

June 22, 2015

Interpretative Statement For Licensure In The Context Of Academic Candidates

(Prepared in conjunction with the Council of Ontario Deans of Engineering)

As of July 1, 2015, Legislation is expected that will define the *Limited Engineering Licence* (LEL) in a new context that would allow LEL holders to hold a Certificate of Authorization, with a defined scope of practice, and prescribed educational and experience requirements. The committees that will assess the educational and experience requirements are the Academic Requirements Committee (ARC) and Experience Requirements Committee (ERC), respectively.

Post-secondary teaching is not in the legislation as a scope of practice. Academics have the option of seeking licensure in provinces where post-secondary teaching is within the scope of practice.

Experience requirements for P.Eng. are 4 years recognized practice with 1 year under the supervision of a licensed P.Eng. Experience requirements for the LEL are 4 years under the supervision of a Canadian P.Eng, 6 years experience in the area of the scope of practice and 8 years total experience.

Academic candidates may fall into one of the following categories:

1. Recognized/accredited undergraduate engineering degree, significant non-academic practical experience.

The Candidate may be eligible for a P.Eng. Post graduate studies in the same discipline as the undergraduate degree may be given 1 year experience credit.

2. Foreign undergraduate engineering degree, significant non-academic practical experience.

The Candidate may be eligible for a P.Eng. The Academic Requirements Committee will assess the degree as it compares to an equivalent CEAB degree. If the degree is considered equivalent in breadth and depth, the candidate may be assigned a confirmatory exam program. This exam program consists of 4 exams of the candidate's choice (2 group A technical, 1 group B technical and 1 complementary studies from the syllabus for the discipline). If 2 technical examinations are passed in one sitting with an average mark of 65% with no individual mark below 60%, the remaining exams may be waived. If the Candidate has more than 5 yrs experience, he/she is given the option to attend an interview with the ERC to determine if the candidate can demonstrate through his/her work experience that he/she has applied engineering fundamentals at a level expected of an engineer. If so the ERC may recommend that all confirmatory exams are waived.

If there are gaps in the academic background, when compared to a CEAB accredited program, the Candidate may be assigned a specific exam program to address these gaps. If he/she has more than 10 years of experience, he/she may be given the option to attend an interview with the ERC. During this interview, the Candidate will address each specific exam with experience related directly to it. The ERC may recommend waiving all, some or none of the exams.

3. No engineering degree(s), significant non-academic practical experience.

The Candidate may be eligible for P.Eng or LEL. The ARC may require a specific examination program. A Candidate with more than 10 years experience may address the exams in an

interview with the ERC as described above. The industrial experience would be taken in light of the closest engineering discipline, e.g. applied chemistry as compared to chemical engineering, applied physics as compared to engineering physics.

4. Recognized/accredited undergraduate engineering degree, little or no non-academic practical experience.

The Candidate may be eligible for a P.Eng. or LEL. Engineering experience requirements would have to be assessed according to the Practical Experience criteria. The LEL scope of practice would have to be defined within the experience most relevant to the academic work, likely to be related research.

5. No engineering degree(s), little or no non-academic practical experience.

The Candidate may be eligible for a P.Eng. or LEL. The curriculum of the courses provided for review would be mapped against the breadth of knowledge requirements and academic requirements, as in case 3. Experience issues as per case 4.

Practical Experience

Practical experience provides applicants with an appreciation of the fundamental roles of function, time, cost, reliability, reparability, safety and environmental impact in their work.

Practical experience should include such components as:

- the function of components as part of the larger system, including, for example, opportunities to experience the merits of reliability, the role of computer software, or the relationship of the end product to the equipment and to the equipment control systems;
- opportunities to experience and understand the limitations of practical engineering and related human systems in achieving desired goals, including, for example, limitations of production methods, manufacturing tolerances, operating and maintenance philosophies, ergonomics;
- opportunities to experience the significance of time in the engineering process, including difficulties of work flow, scheduling, equipment wear out, corrosion rates and replacement scheduling; and
- opportunities to acquire knowledge and understanding of codes, standards, regulations and laws that govern applicable engineering activities.

Examples from the academic setting:

- *Design, implementation and commissioning of laboratory equipment or research infrastructure of significant complexity.*
- *Projects provided as case studies or capstone design projects for courses where the Candidate is working with licensed professional engineers from industry. It is advisable to have industrial contacts as referees to comment on the practical application of the research/design.*
- *Collaboration with industrial research partners on industry sponsored research projects. It is advisable to have referees from the industrial partners to comment on the practical application of the research.*
- *Consultation with industry on projects. It is advisable to have referees from the industrial partners to comment on the work that the Candidate has been involved in.*