Safety Program

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Introduction

The Construction Health and Safety Program (CHSP) does not work alone in improving health and safety on construction projects. It is joined by partners in Ontario's occupational health and safety system, which include the Workplace Safety and Insurance Board (WSIB), the Construction Safety Association of Ontario (CSAO), the Electrical Utilities Safety Association (EUSA), and the Municipal Health and Safety Association (MHSA). These organizations primarily work with the CHSP through various sector inter-agency groups (SIGs) to develop strategies directed at problem areas where Lost-Time Injuries (LTIs) are statistically the highest or most likely to occur.

This year is also the first year in which the Ministry of Labour (MOL) will participate with stakeholders in the collaborative process of working with the industry as part of the "Construction Legislation Review Committee", which is composed of key construction stakeholder groups from Labour and Management. MOL believes this process will allow for more responsive targeting of the construction sectors, and identification of the needs for regulatory reform.

The CHSP will achieve continued progress through effective external partnerships. System partners have identified three strategic areas where the organizations can function better as a system: by ***aligning*** common initiatives and objectives; by creating ***knowledge*** about the prevention of occupational injury and illness; and by strengthening the ***commitment*** of employers and employees to build safe and healthy workplaces.

The MOL will also embark on initiatives to address issues with chronic violators as well as working with small businesses to assist them in providing a safe workplace for their staff.

A key focus during the next four years will be to focus on employers working within the "underground economy", or those that change their corporate identities to escape from records of injuries or poor compliance with the Occupational Health and Safety Act (OHSA). The Ministry will be seeking to hold the Directors, officers or "controlling minds" of these firms responsible for safe work practices and compliance with OHSA legislation.

During the same time period, MOL inspectors will be playing close attention to supervisors on projects to ensure they are performing their duties under section 27 of the OHSA and the regulations, and that they have adequate tools to do so from their employers.

The purpose of this plan is to share with our stakeholders the manner in which the MOL will enhance health and safety compliance in each of the sectors within the employer community.

Sector: Industrial Commercial And Institutional (ICI)

DESCRIPTION

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

SIZE

- Approximately 23,000 registered active projects in 2007.

HISTORY OF FATALITIES

- 2004 – 2
- 2005 – 6
- 2006 – 6
- 2007 – 4

ENVIRONMENT (growth, trends etc.)

- Number of projects and work force has been stable over the past four years
- Stable – specialized work force

MAJOR HAZARDS

- Falls
- Moving of equipment and materials
- Electrical hazards
- Occupational disease

KEY ISSUES

- Scaffolding
- Formwork design and inspection
- Certification in compulsory trades under the Trades Qualification and Apprenticeship Act (TQAA)
- Ergonomics

SECTOR ANALYSIS

- Four year average for sector 2004 to 2007:
  Registered active projects – 22,000 – increasing over period
  Number of field visits – 11,000 – increasing over period
  Number of orders – 22,000 – marked increase 2006 - 2007
  Number of events – 1,200 – consistent with increase in number of projects

ENFORCEMENT DIRECTION

- Falls
- Moving of equipment and materials
- Electrical hazards
- Occupational diseases
    - Exposure to hazardous chemicals and substances
    - Noise
    - Ergonomics
- Continue tower crane initiative, by enhanced mechanical, electrical and structural inspections of tower cranes
- Inspection blitzes for 08/09
    - Spring - Electrical Hazards – Working live, working in proximity to overhead power lines, locates for underground utilities
    - Summer - Demolition and Renovation – exposure to designated/harmful substances, ergonomics, noise hazards, fall protection, work planning
    - Winter - Equipment Operation – competent operators, traffic control, signal persons, roll-over protection system (ROPS), worker training, and condition of equipment

SECTOR IDENTIFICATION (rate group/SIC codes)

- WSIB Rate Groups:

704 Electrical and Incidental	LTI Rate 1.54*
707 Mechanical and Sheet Metal	LTI Rate 1.72
719 Inside Finishing	LTI Rate 1.74
723 ICI Construction	LTI Rate 1.20
728 Roofing	LTI Rate 2.65
737 Millwrighting and Welding	LTI Rate 2.03
741 Masonry	LTI Rate 3.19
748 Formwork and Demolition	LTI Rate 5.62
751 Siding and Outside Finishing	LTI Rate 3.21

**LTI rate = LTI/100 workers*

- SIC codes:

4021 Industrial Building Construction
4022 Commercial Building Construction
4023 Institutional Building Construction
4119 Mining Plant Construction

Sector: Residential

DESCRIPTION

- **Residential –** Made up of both high-rise and low-rise residential projects, including in-fill housing, single family homes, renovations and additions

SIZE

- Approximately 20,000 registered active projects in 2007

HISTORY OF FATALITIES

- 2004 – 9
- 2005 – 6
- 2006 – 12
- 2007 – 5

ENVIRONMENT (growth, trends, etc.)

