

Guideline for the Safe Operation and Maintenance of Powered Lift Trucks

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Foreword

This Guideline has been prepared to assist persons, such as employers, who have duties under the Occupational Health and Safety (OHS) Act and its regulations. It should not be taken to be a statement of the law or what is necessary to comply with the law. A person with legal duties may or may not agree with the Guideline and there is no legal requirement to follow the Guideline. It is for each such person to decide what is necessary to comply with the OHS Act and its regulations.

A person who needs assistance in determining what constitutes compliance should consult with his or her legal advisor. Ministry inspectors will assess workplace situations against the relevant provisions in the OHS Act and its regulations but they do not enforce the Guideline, although they may refer to it in determining whether the relevant laws have been complied with.

1. INTRODUCTION

Two facts about powered lift trucks have made them a priority for the Ontario Ministry of Labour: their use in thousands of workplaces and their continuing role as a significant cause of serious worker injury and death. A Ministry study, *Hazards of Powered Lift Truck Operations in Ontario Workplaces 1990-1995*, provides a graphic picture. Between 1990 and 1995, powered lift trucks were involved in 136 critical injuries, affecting 143 persons and resulting in 18 worker deaths. A common feature of many of these incidents was a failure to comply with the *Occupational Health and Safety Act (OHS Act)* and its regulations.

The *OHS Act* places a general duty on employers to "take every precaution reasonable in the circumstances for the protection of a worker" and assigns more specific responsibilities for equipment maintenance, training and supervision. Requirements for powered lift trucks, although they are not mentioned specifically, can be found in the sector regulations made under the *OHS Act*. While meeting these requirements should have prevented most, if not all, of the accidents, compliance was in fact rare. This may be the result of the difficulty that many employers find in applying general requirements of the legislation to particular situations in their workplaces. As a remedy, the Ministry therefore decided to develop guidelines that would explain how users of powered lift trucks could comply with the legislation.

In January 1997, the *Guideline for the Safe Operation of Powered Lift Trucks* was published. It had two parts. One part outlined the main elements to be included in an effective powered lift truck safety program; the second part described the knowledge and skills required by a worker in order to be a "competent" operator of a powered lift truck. In 1998, the Ministry released for comment a draft of a second guideline: *Guideline for the Maintenance of Powered Lift Trucks*. It gave employers, workers, manufacturers and maintenance contractors straightforward advice on what the Ministry expects to be done to ensure that powered lift trucks are maintained in a safe condition and in compliance with regulatory requirements. For convenience these two guidelines have been combined as the *Guideline for the Safe Operation and Maintenance of Powered Lift Trucks*. This *Guideline* replaces the Ministry's Engineering Data Sheet No. 8-07, on fork lift trucks.

2. LEGAL REQUIREMENTS

Powered lift trucks are widely used in Ontario industry and, as a result, all three Ministry sector regulations (*Mining and Mining Plants, Construction Projects, and Industrial Establishments*) have provisions that deal with them. However, they are employed in, by far, the greatest numbers by companies that are covered by the *Regulation for Industrial Establishments, Regulation 851*. For this reason the short discussion of the legal requirements, which follows, is restricted to the *OHS Act* and *Regulation 851* and the

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Guideline itself has been developed with these legal provisions in mind. Nevertheless, the *Guideline* may still be usefully applied to powered-lift-truck operations in mines and on construction projects.

Both the *OHS Act* and the *Regulation 851* have provisions that relate to work involving powered lift trucks, but neither mentions them specifically. Clause 25(1)(b) of the *OHS Act* refers to an employer's duty to provide "equipment" that is in good condition. Clauses 25(2)(a), (c) and (d) deal generally with worker training and supervision. And clause 25(2)(h) is the most general duty of all, requiring an employer to "take every precaution reasonable in the circumstances for the protection of a worker". Subsections 51(1) and (2) of *Regulation 851* are more specific, with provisions that apply to a "lifting device", defined as,

a device that is used to raise or lower any material or object and includes its rails and other supports but does not include a device to which the *Elevating Devices Act* applies.

This definition clearly applies to powered lift trucks and should be interpreted broadly as including not just the elevating section of a truck but the entire vehicle. Other sections of *Regulation 851* are also applicable although a variety of terms is used: lift truck (Section 52); mobile equipment (Section 54); material handling equipment (Sections 56 and 59); vehicle (Section 57); and powered equipment (Section 58). These sections of *Regulation 851* can be found in **Appendix I**.

This *Guideline* provides information on how these legal requirements may be met in the particular case of powered lift trucks. The term "powered lift truck" can itself be defined as "a mobile, power-propelled, self-loading truck equipped with a load carriage and attachments for lifting, transporting and stacking material". See **Appendix II** for a listing of the various classes of truck in use.

Compliance will require attention in the following areas:

- general safety inspection and maintenance
- assessment of load-handling capacity
- competence of person doing load-handling assessment
- inspection frequency
- recordkeeping
- operator competence
- operating procedures
- training.

A well-designed powered-lift-truck safety program should cover all these legal requirements and if implemented properly will ensure compliance. The relevant legal provisions have been reproduced in **Appendix I**.

3. SAFETY PROGRAM

Analysis of the accidents in the Ministry's 1996 study revealed a wide variety of immediate causes (collisions, shifting loads, tip-overs), but generally the same root cause: the lack of an effective safety program. Workers were poorly trained; supervision was inadequate; and the work and workplace were not organized with safety in mind. The result was unsafe work practices that made an accident almost inevitable. The development and implementation of a program to address these problems is an obvious first step towards improving powered-lift-truck safety.

While it may be tempting to see truck operators as responsible for accidents and thus better training for them as the way to safe lift truck operations, it is important to recognize that training, although essential, will not be enough to eliminate accidents. To be most effective, operator training should be part of a larger comprehensive powered-lift-truck safety program. This program should include the following elements:

- hazard identification
- training (of both truck operators and those working near lift trucks)
- supervision
- operating procedures
- maintenance and repair procedures
- facility design
- lift truck selection criteria.

Although the employer is responsible for implementation of the program, it will likely be more effective if all the workplace parties are involved in its development. The joint health and safety committee or health and safety representative, where there is one, along with supervisors and workers should all be involved not only in the development of rules and procedures to prevent injuries, but in identifying the causes of accidents and "near misses", and the monitoring of lift-truck-safety improvements.

