

Training Simulator with virtual DCS - case Suomenoja

The Suomenoja power plant, owned by Espoon Sähkö Inc., generates electricity and district heat for the municipalities of Espoo, Kirkkonummi and Kauniainen in Southern Finland. The Suomenoja plant is powered mainly by coal (60%) and natural gas (40%), and it has a high production efficiency due to the combined production of heat (350 MW) and electricity (120 MW).

In addition to several automation deliveries to Suomenoja power plant since the year 1986, Metso Automation supplied an advanced training simulator for a pulverized coal-fired power plant unit So1 in December 2000.

The supplied simulator system consists of the virtual metsoDNA environment and the Apros dynamical process simulation software, both of which have OPC data access interfaces, and OPC-based communication software. The system runs on two standard PC's, and it is operated through real operator stations.

In the virtual metsoDNA environment, the process control applications are executed exactly as in the real system on the plant, using the original application configuration without modifications. The virtual metsoDNA has simulator features, e.g. saving and loading the state, and freezing and resuming execution.

The scope of the simulation model was specified together with the customer. There are about 1300 simulated I/O connections and the simulated process areas include:

- feed water and steam
- air and flue gas
- coal pulverizers and coal feeding
- oil feeding and burners
- steam turbine and district heat

"I have to admit that our first experiences with the new simulator system are even more positive than we could have ever imagined. "

Mr. Harri Ropponen
Automation Supervisor
Suomenoja power plant

"By practicing the procedures or actions before they are done in the real process, the actual procedure can be executed more successfully and economically."

"What makes the simulator exceptional is the fact that there has been a significant contribution to the trainers and the customization. This makes the simulator user-friendly and fast. For example, if the trained operator would like to practice the operating of turbine controllers, the simulator can be brought to the wanted process situation in few seconds",

Mr. Matti Saaristola
Chief Engineer
Suomenoja power plant.

For further information, please contact:

Metso Automation
Jukka Pyykkö
P.O.Box 237
33101 Tampere, Finland

Tel. +358 20 483 8668
Fax +358 20 483 8405

Jukka.Pyykko@metso.com

Visit: Lentokentäntie 11, Tampere