- May have a reduction in new projects for 08/09
- Highly transient workforce
- Large number of employers with less than five workers
- Many self employed independent operators

MAJOR HAZARDS

- Falls
- Moving of equipment and materials
- Electrical hazards
- Excavations
- Occupational disease

KEY ISSUES

- Scaffolding
- Formwork design and inspection
- Certification in compulsory trades under TQAA
- Underground economy
- Transient work force
- Unskilled work force
- Ergonomics

SECTOR ANALYSIS

- Four-year average for sector 2004 to 2007:
  Registered active projects – 18,000 – increasing over period
  Number of field visits – 12,000 – marked increase 2006 - 2007
  Number of orders – 30,000 – marked increase 2006 - 2007
  Number of events – 1,400 – consistent with increase in number of projects

ENFORCEMENT DIRECTION

- Falls
- Moving of equipment and materials
- Electrical hazards
- Occupational diseases
  - Exposure to hazardous chemicals and substances
  - Noise
  - Ergonomics
- Continue tower crane initiative on high rise residential
- Inspection blitzes for 08/09
  - Spring - Electrical Hazards – TQAA, working live, working in proximity to overhead power lines, locates for underground utilities
  - Summer - Demolition and Renovation – exposure to designated/harmful substances, ergonomics, noise hazards, fall protection, work planning
  - Winter - Equipment Operation – competent operators, traffic control, signal persons, ROPS, worker training, and condition of equipment

SECTOR IDENTIFICATION (rate group/SIC codes)

- WSIB Rate Groups:

704 Electrical and Incidental	LTI Rate 1.54*
707 Mechanical and Sheet Metal	LTI Rate 1.72
719 Inside Finishing	LTI Rate 1.74
728 Roofing	LTI Rate 2.65
741 Masonry	LTI Rate 3.19
748 Formwork and Demolition	LTI Rate 5.62
751 Siding and Outside Finishing	LTI Rate 3.21
764 Home Building	LTI Rate 2.72

**LTI rate = LTI/100 workers*

- SIC codes:
  4011 Single Family
  4012 Apartment and other Multiple Family Housing

Sector: Roadwork – Heavy Civil

DESCRIPTION

- **Roads** – including projects on roads and highways, both new and rehabilitation of existing, bridge work, paving operations

SIZE

- Approximately 3,900 registered active projects in 2007

HISTORY OF FATALITIES

- 2004 – 2
- 2005 – 3
- 2006 – 1
- 2007 – 2

ENVIRONMENT (growth, trends, etc.)

- This sector may see growth through government infrastructure spending, especially in rehabilitation projects

MAJOR HAZARDS

- Moving of equipment and materials
- Traffic protection
- Electrical hazards
- Excavations
- Falls
- Occupational disease

KEY ISSUES

- Confined space
- Formwork design and inspection
- Work planning
- Impact on public
- Unskilled work force
- Ergonomics

SECTOR ANALYSIS

- Four-year average for sector 2004 to 2007:
  Registered active projects – 3,750 – increasing over period
  Number of field visits – 1,300 – marked increase 2006 - 2007
  Number of orders – 1,800 – increasing over period
  Number of events – 170 – significant increase 2004 - 2005, then remaining steady

ENFORCEMENT DIRECTION

- Moving of equipment and materials
- Power line contacts
- Excavations
- Overturning of equipment
- Traffic control
- Falls
- Occupational diseases
    - Exposure to hazardous chemicals and substances
    - Noise
    - Ergonomics
- Inspection blitzes for 08/09
    - Spring - Electrical Hazards – Working in proximity to overhead power lines, locates for underground utilities
    - Winter - Equipment Operation – competent operators, traffic control, signal persons, ROPS, ergonomics (seating, whole body vibration)

SECTOR IDENTIFICATION (rate group/SIC codes)

- WSIB Rate Groups:
    - 711 Road Building and Excavating — LTI Rate 1.45*
    - 732 Heavy Civil Construction — LTI Rate 2.37

    **LTI rate = LTI/100 workers*
- SIC codes:
    - 4121 Bridge Construction
    - 4121 Highway and Road Construction
    - 4216 Asphalt Paving

Sector: Underground – Heavy Civil

DESCRIPTION

- **Underground** – includes sewer and watermain construction, trenching and tunnelling

SIZE

- Approximately 12,700 registered active projects in 2007

ENVIRONMENT (growth, trends etc.)

