

CANADA LABOUR CODE
PART II
OCCUPATIONAL SAFETY AND HEALTH

Review under section 146 of the Canada Labour Code, Part II
of a direction issued by a safety officer

Applicant: Port Royal Mills
Represented by: Mr. Kresho Petrovich, Owner
& Mr. Jim Fode, Mill Manager

Mis en cause: Roma Duncalfe
Safety Officer
Human Resources Development Canada

Before: Serge Cadieux
Regional Safety Officer
Human Resources Development Canada

A visit of the work place described in the direction (see APPENDIX) was held on September 4, 1996 in Aurora, Ontario. In attendance were Jim Fode, mill manager; Bob Gass, safety officer representing Roma Duncalfe, the safety officer who issued the direction; Doug Malanka, Regional Safety Officer with the Office of the Regional Safety Officer; and myself. Nobody attended as the representative for the employees. The mill normally has a staff of four employees.

Background

This case began with an inspection carried out by provincial authorities i.e. the Ontario Ministry of Labour (MOL), of the work place operated by Port Royal Mills. After determining that feed mills in general came under federal jurisdiction, the MOL decided to transfer the file respecting this company to federal authorities i.e. Human Resources Development Canada, Labour Program. Safety officer Roma Duncalfe was assigned the responsibility to follow-up on the initial inspection of Port Royal Mills. In her narrative investigation report, which was submitted as evidence in this case, the safety officer describes the details of her intervention in the following terms:

Intervention/Method: An unannounced work place inspection was conducted on Thursday, July 4, 1996. This was followed by another visit on Monday, July 8, 1996 to deliver 3 directions to the employer & to obtain an assurance of voluntary compliance for a number of other occupational safety and health issues.

Findings: The interior of the work place consists of a mill room, in which grain is processed and an adjacent warehouse area.

An electric fork lift truck, with exposed live electrical parts in the motor, was observed operating inside the mill room, during the actual processing and handling of grain products. The *Canadian Electrical Code* classifies this type of location as Class II, Division 1 (18-006), because the activity of processing and handling grain products may produce combustible grain dusts which may achieve quantities sufficient to produce explosive or ignitable mixtures. It requires that no live parts of electrical equipment be exposed (18-224).

A copy of the mill room layout, which was apparently prepared by the employer and was provided to the Ontario Ministry of Labour, is attached as Appendix 4. Its purpose was to illustrate that a ventilation system exists, whereby a combustible atmosphere could maybe be prevented. However, the very nature of the work performed in the mill room, as classified by the *Canadian Electrical Code*, requires that no live electrical parts be exposed, because, during milling operations, the potential for the production of sufficient quantities of combustible grain dusts, that could create an explosive or ignitable mixture, clearly exists. This classification is independent of any ventilation system requirements, and the mill room drawing provided by the employer was not considered to be conclusive proof of the elimination of any danger from explosion.

Resolution: With respect to the operation of the electric fork lift truck within the mill room, a direction was issued pursuant to Paragraph 145(2)(a) of the Canada Labour Code, to not use that fork lift in the mill room during the processing and handling of grain products, which may produce combustible grain dusts. This decision was made in accordance with Paragraph 125(i) of the Canada Labour Code and Subsection 17.11(1) of the Canada Occupational Safety and Health Regulations.

It should be noted that safety officer Robert Gass confirmed that during the inspection of the mill by safety officer Roma Duncalfe, she observed the mill in operation and noticed that, during the sifting operation, a reasonable amount of combustible flour dust was produced.

Submission for the employer

No written submissions were entered by the employer in this case notwithstanding that the employer was invited to submit the reasons for requesting a review of the direction issued by the safety officer.

However, in a telephone conversation that I had during my visit of the Port Royal Mills' work place, Mr. Petrovich explained that his company had installed a ventilation system in the mill room. This, in Mr. Petrovich's view, should be sufficient to reduce the grain dust concentration to a safe level since the air in the room is being exchanged every one and one half (1 1/2) minute. Mr. Petrovich is also of the view that the direction should not apply in this case because his mill is not a conventional mill since it is a contained system.

Decision

The issue to be decided in this case is whether the operation of the electrically powered lift truck used at Port Royal Mills constitutes a danger to an employee at work. Since the safety officer specified provisions of the Canada Labour Code, Part II (hereafter the Code) and the pursuant Canada Occupational Safety and Health Regulations (hereafter the Regulations), I will also determine whether those provisions support a finding of danger.