Hazard Identification

Clause 25(2)(d) of the *OHS Act* requires an employer to "acquaint a worker or a person in authority over a worker with any hazard in the work ...". This means that the employer at a workplace where there is a powered lift truck must identify all hazards associated with the truck as it used in the workplace. In practical terms, the following measures and procedures should be carried out:

- Identify the ways in which a worker who operates or works around a powered lift truck could be harmed or injured, taking into consideration the equipment that will be used, the jobs to be done and the workplace environment.

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- Prepare a written report that mentions all the potential sources of harm or injury identified in step one above. This report can be used to inform workers about the hazards in their work (as required by clause 25(2)(d) of the *OHS Act*).
- Periodically review the hazard assessment, in case there is a significant change in how the work is carried out, and make appropriate changes to the written report if necessary.

Both workers and supervisors should be involved in the hazard identification process. It should include a review of information provided by the lift truck's manufacturer, an analysis of work processes and a consideration of accident and injury data. If there is a concern that the workplace does not have sufficient expertise, advice should be sought from the relevant safe workplace association (see **Appendix V**) or other safety specialists.

Training

Clause 25(2)(a) of the *OHS Act* places an obligation on an employer to "provide information, instruction and supervision to a worker to protect the health or safety of the worker". *Regulation 851* is more specific and states that a lifting device is only to be operated by a competent person. "Competent person" is defined by the *OHS Act* as someone who:

- is qualified because of his knowledge, training, and experience to organize the work and its performance,
- is familiar with the provisions of this Act and the regulations that apply to the work, and
- has knowledge of any potential or actual danger to health or safety in the workplace.

An employer has a clear duty to establish the competence of the worker who is to operate a powered lift truck, either through training or in some other way. What this entails in practice is explained in Section 4 of this *Guideline*. Through training an operator should learn: the fundamentals of powered lift trucks, how environmental conditions can affect lift-truck performance, basic lift-truck operating skills, and the rules and practices for safe lift-truck operation. The training should include practice sessions, under the supervision of a qualified trainer, on load handling, maneuvering, travelling, stopping, and starting.

Appendix III is an outline of the knowledge and skills (in terms of learning outcomes) that a truck operator should acquire through a successful training program. The Canadian Standards Association also has a training standard (*Industrial Lift Truck Operator Training B335-94*), which may be useful in designing or evaluating training programs.

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In addition to ensuring that the operator of a powered lift truck is appropriately trained, an employer has a responsibility to those whose work in the vicinity of a lift truck may place them at risk. The following measures are suggested:

- For each potential source of harm or injury noted in the hazard identification (above), prepare written rules and procedures for preventing accidents and injuries.
- Ensure that all supervisors and workers who work around lift trucks have been informed of the hazards, instructed in the rules and procedures to avoid harm, and know where the written rules and procedures are located.
- inform supervisors and workers of any revisions to the rules and procedures arising from changes in the work.

Supervision

Clause 25(2)(c) of the *OHS Act* states that an employer must appoint a competent person as a supervisor. For powered lift truck operations, this means someone who, through training and experience, knows the hazards associated with: the type of lift truck being used, the loads being handled and the environment in which the truck will be operated. A competent supervisor must also be able to identify unsafe acts and conditions and implement corrective measures. Employers, for their part, should encourage supervisors to be vigilant in identifying hazardous situations and correcting them immediately when they are detected.

Operating Procedures

As a minimum, employers should ensure that the following existing regulatory requirements are complied with:

- no part of a load must pass over any worker;
- a lift truck left unattended must be immobilized and secured against accidental movement and forks, buckets or other attachments must be in the lowered position or firmly supported;
- no load may exceed the maximum rated load and loads must be handled in accordance with the height and weight restrictions on the vehicle's load chart;
- when a load is in the raised position, the controls must be attended by an operator;

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- if an operator does not have a clear view, a signaller who has been instructed in a code of signals for managing traffic in the workplace must be used;
- loads must be carried as close to the ground or floor as the situation permits;
- loads that may tip or fall and endanger a worker must be secured;
- where a lift truck is required to enter or exit a vehicle to load or unload, that vehicle must be immobilized and secured against accidental movement;
- a lift truck must not be used to support, raise or lower a worker on a construction site and must only be so used in an industrial establishment if the work is carried out in accordance with *Regulation 851* (Section 52);
- barriers, warning signs, designated walkways or other safeguards must be provided where pedestrians are exposed to the risk of collision.

In addition to the safe operating procedures above, which apply to all workplaces, a second set of rules and safe operating procedures should be developed and implemented to address hazards that are specific to the workplace where the lift truck is to be used.

The operating procedures should include a truck inspection to be carried out at the beginning of the truck operator's shift. A checklist, to facilitate this pre-shift inspection, should be developed. It should cover fork condition and wear; tire condition and pressure; fluid and fuel levels; battery condition and electrolyte levels; steering, brake, and limit switch operation; and cleanliness. The operator should also examine the chains and mast; check for damage or leaks; and inspect the condition of the lift mechanism. Any defects should be reported to the operator's supervisor.

Maintenance and Repair Procedures

The *OSH Act*, in clause 25(1)(b), places a general duty on employers to ensure that equipment is maintained in good condition. When the equipment is a lifting device, clause 51(1)(a) of *Regulation 851* states that it must be constructed and equipped in a way to adequately ensure the safety of all workers; clause 51(1)(b) deals with its lifting capacity. The only way to ensure these requirements are being met is through a periodic inspection and, where necessary, repair and maintenance of the equipment (powered lift truck). The repair and maintenance should focus on worker safety, not just for the truck's load-handling characteristics, but for all aspects of the truck's operations. The points that should be covered in a regular powered-lift-truck inspection are listed in **Appendix IV**. Repair and maintenance are more fully discussed in Section 5 of this *Guideline*.

Facility Design

Poor workplace design can contribute to accidents and injuries. Employers should ensure that the following measures are taken as a minimum:

- Overhead and side clearances (at loading docks, through doorways and in rooms) are adequate to permit the safe operation of the lift truck.
- Floors, aisles and passageways are kept clear and free of hazards.
- The workplace is adequately ventilated to prevent the accumulation of vapours from the refueling and operation of lift trucks.

Lift Truck Selection Criteria

It is important to develop criteria for the selection of trucks for use in a particular workplace. Different trucks are designed and manufactured to operate in different work environments and the hazards associated with the use of a specific powered lift truck will depend on its type, make, and model. Steps must therefore be taken to ensure that the fire hazard designation, carrying capacity, reach capabilities and the features of the lift truck selected to do a job are suitable for the types of loads to be handled, the terrain over which loads will be carried, the atmospheric conditions in the workplace and the design of the workplace. Gas-, petrol- or diesel-powered lift trucks should not be used where explosive concentrations of combustible dusts, flammable gases or flammable vapours may be present or in areas where exhaust gases may accumulate creating a hazard of carbon monoxide poisoning, for example.