- Expected continued growth due to both expansion of serviced land for development and investment in revitalizing existing infrastructure. Proposed subway expansion in Toronto will have impact on workforce.

HISTORY OF FATALITIES

- 2004 – 3
- 2005 – 2
- 2006 – 4
- 2007 – 1

MAJOR HAZARDS

- Moving of equipment and materials
- Traffic protection
- Electrical hazards
- Excavations
- Falls
- Confined space

KEY ISSUES

- Scaffolding
- Formwork design and inspection
- Ergonomics

SECTOR ANALYSIS

- Four-year average for sector 2004 to 2007:
  - Registered active projects – 6,600 – no significant change
  - Number of field visits – 1,900 – marked increase 2006 - 2007
  - Number of orders – 2,900 – marked increase 2006 - 2007
  - Number of events – 262 – increasing over period

ENFORCEMENT DIRECTION

- Moving of equipment and materials
- Power line contacts
- Excavations
- Overturning of equipment
- Falls
- Occupational diseases
    - Exposure to hazardous chemicals and substances
    - Noise
    - Ergonomics
- Inspection blitzes for 08/09
    - Spring - Electrical Hazards – Working in proximity to overhead power lines, locates for underground utilities
    - Winter - Equipment Operation – competent operators, traffic control, signal persons, ROPS, ergonomics (seating, whole body vibration)

SECTOR IDENTIFICATION (rate group/SIC codes)

- WSIB Rate Groups: 732 Heavy Civil Construction LTI Rate 2.03*
  **LTI rate = LTI/100 workers*
- SIC codes:
  4122 Sewer/Watermain Construction
  4126 Tunnelling
  4127 Excavation/Shaft Construction
  4214 Excavating and grading
  4218 Trenching
  4212 Well drilling
  4221 Caisson Construction

Sector: Above And Below Ground Utilities

DESCRIPTION

- **Utilities** – includes the construction of both underground utilities (gas, power, telephone, cable, etc). and above ground power distribution lines

SIZE

- Approximately 4,500 registered active projects in 2007

HISTORY OF FATALITIES

- 2004 – 1
- 2005 – 1
- 2006 – 1
- 2007 – 2

ENVIRONMENT (growth, trends, etc.)

- Continued levels of construction. Larger power plants, both new and rehabilitation of existing plants, may come on stream
- Highly specialized work force
- Some overlap with federal jurisdiction with nuclear power plants, gas distribution and telephone and cable installation
- In urban areas, limited space for buried or above ground services due to congestion of existing services

MAJOR HAZARDS

- Moving of equipment and materials
- Traffic protection
- Electrical hazards
- Excavations
- Falls
- Confined space

KEY ISSUES

- Radiation
- PCBs
- Asbestos

SECTOR ANALYSIS

- Four-year average for sector 2004 to 2007:
  Registered active projects – 4,000 – increasing over period
  Number of field visits – 550 – marked increase 2006 - 2007

Number of orders – 550 – marked increase 2006 - 2007
Number of events – 70 – increasing over period

ENFORCEMENT DIRECTION

- Moving of equipment and materials
- Power line contacts
- Excavations
- Overturning of equipment
- Confined space entry
- Traffic control
- Falls
- Occupational diseases
    - Exposure to hazardous chemicals and substances
    - Noise
    - Ergonomics
- Inspection blitzes for 08/09
    - Spring - Electrical Hazards –TQAA, working live, working in proximity to overhead power lines, locates for underground utilities
    - Summer - Demolition and Renovation – exposure to designated/harmful substances, ergonomics, noise hazards, fall protection, work planning
    - Winter - Equipment Operation – competent operators, traffic control, signal persons, roll-over protection system (ROPS), seat belts, ergonomics (seating, whole body vibration)

SECTOR IDENTIFICATION (rate group/SIC codes)

- WSIB Rate Groups:
    - 711 Road Building and Excavating — LTI Rate 1.45*
    - 723 ICI — LTI Rate 1.20
    - 732 Heavy Civil — LTI Rate 2.37

    **LTI rate = LTI/100 workers*
- SIC codes:
    - 4113 Pipeline
    - 4123 Hydro Electric Power Plant
    - 4124 Cable Service Connection
    - 4124 Electrical Towers/Transmission Lines
    - 4124 Gas Service Connection
    - 4124 Hydro Service Connection
    - 4124 Telephone Service Connection

Sector: Other Construction

DESCRIPTION

- **Other Construction** – includes the construction of railways, subways, marine construction, moving buildings and structures, and projects not captured in other sectors

SIZE

- Approximately 11,000 registered active projects in 2007

HISTORY OF FATALITIES

- 2004 – 3
- 2005 – 2
- 2006 – 3
- 2007 – 1

ENVIRONMENT (growth, trends, etc.)

