Decision: 92-011

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

Appellant:	Canadian National (CN) Car department Montreal, Quebec Represented by: Marc Laliberté Superintendent
Interested Party:	Canadian Auto Workers (CAW) Railways Division Local 100 Represented by: John Merritt Legal Co-ordinator
Mis-en-cause:	André Lamer Safety Officer Labour Canada
Before:	Serge Cadieux Regional Safety Officer

A hearing was held on September 8, 1992 in Montreal. It was agreed at the end of the hearing to allow Mr Merritt to file written submissions, in addition to the oral evidence, within a period of time acceptable to the parties. The appellant made use of its right to respond to the issues raised.

Background

On March 24, 1992, André Lamer, Safety Officer, attended at the work place operated by Canadian National, at Taschereau Yard car shop, in Montreal, Quebec. Mr Lamer went to the office of Mr Berrada, assistant superintendent, car department. It was then that the safety officer noticed that an employee was working under a wagon with an acetylene torch. Oxyacetylene cutting is an operation involving the cutting of metal using a torch. The safety officer was struck by the fact that the head of the employee cutting the metal was enveloped in fumes.

The officer continued towards Mr Berrada's office where he spent approximately one half-hour in a meeting. On his return, the officer noted that the employee was still cutting underneath the wagon, with his head in the fumes and no respiratory protection or local ventilation, *ie* ventilation at the source to capture the fumes containing small particles in suspension and gas that is produced by the oxyacetylene cutting process. He told him that he did not find this situation normal. Such ventilation was lacking at the time, according to Mr Laliberté, because it is impossible to position a local ventilation device in such a place. After checking with the employee, the safety officer confirmed that the employee had received no training in the use of respiratory devices.

The safety officer was of the opinion that the CN was in contravention of the Canada Labour Code, Part II, in allowing this employee to work in that manner without respiratory protection and adequate training. On March 30, 1992, the officer issued the direction that is now under review. The direction stated that CN was in violation of the Code and Part XII (Safety Materials, Equipment, Devices and Clothing) of the Canada Occupational Health and Safety Regulations (hereinafter the Regulations) in the manner set out as follows:

> "In the car shop an employee was burning (cutting) underneath a wagon without respiratory protection (a mask), and had not received any training on using masks."

Submissions

At the hearing, the safety officer told us that he was quite familiar with the hazards associated with fumes released during oxyacetylene cutting. He explained to us that these fumes consist of very small dust particles which are deposited in the lungs, and that, eventually, a certain proportion of the particles enter the bloodstream. The fumes, the officer explained, consist primarily of iron oxides, the tolerance for which is quite low. In addition, the decomposition of the paint and oils covering the metal to be cut, as a result of the heat, releases toxic products such as lead and zinc compounds and harmful vapours. It was the officer's opinion that the employee, who had been cutting under the wagon for quite some time with his head in the fumes and no respiratory protection or local ventilation, was over-exposed.

Mr Merritt, of CAW, suggested that the safety officer had issued the direction because he thought that the employee was in a dangerous situation. Mr Merritt was also concerned that there may have been PCBs (polychlorinated biphenyls) in the paint on the wagons, which can produce highly toxic substances when decomposing under the effects of heat.

The employer told us that Labour Canada had already conducted a hazards analysis of the welding fumes in the car shop at the Taschereau Yard at the beginning of 1990. Labour Canada's report on the Assessment of welding fumes, dated March 31, 1992, was produced in evidence. According to this report,

> [TRANSLATION]
> "Close to a majority of welders have been exposed to total concentrations of metallic fumes (iron oxides, manganese, chromium, nickel and aluminum) lower than the ACGIH 1985-1986 standards, pursuant to section 10.21 of Part X (Hazardous Substances) of the Canada Occupational Safety and Health Regulations (COSHR)."

Mr Laliberté stated in his written submissions that:

> [TRANSLATION]
> "During the sampling, it was noticed that some welders had no local ventilation or individual protection. Nonetheless, the concentrations to which they were exposed were lower than the prescribed standards."

During the hearing and in response to Mr Merritt's submissions concerning the contamination of the wagons by PCB-based paints (polychlorinated biphenyls), Mr Laliberté told us that these wagons had been identified by a sampling procedure and are well known to the employer, safety and health committees and employees. All welding (or cutting) on these wagons is subject to very strict protective measures including local ventilation and/or individual respiratory protection.

Decision

I must decide in this case whether the safety officer's direction was justified in the circumstances. I am of the view that the direction was justified for the following reasons.

I would like to begin by stating that I am satisfied, on the basis of the submissions made to me, that PCBs are not the source of the hazard in this case. Accordingly, I consider this matter closed.

Subsection 12.7(1) of Part XII (Safety Materials, Equipment, Devices and Clothing) of the Canada Occupational Safety and Health Regulations provides:

> "12.7(1) Where there is a hazard of an airborne hazardous substance or an oxygen deficient atmosphere in a work place, the employer shall provide a respiratory protective device that is listed in the NIOSH Certified Equipment List as of October 1, 1984, dated February 1985, published by the National Institute for Occupational Safety and Health.