To protect operators and other workers, every lift truck should have clearly displayed information showing the maximum rated load and the variation of the rated safe load capacity with the reach of the equipment. If a truck has been modified, the information should be revised to reflect new load ratings. Every truck should also be equipped with the following:

- a suitable screen, guard, grill or other structure to protect the operator from falling or intruding materials (which may be mandatory under clause 54(1)(b) of *Regulation 851*; see **Appendix I**);
- warning devices and lights that are appropriate for the work environment; and
- a seat belt or other restraining device that is likely to contribute to the safety of the operator, if it is feasible.

4. COMPETENCY

Section 51 of *Regulation 851* has two requirements for competency that relate to powered lift trucks (see **Appendix I**). Clause 51(2)(a) requires the truck operator to be a competent person and, under clause 51(1)(b), the examination of the lift truck's load-handling capability is to be carried out by a competent person. The regulation does not say specifically how these requirements are to be satisfied. However, there is a definition under the *OHS Act*, part of which requires a "competent person" to have "knowledge, training, and experience to organize the work and its performance". Any person having the knowledge and skills listed below, for maintenance technicians and truck operators, should meet this requirement.

Competence of Maintenance Technicians

The knowledge and skills listed below should be considered as the minimum qualifications for a maintenance technician to be competent to service a lift truck. But what may be more important is that the technician is familiar with the various types and styles of powered lift trucks (see **Appendix II**) and, knowing how a particular truck is likely to be used, is able to apply the listed knowledge and skills in determining if there are any limitations or restricted applications pertaining to that use. In hiring someone to service a truck the owner/employer should therefore ensure that the person to be employed has actually had experience with the truck to be serviced.

The Ministry considers the following qualifications necessary for a person to be competent to service a powered lift truck in accordance with the legal requirements.

- knowledge of personal safety practices necessary to perform routine and periodic inspections of powered lift trucks in current use;
- familiarity with industry terminology and the terms used in this *Guideline* and any documents referenced by this *Guideline*;
- ability to read and understand powered-lift-truck manuals, manufacturer's specifications, drawings and parts lists;
- knowledge of the purpose and function of all components, devices and accessories commonly employed on powered lift trucks, and how to carry out an inspection to determine that they are functioning properly;
- working knowledge of electrical and electronic control circuit principles, as applied to the operation of pumps, motors, valves and switches, and hydraulic principles, as applied to the operation of valves, pumps, cylinders (plungers) and piping;

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- working knowledge of mechanical principles as applied to structures, machines, mechanisms and the effects of traction on chains and sheaves; and
- where applicable, working knowledge of pneumatic principles as applied to the operation of valves, compressors, cylinders (plungers), pressure vessels and piping.

These qualifications would normally be achieved through five years experience in field service work for users, manufacturers, distributors or service organizations for powered lift trucks.

Competence of Operators

Competent lift truck operators must know not only how to operate the particular class of truck to which they have been assigned but also be aware of hazards associated with the work they have been asked to do; they must be able to operate the truck in a manner that protects both their own safety and the safety of others in their workplace. It is the responsibility of the employer to establish a worker's competence to operate a powered lift truck.

A "competent" operator should understand:

- the sections of the *OHS Act* and regulations applicable to the work;
- the hazards associated with the work, including the principles of operation and features of the lift truck, workplace conditions and environment, and activities that pose actual or potential danger to health and safety in the workplace;
- the manufacturer's specifications as they relate to the safe operation and load handling for the class or type of truck that is to be operated; and
- the workplace-specific procedures and practices that have been established for ensuring worker safety.

A "competent" operator should be able to perform, with the truck to be operated and under typical workplace conditions, the following procedures in a manner consistent with established competence standards:

- pre-operational check;
- start-up and shut-down;
- general operation: stopping, starting, turning, driving forward and in reverse, parking, operating around personnel;

- load handling: selection and security of loads, pick-up and placement, personnel lifting, stacking and restocking;
- loading and unloading: transport vehicles, structures, elevators; and
- operational maintenance: refuelling, recharging (where appropriate).

The employer should be satisfied that the truck operator has demonstrated the foregoing skills to a person with expert knowledge on the safe operation of powered lift trucks. A safety association (see **Appendix V**) or the lift truck manufacturer may be contacted for information on institutions, agencies or persons with expert knowledge of lift trucks.

Employers should maintain in the workplace a record of workers competent to operate powered lift trucks. For each worker, the record should indicate the skills and knowledge successfully demonstrated, the class or classes of truck on which he or she was assessed, the name and affiliation of the assessor and the date the assessment was done. Employers may issue certificates to facilitate identification of competent operators.

5. MAINTENANCE

As outlined in Section 2 of this *Guideline*, the *OHS Act* and *Regulation 851* establish legal requirements for the periodic examination of powered lift trucks to confirm their safety and load-handling capability. It is the responsibility of the employer, as owner of the equipment, to ensure that such examinations are carried out. The way to fulfill this responsibility is to establish procedures for the regular inspection and repair of lift trucks at the workplace. These procedures can then be incorporated into the powered-lift-truck safety program referred to in Section 3. Items that should be considered to ensure compliance with the law are discussed below.

General Safety Inspection and Maintenance

There are no detailed legal requirements for general safety and maintenance of powered lift trucks. Clause 25(1)(b) of the *OSH Act* is a very general requirement for employers to ensure that any equipment is maintained in good condition. Clause 51(1)(a) of *Regulation 851* requires a lifting device to be constructed and equipped in a way to adequately ensure the safety of all workers. These provisions should be interpreted as requiring the regular inspection and maintenance of powered lift trucks to ensure their safety. The regular inspection should cover the points listed in **Appendix IV**.

Load-handling Capacity

Clause 51(1)(b) of *Regulation 851* requires a lifting device to be thoroughly examined by a competent person, before it is used "for the first time" and at least annually, to determine if it is capable of handling its maximum rated load. "For the first time" should be interpreted as "for the first time by the employer". This means that even new equipment must be examined to establish that its lifting capacity is as specified. The rationale is that a dealer can make modifications to the equipment and potentially render the manufacturer's specifications invalid. Verification of the load rating is even more necessary when second-hand vehicles are purchased. In either case, while it may seem to be the responsibility of the seller to have the examination done (just as used automobiles must be certified before sale), the law does, in fact, place this duty squarely on the employer. The employer could meet this duty, however, by only purchasing equipment from a supplier who can ensure that it has met the requirements of the regulation, i.e., it has been examined in accordance with clause 51(1)(b).