- Continued levels of construction. Development of public transit systems may come on stream with government funding
- Broad sector overlapping with issues in other sectors
- Some overlap with federal jurisdiction with ship building and repair, and marine construction

MAJOR HAZARDS

- Moving of equipment and materials
- Traffic protection
- Electrical hazards
- Excavations
- Falls
- Drowning

KEY ISSUES

- Confined space
- Electrical contact
- Fall prevention

SECTOR ANALYSIS

- Four-year average for sector 2004 to 2007:
  Registered active projects – 11,200 – no change
  Number of field visits – 250 – increasing over period

Number of orders – 460 – increasing over period
Number of events – 26 – increasing over period

ENFORCEMENT DIRECTION

- Moving of equipment and materials
- Power line contacts
- Excavations
- Overturning of equipment
- Drowning
- Confined space entry
- Traffic control
- Falls
- Occupational diseases
    - Exposure to hazardous chemicals and substances
    - Noise
    - Ergonomics
- Inspection blitzes for 08/09
    - Spring - Electrical Hazards – TQAA, working live, working in proximity to overhead power lines, locates for underground utilities
    - Summer - Demolition and Renovation – exposure to designated/harmful substances, ergonomics, noise hazards, fall protection, work planning
    - Winter - Equipment Operation – competent operators, traffic control, signal persons, ROPS, worker training, and condition of equipment

SECTOR IDENTIFICATION (rate group/SIC codes)

- WSIB Rate Groups:
    - 704 Electrical and Incidental Services — LTI Rate 1.54*
    - 723 ICI — LTI Rate 1.20
    - 732 Heavy Civil — LTI Rate 2.37

    **LTI rate = LTI/100 workers*
- SIC codes:
    - 4129 Marine Construction
    - 4129 Railway Construction
    - 4129 Subway Construction
    - 4124 Electrical Towers/Transmission Lines
    - 4499 Moving of a Building or Structure

Sector: Asbestos Abatement – Asbestos Worker

DESCRIPTION

- **Asbestos Removal** – Includes work carried out prior to the start of demolition or renovation of buildings, structures and ships

SIZE

- Approximately 1,900 registered active projects in 2007

HISTORY OF FATALITIES*

- 2004 – 0
- 2005 – 0
- 2006 – 0
- 2007 – 0

(* Does not include occupational disease.)

ENVIRONMENT (growth, trends, etc.)

- Continued levels of construction. Rehabilitation of existing power plants may come on stream
- Amendments to legislation
- Certification of workers and supervisors now in effect
- Some overlap with federal jurisdiction when work is carried out in federal buildings
- Asbestos still prevalent in older public buildings, i.e. schools, universities and colleges, government buildings, etc

MAJOR HAZARDS

- Occupational disease
- Electrical hazards
- Falls
- Confined space

KEY ISSUES

- Worker exposure
- New certification requirements
- Unsophisticated transient workforce

SECTOR ANALYSIS

- Four-year average for sector 2004 to 2007:
  Registered active projects – 1,700 – increasing over period
  Number of field visits – 250 – increasing over period

Number of orders – 125 – no significant increase
Number of events – 29 – no significant increase

ENFORCEMENT DIRECTION

- Occupational disease
    - Exposure to airborne asbestos fibres
- Working in wet conditions, precautions for electrical hazards, slippery footing
- Work carried out on operating plant, steam piping, etc.
- Confined space entry
- Falls
- Inspection blitzes for 08/09
    - Summer - Demolition and Renovation – exposure to designated/harmful substances, ergonomics, noise, fall protection, work planning

SECTOR IDENTIFICATION (rate group/SIC codes)

- WSIB Rate Groups: 723 ICI (sub group asbestos removal) LTI Rate 1.20*
  **LTI rate = LTI/100 workers*
- SIC codes: 4211 Asbestos Removal (demolition)

Sector: Window Cleaning – At Heights

DESCRIPTION

- **Window Cleaning** – above ground cleaning of windows on high rise buildings

SIZE

- Approximately 2,300 registered active work locations in 2007

HISTORY OF FATALITIES

- 2004 – 0
- 2005 – 0
- 2006 – 0
- 2007 – 0

ENVIRONMENT (growth, trends, etc.)