The safety officer described the danger in the following terms:

ADuring the processing or handling of grain products, it is dangerous for an employee to use the forklift truck, which has exposed electrically live parts, inside the mill room, which contains equipment that may produce combustible grain dusts.

- Paragraph 125(i) of the Canada Labour Code - Part II, and subsection 17.11(1) of the Canada Occupational Safety and Health Regulations.@

The provisions of interests, referenced above, are:

paragraph 125(i) of the Code, which provides:

125 Without restricting the generality of section 124, every employer shall, in respect of every work place controlled by the employer,

(i) ensure that the vehicles and mobile equipment used by the employees in the course of their employment meet prescribed safety standards;

and subsection 17.11(1) of the Regulations which provides:

17.11 (1) Subject to subsection (2), no person shall, in a fire hazard area,

(a) use any equipment, machinery or tool of a type that may provide a source of ignition; or

(b) smoke or use an open flame or other source of ignition.

The first question to be answered is whether the mill room is a Afire hazard area@ as provided by subsection 17.11(1) of the Regulations? AFire hazard area@ is defined at section 1.2 of the Regulations to mean:

"fire hazard area" means an area that contains or is likely to contain explosive or flammable concentrations of dangerous substances;

It is a widely known fact, in the grain industry, that grain dust will explode when the concentration of dust in the air exceeds a certain level and there is a source of ignition of sufficient energy to ignite the grain dust. The safety officer reported that those conditions were present during her

investigation. She deduced from reading the Canadian Electrical Code that this type of location i.e. the mill room, is classified Aas Class II, Division 1 (18-006), because the activity of processing and handling grain products may produce combustible grain dusts which may achieve quantities sufficient to produce explosive or ignitable mixtures.@ Also, Mr. Fode confirmed that the electrical installation in the mill room had been approved for that type of hazardous location under the Canadian Electrical Code.

I am therefore satisfied that the mill room is a hazardous location which is, at least, likely to contain explosive or flammable concentrations of grain dusts, whether through grinding, sieving or any other activity directly related to the processing of grain. Consequently, the mill room meets the definition of a fire hazard area.

I am also satisfied that an electric fork lift truck is equipment that may provide a source of ignition in a grain dust environment due to a number of characteristics of that equipment. For example, the exposed live electrical parts of the fork lift truck will produce sparks capable of igniting flour dust and cause its sudden combustion. Experience has shown that the consequences are devastating. The forks of the truck are also likely to produce sparks capable of igniting the grain dust when the forks scrape the concrete floor of the mill. Furthermore, there are other sources of ignition being used in the mill room. For example, employees are using an electrically powered pallet truck, a materials handling equipment, with the same electrical deficiencies observed on the electric fork lift truck.

Section 17.11 of the Regulations provides for a minimum standard, one that must be strictly adhered to in order to protect the safety and health of employees at work. The use of equipment that will provide a source of ignition in a fire hazard area, such as the mill room, will inevitably endanger the life, health and safety of the employees using that equipment. In those situations where there exists or may exist enough airborne combustible dust to produce an explosion or ignitable mixture, only industrial trucks approved for use in such locations may be used. The electrically powered fork lift truck seen by the safety officer during her inspection was not approved for this type of fire hazard area. Consequently, there is sufficient evidence that non-compliance with paragraph 17.11(1)(a) of the Regulations constitutes a danger to the employees of Port Royal Mills.

I would therefore agree with the direction issued given that no arguments were submitted in the instant case to assert that subsection 17.11(2)¹ of the Regulations apply. I leave it up to the safety

¹ Section 17.11(2) Where it is not reasonably practicable to avoid performing work involving the use of any equipment, machinery or tool that may provide a source of ignition in an area that has an atmosphere that contains or is likely to contain explosive concentrations of combustible dust or in an area where combustible dust has accumulated in a sufficient quantity to be a fire hazard, the following shall apply:

- (a) the atmosphere and surfaces in the area where the work is to be performed and within that portion of the surrounding area that is accessible to sparks or pieces of hot metal produced by the work shall be substantially free of combustible dust;
- (b) where any equipment, machinery or tool produces combustible dust that may reach the areas referred to in paragraph (1), the equipment, machinery or tool shall be made inoperative prior to and during the time the work is being performed;
- (c) in so far as is practicable, the area where the work is to be performed shall be enclosed to prevent the escape of sparks or pieces of hot metal produced by the work;
- (d) all openings in floors and walls through which sparks or pieces of hot metal produced by the work may pass shall be sealed or covered to prevent such passage;
- (e) any combustible materials within the areas referred to in paragraph (a) shall be removed or, if this is not reasonably practicable, shall be covered with a non-combustible protective covering;
- (f) floors and walls of combustible material within the areas referred to in paragraph (a) shall be protected from the fire hazard by
 - (i) drenching the surfaces of the floors and walls with water, or

officers and to the employer representatives to determine whether that latter provision applies in the instant case. The onus is on the employer to demonstrate, to the satisfaction of a safety officer, that it is not reasonably practicable to avoid performing work in the mill room involving the use of the unapproved electric fork lift truck and that the conditions specified under that latter provision can be met.

The direction must be corrected to reference the proper provisions of the Code authorizing section 17.11 of the Regulations. That particular provision is not authorized by paragraph 125(i) of the Code, as specified by the direction, but by paragraphs 125²(o) and (p) of the Code with respect to the duties imposed on the employer. For this reason, **I HEREBY VARY** the direction given under paragraph 145(2)(a) of the Code, on July 4, 1996, by safety officer Roma Duncalfe to Port Royal Mills by replacing the reference to paragraph 125(i) of the Code, in the third paragraph (indented paragraph) of the direction, with a reference to paragraphs 125(o) and (p) of the Code.

Decision rendered on October 30, 1996

Serge Cadieux
Regional Safety Officer

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- (ii) covering the floors and walls with a non-combustible protective covering;
 - (g) the work shall be performed under the supervision of a qualified person, who shall remain in the work area while the work is performed and for 30 minutes thereafter; and
 - (h) there shall be readily available in the work area at least one hand-held portable fire extinguisher and
 - (i) a water hose at least 25 mm in diameter that is connected to a water supply line, or
 - (ii) a supply of not less than 200 L of water and a bucket.
- 2 125 Without restricting the generality of section 124, every employer shall, in respect of every work place controlled by the employer,
- (o) comply with such standards as are prescribed relating to fire safety and emergency measures;
 - (p) ensure, in the manner prescribed, that employees have safe entry to, exit from and occupancy of the work place;

APPENDIX

IN THE MATTER OF THE CANADA LABOUR CODE
PART II - OCCUPATIONAL SAFETY AND HEALTH

DIRECTION TO THE EMPLOYER UNDER SUBSECTION 145(2)(a)

On July 4, 1996, the undersigned safety officer conducted an inspection of the work place operated by Port Royal Mills, as being an employer subject to the Canada Labour Code, Part II, at 240 Industrial Parkway South, Aurora, Ontario.

The said safety officer considers that the use or operation of a machine constitutes a danger to an employee while at work:

During the processing or handling of grain products, it is dangerous for an employee to use the forklift truck, which has exposed electrically live parts, inside the mill room, which contains equipment that may produce combustible grain dusts.

- Paragraph 125(i) of the Canada Labour Code - Part II, and subsection 17.11(1) of the Canada Occupational Safety and Health Regulations.

Therefore, you are **HEREBY DIRECTED**, pursuant to paragraph 145(2)(a) of the Canada Labour Code, Part II, to immediately take measures for guarding the source of the danger.

Issued at Aurora, this 4th day of July 1996

Roma Duncalfe
Safety Officer #1855

To: Port Royal Mills
240 Industrial Parkway South, Aurora,

SUMMARY OF REGIONAL SAFETY OFFICER DECISION

Applicant: Port Royal Mills

KEYWORDS

Electrical fork lift truck, grain dust, ignition, fire hazard area, Canadian Electrical Code, pallet truck, combustible.

PROVISIONS

Code: 125(i), (o), (p); 145(2)(a)
COSH Regulations: 17.11

SUMMARY

A safety officer observed that an electrically powered fork lift truck, with exposed electrical parts in the motor, was operating inside a mill room during the actual processing of grain products. She issued a direction for danger to the employer indicating that it was dangerous to operate the unapproved fork lift truck because the activity of processing and handling grain products may produce combustible grain dusts in the presence of a source of ignition. The RSO fully agreed with the direction but VARIED the direction to correct the reference to the wrong provision of the Code authorizing section 17.11 of the Regulations.