Seasoned Instructors Add Value for First-time Users at Marafiq in Yanbu, Saudi Arabia

Marafiq, the power and water utility company for Jubail and Yanbu, Saudi Arabia, recently acquired PSS®E for power flow, short circuit and stability studies as part of their long-term transmission planning and reliability improvement. With any new PSS®E software sale, Siemens PTI and Siemens Power Academy aim to support new users by offering training options to get users up-to-speed fast with this robust software tool. Whether new users take advantage of discounts toward courses at one of our North American offices or toward an on-site course at the client’s location, training is the best way to secure quick success and capitalize on returns for this software investment. In the case of Marafiq, the engineers elected to have their new user training needs met on-site in Saudi Arabia.

As a senior consulting manager, Arthur Pinheiro, one of Siemens Power Academy’s lead instructors for PSS®E related courses, recently supported Marafiq’s new user training program in February 2012. Mr. Pinheiro points out that having gained a greater appreciation for the planning challenges for international visa and travels, it is clear that one of the greatest values for on-site training for international customers is having Siemens travel to them. While it may cost a bit more per person in pure tuition, the time and costs associated with coordinating 12 engineers traveling to the United States far out-weighs any incremental costs associated with an on-site training program.

During a PSS®E course such as the recent one in Saudi Arabia, Mr. Pinheiro introduces aspects of steady state, dynamics and short circuit analysis and works with the students to perform hands-on exercises, with simulations in an increasing scale of complexity. During these exercises, Mr. Pinheiro adds bits and pieces of the respective concepts so the students can bridge theory and practice. With each new release of PSS®E, the course notes and exercises are updated accordingly to cover the new features and processes of the tool—i.e. wind farm modeling, special equipment, automatic contingency analysis, reliability, etc. These simulations relate to the day-by-day activities power system engineers perform. The outcome of these training is that when the students return to their offices, they can perform work simulations in a self-sufficient manner.

The knowledge and experience gained through over thirty-five years, gives Mr. Pinheiro and other senior instructors at the Siemens Power Academy broad perspectives on the very complex systems in the ever-growing and competitive energy marketplace. Mr. Pinheiro strongly believes that it is not only important to train students on how to use the PSS®E software tool but – maybe more important – to also teach students how to access system problems and look for lower-cost solutions for utilities and developers. Giving students the best information on how to extract the most useful information out of this complex computational tool is his ultimate goal.

If an engineer is able to simulate a critical disturbance on his system, correctly get results and then interpret them, likely he will be able to foresee and think in terms of mitigations that do not necessitate expensive solutions. Sometimes the simplest and least expensive measures can nicely solve the problem. Therefore, training should not be viewed solely as an expense but as a down payment on future savings.

Since PSS®E courses also help students reduce on-the-job learning time, they also support professional and personal development. From the beginning user to the experienced user, when a student is in our classroom, there are no silly questions. When presented with a subject, the students are thinking about...
the same subject in different ways and trying to make connections with their knowledge and past experiences. Learning is an individual and complex process, and if the instructor inhibits or creates barriers for questions, he is missing a teachable moment.

Mr. Pinheiro advises, “Students should keep themselves updated. Don’t stop learning. Don’t be satisfied with your level of knowledge. Even if your current job does not require innovations, who knows where you will end up tomorrow? You could be at a university, an R&D center or a more innovative utility. The speed of innovations in this industry is becoming more dramatic and we must be aware of those new technologies and innovations that directly relate to our work. Therefore learning must be a lifelong activity.”