The situation is different when a lift truck is leased (or rented) rather than purchased. In such cases, subsection 31(1) of the *OHS Act* clearly states that it is the supplier who must ensure that the lift truck complies with regulations. An employer who is leasing a lift truck should therefore get written verification of such compliance from the supplier. However, unless the leasing (or rental) agreement specifies otherwise, the user of the leased (or rented) equipment will be responsible for the ongoing general maintenance of the equipment.

Competence

The examination to determine lifting capacity [clause 51(1)(b)] is to be carried out by a "competent person". To be competent, this person must be able to ensure that a powered lift truck is capable of lifting its maximum rated load. The training and experience required to be considered a competent person for the purpose of clause 51(1)(b) is outlined in Section 4 of this *Guideline*.

Inspection Frequency

Clause 51(1)(b) of *Regulation 851* requires the load-handling capability to be assessed, after the initial examination, "as often as necessary but not less frequently than recommended by the manufacturer and in any case at least once a year". In general, this requirement would be met with examinations carried out after every 2000 hours of use. This assumes 12 months operation on single shifts. If a vehicle were used more frequently, for example on double shifts, a corresponding increase of the inspection frequency should be considered. But even if a truck were used only a few hours per week, the regulation still requires an annual clause 51(1)(b) examination. Other factors that may lead to more frequent examinations include severe environmental conditions (e.g., hot or corrosive environments)

and the type of loads being handled. Also, any modification that could affect a truck's load-handling characteristics must be followed by a clause 51(1)(b) examination. Neither the *OHS Act* [clause 25(1)(b)] nor *Regulation 851* [clause 51(1)(a)] say how often a general safety inspection should be carried out. It would be reasonable, however, for such an inspection to be part of the annual examination required by clause 51(1)(b).

Recordkeeping

Clause 51(1)(b) of *Regulation 851* requires a "permanent record" of the load-handling capacity examination to be kept. "Permanent record" has a very specific meaning under *Regulation 851*. Section 6 says such a record must be kept for at least one year or such longer period to ensure that at least the two most recent reports or records are kept. This means that if annual examinations were being made, the records would have to be kept for two years. It does not prevent records from being kept for longer periods of time, like the working life-time of the vehicle as would usually be the case.

Roles of Employers and Maintenance Contractors

As outlined in Section 2 of this *Guideline*, the *OHS Act* and *Regulation 851* establish a legal requirement for the periodic examination of powered lift trucks to confirm their safety and load-handling capability. It is the responsibility of the employer, as owner of the equipment, to ensure that such examinations are carried out. However, while some employers have the capacity to do the examinations and resulting maintenance work in-house, many will have to use an external maintenance contractor. It is therefore important for both employers and maintenance contractors to have a clear understanding of their respective roles. Their duties are summarized below.

Employers

For every powered lift truck in the workplace, the employer shall establish procedures to meet the requirements of clause 25(1)(b) of the *OHS Act* and subsection 51(1) of *Regulation 851*. These procedures must include a periodic inspection to determine the safety of the equipment [clause 51(1)(a)] and its capability of handling its maximum rated load [clause 51(1)(b)]. All examinations are to be carried out by persons qualified as competent, who should have the qualifications outlined in Section 4 of this *Guideline*. The employer should ensure that the examinations are performed in accordance with the manufacturer's specifications for the safe operation of the vehicle and, in any case, that they cover all the items in the **Appendix IV** checklists.

Clause 51(1)(c) of *Regulation 851* requires a powered lift truck to be plainly marked with information that will allow the operator to determine its maximum rated load (see **Appendix I**). The load rating must take into account any modification made to the equipment. An

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employer may ask a maintenance contractor to obtain this information (usually from the manufacturer) and display it on the truck, but that does not alter the fact that ensuring the information is in place is the employer's responsibility.

Regulation 851 requires the employer to keep a permanent record of the clause 51(1)(b) examination. The record must indicate whether the truck being examined can handle its maximum rated load and be signed by the competent person who makes that determination. The regulation does not specify what else should be in the record, but the Ministry suggests that it should:

- cover the inspection points listed in Section 5 (of this Guideline) and recommended by the manufacturer,
- mention any repairs that were made, and
- include the determination of the competent person doing the examination of the capability of the powered lift truck to handle its maximum load as rated.

Maintenance Contractors

Maintenance contractors are not mentioned in the *OHS Act* or *Regulation 851* and therefore do not have direct responsibility for work they do on powered lift trucks under this legislation. They are accountable, however, to the employer who contracts for their services. And employers, in turn, do have duties to ensure that the work is performed to a certain standard, namely, a standard that will meet the requirements of the legislation. This *Guideline* establishes a standard, both for what should be covered in the examination of a powered lift truck and the competency of the person doing the examination.

It is important to note that, while an employer may hire someone to do work necessary to meet the legal requirements for safe equipment, the responsibility for ensuring that such work is done properly, i.e., that the equipment is in fact safe, cannot be contracted out. In terms of powered lift trucks, this means that the maintenance contractor who examines a vehicle and does whatever work is necessary to make it safe cannot be held accountable under the legislation for its safety. All the contractor can do is attest to the condition of the equipment (safe or unsafe) at the time of its examination; this information should be provided as part of the contractor's signed report (see above). An employer's responsibilities under the *OHS Act* or its regulations cannot be passed on to the maintenance contractor.

APPENDIX I
Relevant Excerpts from the Legislation

Occupational Health and Safety Act

Subsection 1(1)

1. (1) In this Act,

"competent person" means a person who,

- (a) is qualified because of his knowledge, training, and experience to organize the work and its performance
- (b) is familiar with the provisions of this *Act* and the regulations that apply to the work, and
- (c) has knowledge of any potential or actual danger to health or safety in the workplace.

Clauses 25(1)(b) and 25(2)(a)(c)(d)&(h)

25. (1) An employer shall ensure that,

- (b) the equipment, materials and protective devices provided by the employer are maintained in good condition;

(2) an employer shall,

- (a) provide information, instruction and supervision to a worker to protect the health or safety of the worker;
- (c) when appointing a supervisor, appoint a competent person;
- (d) acquaint a worker or a person in authority over a worker with any hazard in the work and in the handling, storage, use, disposal and transport of any article, device, equipment or a biological, chemical or physical agent;
- (h) take every precaution reasonable in the circumstances for the protection of a worker;

Subsection 31(1)

31. (1) Every person who supplies any machine, device, tool or equipment under any rental, leasing or similar arrangement for use in or about a workplace shall ensure,

- (a) that the machine, device, tool or equipment is in good condition;
- (b) that the machine, device, tool or equipment complies with this Act and the regulations; and
- (c) if it is the person's responsibility under the rental, leasing or similar arrangement to do so, that the machine, device, tool or equipment is maintained in good condition.