It is important at this stage to distinguish between a hazardous substance and the permissible level of exposure set out in the Regulations. In subsection 122(1) of the Code, a hazardous substance is defined as follows:

> "'hazardous substance' includes a controlled product and a chemical, biological or physical agent that, by reason of a property that the agent possesses, is hazardous to the safety or health of a person exposed to it." (emphasis added)

According to that definition, a substance is classified as hazardous because of a property that the substance possesses. The property of a substance is a quality or a characteristic of the substance itself, such as a physical property (eg its boiling point), a chemical property (eg its reactivity), a toxicological property (eg the manner in which it is absorbed) and so on. I refer the reader to the various data sheets for every substance. The property or characteristic of the substance is such that it is hazardous to the safety of a person exposed to it. That is why the presence of a hazardous substance in the air in the employee's work place is enough to justify, as a preventive measure, the application of the requirement set out in subsection 12.7(1) of the Regulations.

However, any particular amount of the substance in the air is not in itself a property of that substance, even though it clearly has an effect on its properties. Under Part X (Hazardous Substances) of the Regulations, an employee may be exposed to a certain level of the hazardous substance without its having an effect on his/her health. However, since the Code sets minimum standards, over-exposure to the hazardous substance puts the employee's safety and health at risk. An evaluation of the hazard is therefore necessary to establish the concentration of the substance in the air as well as the worker's level of exposure.

It is known that oxyacetylene cutting, like welding, generates products of decomposition, such as iron oxides, which are concentrated in the fumes. Moreover, other products are generated when the metal to be cut is rusted or contaminated with oils or other substances. Generally speaking, oxyacetylene cutting, in the conditions noted by the safety officer at the Taschereau yard, must be viewed as a process that releases contaminants that can affect the health and safety of employees. Before the opposite conclusion can be reached, the hazards must have been objectively assessed, in my opinion, and whatever steps were found necessary must have been taken.

The safety officer's power to issue a direction in this case is provided for in subsection 145(1) of the Code as follows:

> "Where a safety officer is of the opinion that any provision of this Part is being contravened, the officer may direct the employer or employee concerned to terminate the contravention within such time as the officer may specify and the officer shall, if requested by the employer or employee concerned, confirm the direction in writing if the direction was given orally." (emphasis added)

In my opinion, in this particular case, the safety officer may assess the situation on the basis of his training, knowledge and experience to affirm that there is indeed a hazard to the health and safety of the employee engaged in oxyacetylene cutting and to direct the employer to take such measures as are prescribed. At that time, the officer gives his professional opinion to the effect that there is a hazard as provided for in subsection 12.7(1) of the said Regulations, which he did in this case. It is then up to the employer to show that the hazard does not exist or, at least, that it is under control.

In discharging the onus upon him, the employer told us that a hazards analysis had been conducted by Labour Canada. This study, it must be remembered, examined the exposure of certain workers to welding fumes in specific conditions at specific work stations. The employer claims that it has been demonstrated that the majority of workers were not over-exposed. In the case of the

employee (of the forge) who was over-exposed, CN Rail was quick to comply with Labour Canada's recommendation in this particular case.

I do not accept the employer's argument. To discharge the burden of proof, the employer had to conduct an investigation as provided for in section 10.2 of Part X (Hazardous Substances) of the Canada Occupational Safety and Health Regulations and show that there was no hazard for the employee in working on acetylene cutting in the conditions noted by the safety officer. The employer did not conduct such an investigation. The Labour Canada study did not consider the exposure of a worker in equivalent circumstances. Furthermore, this study concluded that:

> [TRANSLATION]
> "The results of this investigation are based on the samples taken in specific conditions that prevailed during the welding operations at the time of the investigation. They should not be applied by extrapolation to any other situation."

It is also my opinion that an employee who performs acetylene cutting in the manner described above is put at risk. When the worker performs his cutting work underneath the train, the fumes generated by the cutting do not dissipate easily. The contaminant-laden fumes can only rise a few centimetres and then fall back almost immediately onto the face of the unprotected worker. The contaminants become concentrated, and such concentration increases with the amount of exposure. Moreover, the lack of a system to draw the air away from the source only increases the presence of contaminants. There is clearly "a hazard", which justifies the application of subsection 12.7(1) of the Regulations.

Until the worker's exposure was assessed to ensure that he was not over-exposed, the safety officer was justified in believing, in these circumstances, that the employee was in a hazardous situation. The safety officer does not then find, as Mr Merritt believes, that there is a danger. To do that, he must use more objective criteria, such as those based on precise sampling.

With respect to the scope of the safety officer's direction, a point which greatly concerned Mr Laliberté, this direction applies only to the contravention observed and noted by the safety officer.

For all the reasons set out above, I confirm the direction issued on March 30, 1992 by the safety officer, André Lamer, to Canadian National.

Decision rendered on October 13, 1992

Serge Cadieux
Regional Safety Officer