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An International Dialogue on Electrical Engineering Education

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1. Introduction

The updating of all engineering curricula in universities is traditionally a standard practice, followed by many schools, that leads to curricula revisions roughly every two-to-three years. Although this is done as an internal process of every university department, there is some degree of inter-university and international uniformity, at least in principle, through academic information-exchange. Nowadays, the traditional way for curriculum development for *Electric Power Engineering Education* (EPEE) may leave much to be desired, as it was clearly shown by the session on *New Models for Power Engineering Education* of the CIGRE-2000 EPEE Workshop [1]. This is obvious in today's demanding environment when new technologies and methodologies are very rapidly introduced, and the need for international uniformity in technical education and training arises [2]. Furthermore, today's Electric Power Industry (EPI) is undergoing a rapid evolvement, especially with regard to the worldwide liberalization of electricity markets – whereby the countries involved are going through this process with different speeds and approaches, and to the increase of interconnected areas in numbers and sizes – whereby the necessity arises to introduce common standards and procedures.

International organizations have in recent years recognized the necessity of changes in University-level education of electrical engineers. In particular, CIGRE has, for more than ten years, dealt with the question of EPEE [3], and has provided international fora for discussions every two years – beginning in 1998 with the "Links University-CIGRE" Workshop in Paris. The Universities Power Engineering Conference (UPEC) is another notable annual international forum that addresses, also, matters of EPEE [4].

On November 11 and 12, 2004, an international Colloquium on "Electrical, Computer and Power Engineering Education and Training" ("ELCOMPEET") took place in Iraklio, Crete. The central element of this event was the 10-member Panel of experts from 8 countries, as follows: Professor Thales M. Papazoglou (Chairman), Professor Menas Kafatos (USA), Professor Wladyslaw Mielczarski (Poland), Professor Rafael Mihalic (Slovenia), Professor Levent Sevgi (Turkey), Professor Johan Smit (The Netherlands), Professor Eivid Solvang (Norway), Dr. Udo Spanel (Germany), Professor John Stathopoulos (Greece), and Professor Zbigniew Styczynski (Germany). Keynote Speaker for the event was Professor Dusan Povh (Germany), who

presented the "Future Developments in Electric Power Systems – The next 30 years". Honorary Chairman of this event was the Secretary-General of the International Council for Electric Power Systems (CIGRE) Jean Kowal. Focal aim of the dialogue in this Colloquium was the comparative study of the various approaches to matters of Education, Training and Certification, as well as the practice in different countries (mainly Europe and America), taking into account the current and future developments in educational policies and curricula, in the information society, and in electric power systems.

2. Preferential Subjects

The dialogue included as topics the following: curricular innovations, continuing education [5], geopolitical aspects and issues – policies, interaction of professional and educational environments, management of educational assets, modes of educational delivery, societal educational awareness, student initiatives and active involvement, graduate and postgraduate studies, roles for international organizations, educational and training tools, as well as catering for EPI-people's needs for training and continuing education.

3. Conclusions

This international dialogue on electrical engineering issues, with emphasis on electric power, proved to be a good forum for a wide exchange of ideas, approaches and practices by experts, and a good beginning for further exploitation. The need for further strengthening of cooperation between industry and academia was stressed, in view of the rapid developments concerning: the *Electricity Internet*, the *Advanced Technologies in Power Grids*, the need for *Clean Technologies*, the need for *Asset Management in the Liberalized Electricity Market*.

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