APPENDIX I (Cont'd)
Relevant Excerpts from the Legislation

Regulation for Industrial Establishments, Regulation 851

Section 6

6. Where, under section 5, 51 or 68, a report or permanent record is prescribed to be kept, it shall be kept for,
- (a) a period of at least one year; or
 - (b) such longer period as is necessary to ensure that at least the two most recent reports or records are kept.

Subsections 51(1) and (2)

51. (1) A lifting device shall,

- (a) be so constructed, of such strength and be equipped with suitable ropes, chains, slings and other fittings so as to adequately ensure the safety of all workers;
- (b) be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated,
 - (i) prior to being used for the first time, and
 - (ii) thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year,

and a permanent record shall be kept, signed by the competent person doing the examination;

- (c) be plainly marked with sufficient information so as to enable the operator of the device to determine the maximum rated load that the device is capable of lifting under any operating condition;
- (d) have a cab, screen, canopy guard or other adequate protection for the operator where the operator may be exposed to the hazard of falling material;
- (e) when it is a pneumatic or hydraulic hoist, have controls that automatically return to their neutral position when released.

(2) A lifting device shall be operated,

- (a) only by,
 - (i) a competent person, or
 - (ii) a worker being instructed who is accompanied by a competent person; and
- (b) in such a way that,
 - (i) no part of the load passes over any worker,
 - (ii) where a worker may be endangered by the rotation or uncontrolled motion of a load, one or more guide ropes is used to prevent rotation or other uncontrolled motion, and
 - (iii) subject to subsection (3), when its load is in a raised position the controls are attended by an operator.

APPENDIX I (Cont'd)
Relevant Excerpts from the Legislation

Regulation for Industrial Establishments, Regulation 851

Subsection 51(5)

- (5) Where a lifting device is equipped with limit switches, the switches shall,
 - (a) automatically cut off the power and apply the brake; and
 - (b) not be used as an operating control unless designed for such use, in which case a second limit switch shall be located behind the control limit switch.

Section 52

52. A crane, lift truck or similar equipment shall be used to support, raise or lower a worker only when,
- (a) the worker is on a platform,
 - (i) equipped with adequate safety devices that will automatically prevent the platform and load from falling if the platform's normal support fails,
 - (ii) suspended from a boom that does not move, and the person is attached to a separate lifeline suspended from the boom or a fixed support capable of supporting at least four times the weight of the worker, or
 - (iii) attached to a mast, or boom which,
 - (A) is hydraulically or pneumatically operated, and
 - (B) is equipped with a safety device that will prevent free fall of the platform in the event of a pressure line failure;
 - (b) where the equipment is not designed for the specific purpose of hoisting personnel, the load applied to the crane, lift truck or similar equipment is less than one half the maximum rated load;
 - (c) the platform has a sign indicating the load described in clause (b);
 - (d) where controls are provided at more than one location,
 - (i) each control station is provided with means whereby the operator can shut off power to the equipment, and
 - (ii) interlocks have been provided so that only one station can be operative at any time; and
 - (e) except when the controls are operated from the platform, the controls are attended and operated by another worker.

APPENDIX I (Cont'd)
Relevant Excerpts from the Legislation

Regulation for Industrial Establishments, Regulation 851

Sections 54 to 59

54. (1) Mobile equipment shall,
- (a) when lighting conditions are such that its operation may be hazardous, have head lights and tail lights that provide adequate illumination;
 - (b) when exposed to the hazard of falling material, have a screen or canopy guard adequate to protect the operator;
 - (c) be used to transport a person, other than the operator, only when that worker is seated in a permanently installed seat; and
 - (d) subject to subsection (2), be operated only by a competent person.
- (2) Clause (1) (d) does not apply to mobile equipment operated by a worker while the worker is being instructed and accompanied by a competent person.
55. A vehicle used to transport structural steel, logs or similar loads shall have a bulkhead between the operator's cab and the load that is reasonably capable of resisting any impact caused by the shifting of the load under emergency stop conditions.
56. Where the operator of a vehicle, mobile equipment, crane or similar material handling equipment does not have a full view of the intended path of travel of the vehicle, mobile equipment, crane or similar material handling equipment or its load, the vehicle, mobile equipment, crane or similar material handling equipment shall only be operated as directed by a signaler who is a competent person and who is stationed,
- (a) in full view of the operator;
 - (b) with a full view of the intended path of travel of the vehicle, mobile equipment, crane or similar material handling equipment and its load; and
 - (c) clear of the intended path of travel of the vehicle, mobile equipment, crane or similar material handling equipment and its load.
57. A vehicle left unattended shall be immobilized and secured against accidental movement.
58. Powered equipment shall not be left unattended unless forks, buckets, blades and similar parts are in the lowered position or solidly supported.
59. Except for the purpose of a test of the material handling equipment, no material handling equipment shall be loaded in excess of its maximum rated load.

APPENDIX II

Industrial Truck Association (ITA) Truck Classes

Class 1 - Electric Motor Rider Trucks

Lift Code 1	Counterbalanced Rider Type, Stand Up
Lift Code 4	Three Wheel Electric Trucks, Sit Down
Lift Code 5	Counterbalanced Rider Type, Cushion Tires, Sit Down
Lift Code 6	Counterbalanced Rider, Pneumatic or Either Type Tire, Sit Down (includes high- and low-platform)

Class 2 - Electric Motor Narrow Aisle Trucks

Lift Code 1	High Lift Straddle
Lift Code 2	Order Picker
Lift Code 3	Reach Type Outrigger
Lift Code 4	Side Loaders, Turret Trucks, Swing Mast and Convertible Turret/Stock Pickers
Lift Code 6	Low Lift Pallet and Platform (Rider)

Class 3 - Electric Motor Hand Trucks

Lift Code 1	Low Lift Platform
Lift Code 2	Low Lift Walkie Pallet
Lift Code 3	Tractors (Draw Bar Pull Under 999 lbs.)
Lift Code 4	Low Lift Walkie/Center Control
Lift Code 5	Reach Type Outrigger
Lift Code 6	High Lift Straddle
Lift Code 7	High Lift Counterbalanced
Lift Code 8	Low Lift Walkie/Rider Pallet

