

EKC - Electricity Coordinating Center Ltd. Education and Training

Sharing our knowledge through educational courses and professional specialists trainings

EKC's Education Center was established with the objective to share our specialists' comprehensive knowledge and experience with wider professional audience supporting our customers' growth through capability building.

For many years, EKC has been participating in projects where new technologies, liberalization of electricity markets, changes in organization and functioning of electrical companies, and changes in legislation generated lots of new methodologies and mechanisms. Profound understanding of these methodologies and applying these mechanisms are preconditions for success in contemporary electricity sector.

Having accumulated vast experience and knowledge, we have further expanded services to our customers offering them unique opportunity to grow their own capabilities through EKC knowledge sharing programme. Our specialists and partners provide courses and lectures, through which our customers can gain valuable knowledge about implementation of the most modern methodologies in electricity sector, thus enabling the increase of knowledge and skills.

EKC Education Center courses and lectures cover electric power systems and electricity markets, while our specialists' trainings are focused on practical professional use of in-house developed or standard world-wide known software technologies.

EKC can provide support in development of databases of information relevant for the electricity sector or electric power systems. Based on our own experience and knowledge from numerous projects in Europe, Asia and Africa, EKC contributes the increase of our customers' knowledge and widen access to valuable information relevant for their growth.

EKC offers specialist courses in following domain:

- Power System Analysis - Basic
- Analyses of Electric Power Systems - Advanced course
- Power System - Market Analyses

The courses can be delivered in customer's premises or in fully equipped EKC conferencing facility.

EKC Education Center specialists were involved in capability building of many power system and electricity sector companies in Europe, Middles East, Asia and Africa.

*... the growth of our customers
is our own growth...*

Power System Analysis - Basic

▪ Basic course

System modelling (generators, lines and cables, transformers, loads, HVDC devices, reactors and compensation), by using TNA and PTI PSS/E

Load Flow (methods), network load and voltage profile, contingency analyses, system schemes and graphical presentation

▪ Voltage stability

Static voltage stability analyses, voltage stability "weakness" identification, maximal transfer capability, PQ and PV curves analyses, reactive power compensation and control by using PTI PSS/E

Analyses of Electric Power Systems - Advanced course

▪ Advanced course

Maximal network transfer capabilities, frequency behaviour (linear), optimal power flow by using TNA and PTI PSS/E

▪ Fault and switching analyses

Modelling and setting of protection devices, IEC standards, ANSI standards, selection of equipment by using PTI PSS/E

▪ Dynamics - modelling

Modelling (generators, excitation systems, governors, control systems), protection devices (distant relays, overcurrent relays, generator protection, under-frequency and over frequency relays) by using PTI PSS/E

▪ Dynamic analyses

Events analyses (contingencies, faults, switching, sequences, results analyses), system stability by using PTI PSS/E

Power System - Market Analyses

▪ Electricity Market Operation and LMPs

Detailed simulation of the power systems operation within market environment, maximization of the net revenues while remaining within physical and institutional limitations of the power system, simulation of the dispatch of electric generating units and the economic trade of energy among generation companies using a network representation of the power grid, calculation of market prices for electricity sales/purchases in different regions, by using GTMax

▪ Congestion Forecast and Management

Modeling and analysis by using TNA or PTI PSS/E

▪ Electricity Market Mechanisms

Balancing market, cross border trade mechanisms, allocation of transmission capacities, market coupling

▪ Power System Development Planning

Optimal pattern of system expansion to meet the electricity requirements over a given period, dynamic programming optimization method, costs comparison for alternative system expansion plans, the year-by-year generating capacity additions to meet the projected system electricity demand with a satisfactory reliability, respecting the characteristics of existing and new generating units, by using WASP IV



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