

AERONAUTICS

The engineer's field of practice?

True or false: employees of an aeronautics company do not have to be members of the Ordre des ingénieurs du Québec (hereafter "the Ordre") to carry out professional activities reserved for engineers because their work is certified by Transport Canada? Before you answer the question, read this carefully!

Misconceptions sometimes die hard. We don't always know how they start, but it is important to refute them and re-establish the truth. Such is the case with this particular notion spreading through many provinces, including Québec: because certification relating to aeronautics falls under federal jurisdiction, companies specialized in this field do not have to comply with provincial laws governing the practice of engineering. In other words, these companies would have the right to entrust their engineering mandates to employees who are not members of the Ordre, under the pretence that their work will be certified by Transport Canada. Let us reiterate: this notion is completely false and could compromise public safety, if it were put into practice. Mindful of ensuring that the laws and regulations relating to the engineering practice are respected, the Ordre began to meet with the administrators of various aeronautics companies in Québec, a little while ago, in order to raise their awareness with respect to this issue.

AN UNEQUIVOCAL LAW

At Pratt & Whitney Canada, the managing director of Programmes relating to Turboprop Engineering, Dominique Nadeau, Eng., reacted strongly to this false notion. "I'm very surprised to hear such things! Engineering acts fall under provincial jurisdiction and all engineers must comply with Québec laws", points out this seasoned engineer who has sat on a number of the Ordre's committees.

The *Engineers Act* is very clear on the matter. Section 2 deals with the engineer's field of practice and refers outright, under paragraph c), to: "works of an [...] aeronautical [...] character [...]". Then, with respect to professional activities reserved for engineers, section 3 spells out:

- (a) the giving of consultations and opinions;
- (b) the making of measurements, of layouts, the preparation of reports, computations, designs, drawings, plans, specifications;
- (c) the inspection or supervision of the works.

In other words, professional activities such as giving consultations and opinions, making measurements and

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layouts, preparing plans, specifications, etc., or inspecting and supervising works in the field of aeronautics, as in all engineering fields, are reserved for members of the Ordre. Consequently, a person employed by an aeronautics company, who is not a member of the Ordre and carries out professional activities reserved for engineers without being under the immediate direction and supervision of an engineer, is acting unlawfully and against the public's protection.

The same goes for junior engineers who do not act under the immediate control and supervision of an engineer. Given that aeronautics is a field comprised of multiple stages and involving many stakeholders, employers often have junior engineers participate in engineering mandates in order to simplify or improve the process. This is permitted as long as junior engineers are acting under the immediate control and supervision of an engineer, failing which they would violate section 8 of the *Regulation respecting other terms and conditions for the issuance of permits* as well as section 4.01.01 (a) of the *Code of ethics of engineers*, thereby risking sanction from the Ordre's Disciplinary Council.

SAFETY ABOVE ALL

This misunderstanding probably stems from the fact that certification in the aeronautics industry is under federal jurisdiction: some would infer that federal jurisdiction supersedes provincial laws relating to professional responsibilities. Again, this is false.

«L'entreprise en aéronautique doit, à la fois, respecter le "Aeronautics companies must abide by Québec laws and regulations relating to engineering as well as comply with Transport Canada's requirements in order to obtain proper certification and airworthiness of its products, says Dominique Nadeau. Consequently, the aeronautics

industry must comply with both jurisdictions' requirements. Each jurisdiction applies differently but they both have the same objective, namely ensuring the public's safety."

Mr. Nadeau refers to designing engine parts in Québec as an example. "Each and every document involved in this type of design must be prepared, verified and approved by an engineer, that is to say, a member of the *Ordre des ingénieurs du Québec*. This rule applies to all engine parts designed in Québec – let me point out that Ontario and other provinces have similar requirements. When all the parts are assembled and form what we call an engine assembly, the documents pertaining specifically to this assembly must also be approved, prepared and verified by an engineer."

"However, the engine assembly must also undergo certification trials and be approved by a representative of Transport Canada before being deemed 'airworthy'. Without such approval, the engine cannot be installed on an aircraft and fly. This process may seem redundant but it is part of Canadian laws and regulations on air transport. It ensures that the assembly works properly and complies with all regulatory requirements in aeronautics, a field in which safety is the utmost priority."

So... once again: must those employed by an aeronautics company or in another field relating to transportation (maritime, railway, road, etc.) be members of the *Ordre des ingénieurs du Québec* to carry out professional activities reserved for engineers? The answer is clear!