Class 4 - Internal Combustion Engine Trucks - Cushion Tires Only

Lift Code 3	Fork, Counterbalanced (Cushion Tire)
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Class 5 - Internal Combustion Engine Trucks - Pneumatic Tires Only

Lift Code 4	Fork, Counterbalanced (Pneumatic Tire)
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Class 6 - Electric and Internal Combustion Engine Tow Tractors

Lift Code 1	Sit-Down Rider (Draw Bar Pull Over 999 lbs.)
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Class 7 - Rough Terrain Fork Lift Trucks

Lift Code 1	All Rough Terrain Lift Trucks
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Class 8 - Personnel and Burden Carriers

Lift Code 1	All Personnel and Burden Carriers
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APPENDIX III

TRAINING OBJECTIVES Knowledge to be Acquired

	INSTRUCTIONAL OBJECTIVES	FINAL OUTCOMES FOR OPERATOR COMPETENCE
<p>Applicable Legislation</p>	<ul style="list-style-type: none"> • Applicable sections of the <i>Occupational Health and Safety Act</i> (the Act) • Applicable sections of Regulations made under the Act 	<p>A competent operator knows/understands:</p> <ul style="list-style-type: none"> • a worker's duties • a worker's right to refuse work where health or safety is in danger • an employer's duties to protect workers • how to ensure the safety of other workers in the area • requirements for lifting devices, material handling, motor vehicles, traffic control • requirements related to the handling of loads • requirements for protective equipment
<p>Features of the Lift Truck</p>	<ul style="list-style-type: none"> • Lift Truck Operating Principles and Features 	<ul style="list-style-type: none"> • lift truck classification and designations • lift truck stability triangle and trapezoid • what is meant by load centres • centre of gravity of load • longitudinal and lateral stability • "centre of gravity" of lift truck • the effects of speed, acceleration, sharp cornering, height, attachment, grade/ ramps and load security • operator blind spots associated with the design of the lift truck (components, permanent equipment, attachment) • the main components of the lift truck with emphasis on the lifting/handling systems and their basic functions • the factors affecting stability, reach/ retract, counterbalance principles, tilt • the location of the capacity plate and the information outlined on the plate - model/ serial number, capacity rating at a given load centre at a given height, maximum lifting height of forks/attachment, truck weight and minimum battery weight

APPENDIX III (Cont'd)

TRAINING OBJECTIVES Knowledge to be Acquired

	INSTRUCTIONAL OBJECTIVES	FINAL OUTCOMES FOR OPERATOR COMPETENCE
Features of the Lift Truck	<ul style="list-style-type: none"> • Manufacturer's Specifications 	<p>A competent operator knows/understands:</p> <ul style="list-style-type: none"> • where to access the Operator Manual • the operating information outlined in the Manual • the pre-operational and maintenance tasks described in the Operator Manual
Hazards in the Workplace	<ul style="list-style-type: none"> • Dangerous Activities 	<p>A competent operator understands the dangers of:</p> <ul style="list-style-type: none"> • operating with restricted visibility (blind spots, corners, intersections) • parking a vehicle on an incline • not stopping before entering an incline • travelling over railway tracks • allowing riders unless there is an approved passenger seat • permitting anyone to stand/walk under loads or ride on loads • not keeping all parts of the body inside the operator's compartment at all times • travelling with the load lifted more than 10 cm above the floor • dragging the forks when inserting or withdrawing them from a load • increasing the capacity of the truck or overloading the truck • stunt driving and horseplay • allowing anyone to stand on the forks or climb on the upright assembly • driving up to someone in front of a fixed object - e.g., wall, bench • moving a load with someone steadying it • jumping from the lift truck in the event of a tip over • uneven surfaces • mast not tilted back far enough to stabilize the load

APPENDIX III (Cont'd)

TRAINING OBJECTIVES
Knowledge to be Acquired

	INSTRUCTIONAL OBJECTIVES	FINAL OUTCOMES FOR OPERATOR COMPETENCE
Hazards in the Workplace	<ul style="list-style-type: none"> • Dangerous Conditions 	<p>A competent operator understands the dangers of:</p> <ul style="list-style-type: none"> • explosive atmospheres • operating on a slippery surface (floor, ramps, dock plate etc.) • the accumulation of exhaust emissions (carbon monoxide) in restricted spaces such as railway cars, trucks etc. • operating with restrictions such as overhead equipment and/or other obstructing stationary building structures • pedestrian traffic along the path of the travel route • workplace noise • inadequate lighting • other vehicular traffic
Workplace Specific Procedures and Practices	<ul style="list-style-type: none"> • Emergency Procedures • Workplace Specific Rules and Procedures 	<p>A competent operator knows/understands:</p> <ul style="list-style-type: none"> • the emergency procedures defined by the employer • how to operate the particular type or class of fire extinguisher in the workplace • the procedures and rules that have been established by the employer to ensure safe operation of powered lift trucks in the workplace including, rules for when pedestrians have the right-of-way, code of signals used to manage traffic (if any), rules for maintenance, testing and repair of the lift truck

APPENDIX III (Cont'd)

TRAINING OBJECTIVES Skills to be Acquired

PROCEDURE	TASKS To be assessed	FINAL OUTCOMES FOR OPERATOR COMPETENCE
<p>General Operation</p>	<ul style="list-style-type: none"> • Pre-operational Check (Circle Check) • Start-Up • Starting, Stopping and Turning 	<p>Before operating a lift truck, a competent operator:</p> <ul style="list-style-type: none"> • carries out a visual inspection of the truck and its attachments to ensure that all are in good operating condition, using a checklist provided by the employer • follows recommended procedures for daily inspections of oil and water levels <p>A competent operator:</p> <ul style="list-style-type: none"> • uses the correct mounting procedure • assumes the appropriate driving position • ensures transmission/directional control lever in "Neutral" • ensures parking brakes applied • activates start button/ switch • ensures warning system operating <p>A competent operator:</p> <ul style="list-style-type: none"> • starts and stops safely with and without a load • allows sufficient room for turning corners • operates at low speed when turning • uses appropriate steering techniques when turning in confined and limited spaces

APPENDIX III (Cont'd)