- Unorganized, transient work force.
- Short duration operations.
- Many independent operators and smaller companies.
- Some overlap with federal jurisdiction with work on federal buildings.

MAJOR HAZARDS

- Falls
- Electrical hazards
- Maintenance of equipment

KEY ISSUES

- Worker exposure to falls
- Training requirements
- Unsophisticated transient workforce

SECTOR ANALYSIS

- Four-year average for sector 2004 to 2007:
  - Registered active projects – 2,500 – no change
  - Number of field visits – 170 – decrease 2004 - 2005, then constant
  - Number of orders – 230 – decrease 2004 - 2005, then constant
  - Number of events – 18 – no significant increase

ENFORCEMENT DIRECTION

- Falls, condition of personal equipment and condition of anchorage
- Power line contacts
- Moving of equipment and materials, entanglement with safety lines
- Occupational diseases
    - Exposure to hazardous chemicals and substances
    - Ergonomics
- Inspection blitzes for 08/09
    - Spring - Electrical Hazards – Working in proximity to overhead power lines

SECTOR IDENTIFICATION (rate group/SIC codes)

- WSIB Rate Groups: 748 Formwork and Demolition (sub group window cleaning) LTI Rate 5.62*
  **LTI rate = LTI/100 workers*
- SIC codes: 9952 Window Cleaning Services

Sector: Diving - Commercial

DESCRIPTION

- The diving industry provides a variety of crucial underwater services such as: the construction and maintenance of municipal and industrial infrastructure; the maintenance/repair of offshore natural gas production systems; salvage and ship repair work; fish farms, police diving operations; scientific research; the film industry; disposal of unexploded ordinance, contaminant cleanup and even golf ball retrieval

SIZE

- Approximately 97 employers engaged in diving operations across the following sectors: industrial, construction and mining

HISTORY OF FATALITIES

- None reported during 2007/2008

ENVIRONMENT (growth, trends, etc.)

- Existing underwater infrastructure is being replaced or upgraded to meet the demands of economic growth and regulatory requirements for safe municipal drinking water systems. Industrial structures such as dams and water control systems for industrial processes are being replaced or repaired because of deterioration, environmental conditions and in some cases damage caused by the accidental introduction of zebra mussels, etc.
- Poor ice conditions, due to climate change, have caused more drowning cases and equipment losses over the past few years. This phenomenon [or these phenomena], necessitates increased police diving and salvage activity.

MAJOR HAZARDS

- Salvage diving operations involving poorly trained divers (underground economy)
- Working in close proximity to differential pressure (water control structures)
- Diving operations involving decompression profiles
- Work involving penetration of confined spaces
- Working in contaminated environments
- Working with inadequate air supply system, and
- Untrained workers diving at fish farming operations

KEY ISSUES

- Quality of diver's breathing air produced from low- and high-pressure compressor systems, including air stations at dive shops & fire stations across the province
- Underground economy involving recreational divers engaged in salvage work
- Competency qualifications of divers, tenders & diving supervisors
- Unexploded ordinance disposal operations, and
- Status of Internal Responsibility System as it applies to diving operations

SECTOR ANALYSIS

- Approximately 141 orders were written during the 2007 *calendar* year.
- There were a total of 1,064 diving operations during *fiscal* 2007/08, of which 19% (201) were visited. Eight per cent of diving operations were visited on more than one occasion which brought the overall total of field visits to 285 (27%)
- Of the total diving operations 74% were in the industrial sector, 19% in the construction sector, 5.7% in the environmental sector, and 1.3 % in the mining sector.
- In an average workforce of 400 diving personnel, there have been 12 occupational fatalities since 1985 (diving incidents are usually fatal)

ENFORCEMENT DIRECTION

- High Hazard Diving Operations that involve salvage diving operations;
- Working in close proximity to water control structures; penetration of confined spaces; use of decompression techniques; diving in contaminated environments; small marine construction projects, fish farming and golf courses
- Proactive initiative to visit all high pressure air stations at recreational dive shops and fire halls to check status of air testing protocols, and protect workers. In addition, inspectors will seek the assistance of police, environment inspectors and conservation officers to identify potential diving operations that involve the recovery of sunken property, equipment and logs

SECTOR IDENTIFICATION (rate group)

- Rate group is 732