

Lifting Equipment: No Room for Improvisation

By Jocelyne Hébert

A crane lifts construction materials. A plant worker places a load on an overhead crane cable. These are two common, yet potentially dangerous situations that require engineers with a great deal of knowledge and previous experience.

Colette Lacasse, Eng, has been a professional inspector in the field of lifting equipment for four years. She draws on her extensive mechanical engineering practice to evaluate the competence and professional training needs of the OIQ members she meets.

"Although most engineers who practice in this field are competent, a professional inspection can sometimes reveal gaps," she explains. "The corrections that these engineers make afterwards by following the OIQ's recommendations can improve their overall practice and have a positive impact on their colleagues at work."

HIGH RISKS AND HUGE RESPONSIBILITIES

Occasionally, Colette Lacasse also visits engineers who are asked by a client or their employer to design lifting equipment for a specific or intermittent need, even though they do not have the knowledge or expertise required for this work.

"In these specific cases, during the professional inspection, the engineers realize that they do not know the answers to my questions, and they decide of their own volition to have their practice restricted for this type of work," she says. "Also, I tell all engineers who receive

such requests that they should be very careful: You cannot improvise engineering services in the field of lifting equipment!"

The field of lifting equipment is both vast and high risk:

- ▶ vast, because it comprises a wide range of equipment (mobile cranes, tower cranes, overhead cranes, monorail cranes, below-the-hook accessories, etc.) and engineering services (design, equipment inspection, plan preparation);
- ▶ high risk, because the impact of a defective installation can easily be dire.

There is a reason why the design, fabrication and use of these machines, accessories, and systems is regulated by various regulations and standards, especially the occupational health and safety regulation of the Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST).

"The field of lifting equipment is multifaceted and comes with various responsibilities for engineers, who must always make sure that they apply the appropriate regulations and related standards," the inspector continues.



A FEW TOOLS TO HELP YOU GET YOUR BEARING

"Engineers who venture into this field without knowing it often do so just to help out, without realizing just how much their actions can affect others," explains Colette Lacasse. "We see this in industry, for example, where the risks are huge."

The professional inspector strongly encourages engineers who find themselves in this situation to read the regulations that apply to their case (see the box) and consult the OIQ's competency profile, which they will find in the *Professional Practice Guide*.

"These references will give them an idea of the knowledge, competencies and responsibilities that will be required of them if they want to provide engineering services for lifting equipment," she continues. "They will see that the safety factor is often a lot more important than in other fields of engineering."

The competency profile is a basic tool for engineers who want to specialize in this field. Several establishments offer similar types of training that engineers can

search for on the Internet if they want to learn more about them. "Engineers can ask one or more of their colleagues who specialize in this field to assist and supervise them, because the essential knowledge and experience is acquired through practice," says Colette Lacasse.

BEING ABLE TO SAY "NO"

According to the professional inspector, engineers should never venture into unknown territory. "The Code of Ethics of Engineers specifies that before accepting a mandate, 'an engineer must bear in mind the extent of his proficiency and aptitudes and also the means at his disposal to carry out the mandate.' When clients or employers ask engineers to do a job that they are not qualified for, they have a duty to refuse," she emphasizes. "'No' is also an answer, and if engineers cannot accept the job, I recommend that they hire an experienced consultant in the field of lifting equipment."

Lifting equipment engineering is, it bears repeating, one of the at-risk fields targeted by the OIQ in its 2020–2021 Professional Practice Supervision Program. □

Examples of regulations that apply to lifting equipment

. Regulation respecting occupational health and safety

DIVISION XXIII – Handling and Transporting Material – 2 Hoisting devices

. Safety code for the construction industry

Division II – General Provisions – 2.15 Hoisting apparatus

. Regulation respecting occupational health and safety in mines

Division VIII – Various Installations – 2 Hoisting plant

. Regulation respecting safety and health and foundry works

Division XII – Material Handling in Foundries

. Cargo, Fumigation and Tackle Regulations – Canada Shipping Act

Part 3 – Tackle