TRAINING OBJECTIVES Skills to be Acquired

PROCEDURE	TASKS To be assessed	FINAL OUTCOMES FOR OPERATOR COMPETENCE
<p>General Operation</p>	<ul style="list-style-type: none"> • Shut-Down/Parking • Forward and Reverse Driving on Level Ground 	<p>A competent operator:</p> <ul style="list-style-type: none"> • brings the truck to a complete stop, sets the parking brake, returns transmission/ directional control lever to "Neutral" • lowers forks to the ground, tilts them forward • uses appropriate shut down procedures and turns off power supply • chocks wheels if risk of truck moving • keeps all parts of the body inside the operator's compartment at all times • ensures clear visibility in the intended direction of travel • if visibility is restricted, drives the truck in reverse or asks to be guided • keeps the load-engaging means or the load itself low (usually within 10 cm of the floor) and tilted backward • keeps safe operating distance from other lifting devices, pedestrians, machinery • observes traffic management rules established by the employer • drives at an appropriate speed, taking into consideration the type of device, the load, the pedestrian traffic along the path of the travel route, any obstructions and the condition of the driving surface • adjusts fork arms and/or attachments appropriately to maintain stability • observes weight restrictions for floors and elevators • takes appropriate action when meeting restrictions such as overhead equipment and/or other obstructing stationary structures

APPENDIX III (Cont'd)

TRAINING OBJECTIVES Skills to be Acquired

PROCEDURE	TASKS To be assessed	FINAL OUTCOMES FOR OPERATOR COMPETENCE
<p>General Operation</p>	<ul style="list-style-type: none"> • Forward and Reverse Driving on Inclines, Ramps or Uneven Terrain • Operating Around Personnel 	<p>A competent operator:</p> <ul style="list-style-type: none"> • when not carrying a load, travels forward down an incline and travels in reverse up an incline • when carrying a load, travels in reverse down an incline and travels forward up an incline • ensures that there is sufficient clearance for the lift truck, operator and load prior to travelling on an incline or uneven terrain • does not turn the truck around on a ramp or incline • drives at an appropriate speed taking into consideration the effects of gradient on the truck and on load security • approaches the grade straight and not at an angle • operates in gear • ensures visibility is clear in the direction of travel • verifies that the incline does not exceed the maximum permissible slope <p>A competent operator:</p> <ul style="list-style-type: none"> • always faces in the direction of travel • when turning, ensures no personnel within the truck's danger zone • observes employer's guidelines for ensuring the safety of pedestrians • if stopped at intersection, does not move until eye contact made with any personnel at intersection • maintains safe distance from pedestrians

APPENDIX III (Cont'd)

TRAINING OBJECTIVES Skills to be Acquired

PROCEDURE	TASKS To be assessed	FINAL OUTCOMES FOR OPERATOR COMPETENCE
Load Handling	<ul style="list-style-type: none"> • Selection of Loads • Load Pick-Up and Placement • Load Security and Integrity 	<p>Before picking up a load, a competent operator:</p> <ul style="list-style-type: none"> • assesses the weight distribution of the load and identifies limitations of the structures where the load has to be placed • ensures that load is within the rated capacity for the device, taking into account the job to be done • checks forks/attachments to ensure that they are safe to use with respect to capacity rating <p>A competent operator:</p> <ul style="list-style-type: none"> • checks overhead clearance • ensures truck safe distance from any live power lines • engages <u>at least</u> 2/3 of the load length to be lifted and centres load evenly on forks • adjusts the tilting angle of the mast, height of fork arms and reach extension to stabilize load • ensures no loose articles lying on top of the load • does not drag the forks when inserting or withdrawing them from a load • does not raise or lower loads while truck is in motion <p>A competent operator:</p> <ul style="list-style-type: none"> • observes the limits for freestanding stack height • makes sure load is secure and balanced before lifting

APPENDIX III (Cont'd)

TRAINING OBJECTIVES
Skills to be Acquired

PROCEDURE	TASKS To be assessed	FINAL OUTCOMES FOR OPERATOR COMPETENCE
<p>Load Handling</p>	<ul style="list-style-type: none"> • Stacking and Destacking • Personnel Lifting, Lowering and Supporting 	<p>A competent operator:</p> <ul style="list-style-type: none"> • is able to stack safely the particular types of loads encountered in the workplace • ensures that pallets or skids are safe to be moved and stored; for example, ensures no broken runners or legs • ensures lift truck meets prescribed requirements • uses only a platform specifically designed for the purpose and having a guardrail • ensures that the platform is secured to the mast as prescribed • raises and lowers the platform to test its operation before allowing anyone on it • ensures that the person on the platform is secured as prescribed • keeps the upright in a vertical position • remains at the controls at all times while a person is on the platform • does not travel with personnel on the platform • ensures the safety of pedestrians in the area

APPENDIX III (Cont'd)

TRAINING OBJECTIVES Skills to be Acquired

PROCEDURE	TASKS To be assessed	FINAL OUTCOMES FOR OPERATOR COMPETENCE
<p>Loading and Unloading</p>	<ul style="list-style-type: none"> • Unloading 	<p>A competent operator:</p> <ul style="list-style-type: none"> • verifies that the structure where the load has to be placed is able to carry the weight of the load • when stacking loads, does not block access to fire extinguishers, exits or stairways • ensures the load at the bottom is secure and levelled • tilts load forward • exits with forks level
<p>Operational Maintenance</p>	<ul style="list-style-type: none"> • Refuelling and Recharging 	<p>A competent operator who will perform routine maintenance and has been trained to do so safely:</p> <ul style="list-style-type: none"> • follows the manufacturer's requirements and employer's procedures for safe refuelling and recharging of lift trucks including: <ul style="list-style-type: none"> - wearing the appropriate personal protective equipment, including eye protection - properly positioning and securing vehicle - observing workplace precautions with respect to fires

APPENDIX IV Maintenance Checklists

The general safety inspection (to meet clause 25(1)(b) of the *OHS Act*) and the examination to evaluate a lift truck's maximum load capability (to comply with clause 51(1)(b) of O.Reg. 851, should be carried out in accordance with the truck manufacturer's specifications. These examinations should cover, but not necessarily be limited to, all the items in the checklists, which follow. Items that should be included in the evaluation of the lift truck's maximum load capability are in Checklists A, B and C. The general safety inspection should cover the items in Checklist D as well.

This Guideline refers only to what should be checked in carrying out a safety inspection of a powered lift truck. No attempt has been made to say how such an examination should be carried out. Instead the Guideline details the qualifications that the competent person doing the examination should have. It is assumed that this competent person will know how to apply the manufacturer's specifications, the principles of good engineering practice and the criteria in applicable standards to determine, for each point on the checklists, whether an item passes or fails. Reliance is also placed on the competence of the maintenance technician to know whether an operational test, visual inspection or more intrusive examination is required.

