

THE BURNUP OF NUCLEAR ENGINEERING EDUCATION IN CANADA

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ABSTRACT

Nuclear engineering at Ecole Polytechnique is a graduate program, sponsored mainly by Hydro-Quebec. In recent years, the number of students applying for HQ scholarships has been decreasing. Nowadays students are more interested in high visibility fields like computer technologies, communication networks, bio-technologies and multimedia development. These fields offer a great number of well-paying jobs and have a very good social recognition. Nonetheless, all the graduates of our institute have found a job in the nuclear industry.

Nuclear plants are now considered an old technology that gave a power alternative during 70's oil crisis. Reactor physics is not challenging and encouraging for students, regarded as being environmentally unfriendly and potentially dangerous for proliferation. Professors and research personnel are getting older, leading to a certain conservatism and a lack of enthusiasm. Moreover, they are not replaced after retiring, which implies a regretful loss of knowledge. Due to a lack of interest, the utilities and government are not maintaining the knowledge nor the work force.

Re-imposing nuclear engineering as a new millennium high-tech field is a necessity. International cooperation can be a means of attracting more students in the "global economy" context. With new computer capabilities, simulations become more and more reliable and reduce the risks of accidents. These advances in computer technology must be more publicized to appeal to students. Related fields could be integrated into reactor physics education (like radiation calculations for environmental protection and decommissioning studies).

New technologies migrate too slowly from university research centers to utilities. The latter should play a more important role in supporting the work done in the universities. They should integrate state-of-the-art methodologies to offer challenging positions for graduating students. The power generated by nuclear plants is useful for the society, against green house effect and pollution. It is the government's responsibility and the jobs of the utilities to promote a nuclear energy with a higher safety standard.

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