

By Sandra Dee Levine



THE CERTIFICATION PROGRAM

— what it is

where it's going

North Americans are acutely aware of their position in relation to the Soviet Union in many areas — space achievements, production quotas, cultural levels. Comparisons are also made in the race for technological and industrial development. We are told that the U.S.-S.R. is currently training a great many more engineers than the combined total of Canada and the United States. While statistically this may be cause for alarm, in reality the situation is not so disconcerting.

Rather than the numbers gap, the real source of concern should be the fact that our engineers are not being utilized fully, nor in many instances properly, in accordance with their training and skills, being employed at levels which make very limited use of these factors. Many graduate engineers find themselves engaged in what can reasonably be classed as sub-professional work.

Formation of OACETT

It was this misuse of engineering capabilities in functions which could and should be performed by technicians, and the realization that there would be large numbers filling this niche, that led APEO, in 1957, to inaugurate a program of Certification for engineering technicians and technologists. Since that time the Certification Board has been examining applicants and issuing certificates in three grades. Together with certification, the Association also provides an examination program, similar in procedure to the professional engineer's examination but different in scope—the examinations concentrate more on the applied and practical aspect of engineering principles rather than on the theoretical.

With a steady increase in numbers, it became apparent that an organization separate from APEO was necessary, and with the granting of Letters Patent under the Ontario Corporations Act in 1962, the Ontario Association of Certified Engineering Technicians and Technologists came into being.

What is OACETT?

OACETT is a self-governing body under its own elected Council and is largely self-sufficient, financially. Similar to APEO, it is engaged in activities of interest and value to its members such as education, public relations, a bi-monthly newsletter, and an active Chapter organization which engages, on the local level, in activities which interest the provincial organization.

The Certification Program is the pivot around which OACETT revolves. Before explaining it in detail it will be of interest to have a look at the background which led to its inception.

Background

The first mention of the need for trained personnel between tradesmen and the Professional Engineer was made by the late Hon. C. D. Howe, P.Eng., Wartime Minister of Munitions and Supply, who, when some concern was felt about a prevalent shortage of engineers, stated that in his opinion there was no shortage of trained engineers but there was a great misplacement of engineers. This was also the general consensus of the council of the association of Professional Engineers of the Province of Ontario.

In 1957 Dr. George Langford headed a committee of the Council of Professional Engineers to investigate the alleged shortage of trained engineers and related problems and to recommend appropriate action. This committee found that there was no shortage of engineers in Canada, but that industry did not use them to their maximum capacity of training. It was felt that if professional engineers had a sufficient number of well trained assistants it would increase their efficiency and effectiveness and by this means more than offset the shortage of engineers.

The most obvious way to do this was to develop young men of promise as Engineering Technicians and Technologists.

The Committee investigated the status of the technician and the technologist and after analysis of their findings, immediately set out upon ways and means of improvement.

The ultimate purpose was to find means of more satisfactory coordination of the technician and the professional engineer so as to enable the technician to perform within the boundaries of his training, thus freeing the engineer for tasks requiring the training his profession afforded.

The Committee concluded that engineering technicians were of great value for this purpose, that their numbers in response to demand was increasing, and that as a body they were interested in obtaining some method of recognition and a standard of qualification.

The APEO therefore introduced a program offering certification to technicians on a purely voluntary basis—



B. H. Goodings, P.Eng., Director of Special Services, APEO, addresses the Annual Meeting of OACETT, on the future development and recognition of the Technician and Technologist in the Industrial and Social community.

Seated left to right are G. R. Cook, C.E.T., J. O. Harold, P.Eng., F. E. Walke, C.E.T., G. D. Coxon, C.E.T., M. L. Perkins, C.E.T. and F. K. Burgar, C.E.T.

a program to be carried out by a special Certification Board and Panel of Examiners appointed by the APEO Council.

Dr. Langford emphasized at this time that the plan was to be experimental, certification was not to be compulsory and the program was to be carried out without legislation.

The certificate then, as now, did not grant the technician any right to practise Professional Engineering.

Dr. Langford felt that the system would encourage technicians to improve, while also providing industry with a yard-stick in assessing the job evaluation, employment requirements, and salary structure of this section of their technical staff.

The original plan made provision for five grades of technicians but this has since been changed to two technician grades and one technologist. A register of Certified Engineering Technicians and Technologists is maintained at APEO offices as originally planned.

Prior to the introduction of this plan there was no recognized or accepted method of grading or rating technicians or technologists based on their academic qualifications and experience.

It was soon apparent, due to the response of the technicians to the plan, that an advisory board of Engineering Technicians should be set up. In 1958 an Advisory Committee was formed which did much of the preliminary work on the charter of the organization. From this beginning, membership and chapters advanced to the point where it was deemed advisable to take the initial steps towards autonomy. During the interim of change from the Advisory Committee to the first Provincially-elected body, a Provisional Council was set up. This Council operated for one year during which time the Association was incorporated and a charter was granted.

Certification

Certification can be achieved on three levels:

- Level 1 Engineering Technician
 - one full year of academic and technical education beyond Ontario Grade 12, or recognized equivalent.
- Level 2 Senior Engineering Technician
 - two full years of academic and technical education beyond Ontario Grade 12, or

recognized equivalent.

Level 3 Engineering Technologist

— a diploma from a three-year day course in Engineering Technology at an Ontario Institute of Technology, or recognized equivalent.

It is necessary, on all three levels, to complete two years of acceptable experience under professional guidance to fulfill the requirements of Certification.

The Panel of Examiners assess the academic qualifications of all applicants desiring certification. The members of the panel are well qualified to evaluate the education of applicants newly arrived in Canada in terms of Ontario secondary and post-graduate school curricula. The panel consists of seven professional engineers and two members of OACETT, chosen for their widely varying academic backgrounds and who are very familiar with the educational systems in non-English speaking countries, as well as the Canadian system. When the panel has assessed the academic qualifications the application then goes before the Certification Board. This committee decides whether or not the individual is actually performing as an engineering technician and, if so, the grade in which he can be certified. An examination program is then set for him to enable him, through the writing of examinations, to fill in the gaps in his schooling and bring him up to a higher level.

By doing so the technician progressively qualifies for higher grading in the program, and, at the same time, he is increasing his ability to take on more responsibility and advanced work on the engineering team, thereby releasing the engineers to perform the complex and theoretical aspects of engineering for which they have been trained.

It is not intended that Certification be a direct path to the engineering profession, nor is it intended that a technician, upon being certified, automatically qualifies for higher salary or promotion. The Certification Program does, however, place in the hands of industry a measuring stick to be applied to job applicants when assessing their academic and experience backgrounds. This is particularly advantageous in the case of immigrant technicians whose academic qualifications may be somewhat obscure, and because varying educational systems make it difficult to relate to Ontario systems.

Editor's Note:

In view of the increasing interest in the Association of Survey Technologists of Ontario by Council and members of the Association of Ontario Land Surveyors, the above article is republished in part from the Professional Engineer and Engineering Digest, June 1965, to acquaint those interested with what is being done in this field by the Professional Engineers.