

News about dangerous goods are increasingly in the headlines: shipping radioactive materials in the Saint Lawrence seaway, leaking oil and gas pipelines, chemical spills following truck accidents and train derailments, etc. With good reason, citizens are demanding more information on the risks and the safety mechanisms in place when these materials are transported. Starting in 2005, CIRANO's Risk Group has acquired expertise in measures and strategies to reduce the associated risks. The Web event for the month of October 2010 will provide an overview of CIRANO's studies on the subject, the most recent of which was published in September, 2010.

A snapshot of practices in the dangerous goods transportation industry in Quebec

There are 30 million shipments of dangerous goods (DG) each year — more than half by road. According to Transport Canada, in 2009 there were 396 accidents involving the transportation of DG. CIRANO's latest study is a survey of risk management practices adopted by firms engaged in trucking DG in Quebec. A questionnaire was sent to 1450 DG transporters in Quebec. We received 211 replies, for a response rate of 14.6%. The originality of this survey lies in the fact that it covers both technical elements (geographical coverage of the activities, class of DG, type of good, lading and unlading practices, etc.) and organizational elements (driver training, risk control, contractor selection, new technologies, emergency preparedness). The survey results reveal that a majority of DG trucking companies are small firms.

Adoption of appropriate security measures by most transporters

In the matter of organizational risk management measures (with which we mean OSH committees, risk management information sessions, staff dedicated to risk management, and specific accident prevention programs), we observe that, overall, they are implemented by one-half of the transporters. Moreover, DG trucking firms appear well prepared for dealing with emergency situations. Transporters are also increasingly resorting to new information and communications technologies (ICT).

Nonetheless, certain risks are underestimated

Our results reveal, however, that driver training is not uniform across firms and that outsourced activities (transportation, lading, unlading, packing) are not always closely monitored. Analysis of the results also reveals that transporters appear to identify the risk associated with different phases of transportation, lading, the actual transportation, and unlading, incorrectly. In fact, nearly 80% of transporters consider that the phase presenting the highest risk is transportation. Accident statistics for Canada reveal that there are twice as many accidents during lading and unlading than during transportation. The industry needs to be made aware of these statistics.

An encouraging report, but more awareness required

Most of the surveyed DG transporters have adopted appropriate security measures and are, in general, aware of the risks represented by the cargo. Risk management primarily appears to be a problem for small firms and those with little experience transporting DG, which frequently lack the in-house expertise to manage these risks. In this case, industry associations may prove to be an effective vehicle for providing help.

A broader research framework

This survey is part of an extensive research program at CIRANO. In 2008, CIRANO conducted a different survey of firms that use or manufacture DG. We were able to establish some links between the results of the two surveys. These two surveys, in conjunction with other research on DG conducted by CIRANO (with regard to regulation, analyses of accident databases, etc.) thus constitute a launch pad for further research into the field.

You can find the report "*Analyse des résultats d'une enquête auprès des entreprises faisant du transport routier de matières dangereuses au Québec*" by Nathalie de Marcellis-Warin, Ingrid Peignier, Marie-Hélène Leroux and Martin Trépanier, at:

<http://www.cirano.qc.ca/icirano/webevents/201011/?l=en>