Every effort should be made to obtain the manufacturer's specifications for the powered lift truck. The examination of the items listed in the following checklists should be carried out in accordance with directions in the specifications.

CHECKLIST A - Load-handling Device

1. Manufacturer's Specification Plates

- truck plate —
- attachment plate —
- information shown on the capacity plate matches the truck, mast and currently installed attachments —

2. Forks

- record fork length, width and thickness —
- in accordance with manufacturer's specifications (note any unauthorized cutting, cracks and heel wear) —
- straightness of blade and shank —
- fork angle —
- fork tip height and condition —
- tube condition —

CHECKLIST A - Load-handling Device (cont'd)

2. Forks (cont'd)

- welded areas- blade and heel _____
 - hook mount forks _____
 - shaft mount forks _____
 - special forks _____
 - attachments to forks _____
- latch pins (where originally provided) _____

3. Attachments

- visual and operational check _____
- in accordance with manufacturer's specifications _____
- attachment mounting _____
- load bearing arms (straightness & twists) _____
- pivot points and hinges _____
- hanger brackets _____
- latch pins _____
- stops _____
- load backrest condition _____

4. Movement

- carriage free and unobstructed _____
- anchors _____
- stub shafts _____
- bearings _____
- weldments/forkbars _____

CHECKLIST B - Elevating Section

1. Lift Chains

- anchors _____
- guards _____
- elongation _____
- wear (with wear gauge) _____
- adjustment (as per manufacturer's specifications) _____

2. Mast

- visual and operational check of mast operation _____
- mast mounting, bushings and pivots _____
- rails - straightness _____
 - wear _____
- cross bracing _____
- pins _____

CHECKLIST B - Elevating Section (cont'd)

2. Mast (cont'd)

- chain guiderollers _____
- wear strips and guides _____
- hoses, pulleys and fittings _____
- latches - stops _____

3. Hydraulic System

- lift cylinders - anchors _____
 - piston head guides _____
 - lines _____
 - leaks _____
 - drift test _____
- tilt cylinders - anchors _____
 - racking _____
 - rod end retainer _____
 - tilt angle (degrees) Forward ____ Back ____ _____
 - lines _____
 - leaks _____
 - drift test _____
- set hydraulic pressure relief valves _____
- lift/lower levers - identified and in good condition _____

4. Welds and Fasteners _____

CHECKLIST C - Propulsion System

1. Brakes

- test operation _____
- wheel cylinders _____
- master cylinder _____
- brake lines _____

2. Tires

- check tire pressure for load-rating capacity _____
- check for damage, wear and missing hardware _____

3. Battery

- minimum allowable weight from manufacturer's specifications _____
- Manufacturer _____ Model _____ Serial No. _____
- battery weight _____
- battery position _____
- battery restraining devices _____
- leaks _____

CHECKLIST C - Propulsion System (cont'd)

- 4. Counterweight
 - mounting _____
 - unauthorized additions or missing weights _____
 - cracks _____

CHECKLIST D - General Safety

- 1. Transmission _____
- 2. Tires
 - driving and steering characteristics _____
 - bonding _____
- 3. Steering
 - check steering wheel for physical damage _____
 - check steer axles and box _____
 - operational check of wheel bearings _____
- 4. Overhead Guard
 - secured _____
 - breaks or cracks _____
 - missing pieces _____
 - modifications _____
- 5. Propane Equipment
 - fuel tank mounting system secure _____
 - fuel tank position pin intact _____
 - check propane relief valves _____
 - check hose condition _____
- 6. Other
 - check failsafe components of electrical controls _____
 - warning devices (lights, bells, whistles) _____
 - engine operation and emissions _____
 - seat (secure, belts) _____
 - seat and handle switches _____
 - fuel leaks _____
 - carbon monoxide (CO) emission test _____

APPENDIX V
Safe Workplace Associations

Construction Safety Association of Ontario (CSAO)

21 Voyager Court South
Etobicoke, Ontario
M9W 5M7

Office: (416) 674-2726
Fax: (416) 674-8866
1-800-781-CSAO (2726)

Education Safety Association of Ontario (ESAO)

4950 Yonge Street, Toronto Madison Centre,
Suite #1505
Toronto, Ontario
M2N 6K1

Office: (416) 250-8005

Electrical Utilities Safety Association (EUSA)

220 Traders Boulevard East
Mississauga, Ontario
L4Z 1W7

Office: (905) 890-1011
Fax: (905) 890-9249

Farm Safety Association Inc. (FSA)

340 Woodlawn Road West, Suite #22
Guelph, Ontario
N1H 7K9

Office: (519) 823-5600
Fax: (519) 823-8880

Health Care Health and Safety Association

4950 Yonge St., Suite 1505
North York, Ontario
M2N 6K1

Office: (416) 250-7444
Fax: (416) 250-9190

Industrial Accident Prevention Association (IAPA)

250 Yonge Street, Suite 2800
Toronto, Ontario
M5B 2N4

Office: (416) 506-8888
Fax: (416) 506-8880

APPENDIX V (Cont'd)
Safe Workplace Associations

Mines and Aggregates Safety and Health Association (MASHA)

690 McKeown Avenue
North Bay, Ontario
P1B 7M2

Office: (705) 474-7233
Fax: (705) 472-5800

Municipal Health & Safety Association (MHSA)

220 Traders Boulevard East
Mississauga, Ontario
L4Z 1W7

Office: (905) 507-1882
Fax: (905) 890-9249

Ontario Forestry Safe Workplace Association (PPSWA)

690 McKeown Avenue
North Bay, Ontario
P1B 7M2

Office: (705) 474-7233
Fax: (705) 474-4530

Ontario Service Safety Alliance (OSSA)

4950 Yonge Street, Suite 1500
North York, Ontario
M2N 5N6

Office: (416) 250-9111
Fax: (416) 250-9500

Pulp and Paper Safe Workplace Association (PPSWA)

690 McKeown Avenue
North Bay, Ontario
P1B 7M2

Office: (705) 474-7233
Fax: (705) 472-5800

Transportation Safety Association of Ontario (TSAO)

555 Dixon Road, Suite 101
Rexdale, Ontario
M9W 1H8

Office: (416) 242-4771
Fax: (416) 242-4714
INWATS: 1-800-263-5016

Workers Health and Safety Centre (WHSC)

15 Gervais Drive, Suite 102
Don Mills, Ontario
M3C 1Y8

Office: (416) 441-1939
Fax: (416) 441-0399

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