STEAM TURBINE CONTROL SYSTEM EXPERTISE

Improving operational performance and reduce commissioning costs

The safe and correct operation of a steam turbine is assured by a turbine controller. By the use of our in house developed simulator tool Laborelec has consolidated his strong experience in this part of the process control domain.

LABORELEC STEAM TURBINE SIMULATOR

LSTS tool helps avoid operational problems

There is a strong need within power plants for practical, safe, reliable, and cost-saving turbine controller testing tool. The LSTS tool substantially improves and facilitates the testing of this kind of controller.

LSTS product description

The tool consists of an industrial PC-based platform with high-speed, high-accuracy I/O's with isolation and amplification modules. The LSTS tool simulates dynamically the interaction between the steam generator, the steam turbine and the grid. A combination of testing procedures during turbine shut down or during commissioning are now available.

Customer benefits

By using LSTS during shut down period the hot commissioning shortens and you get more confidence in your turbine controller by using special dynamic tests (run-up, synchronization, power and frequency control, reduced grid, house load, short-circuits,...)

References

Tihange 2 (July 2009) : troubleshooting in order to reproduce and understand a function of the controller during shut down.

Doel 4 (August 2009) : Factory Acceptance Test of a new steam turbine controller.

Doel 1 (December 2009) : test of existing controller after replacement of the steam generators and adjustment of the turbine's control parameters

St Ghislain (February 2009) : testing of the correct functioning of existing controller after modifications to the turbine's start-up sequence.

Tihange 3 (September 2010) : Site Acceptance Test of a new steam turbine controller.

The Laborelec Steam Turbine Simulator tool.

LABORELEC

GDF SUEZ

MORE THAN 20 YEARS EXPERTISE

From design review for new controllers to troubleshooting on existing onesperformance and reduce commissioning costs

Laborelec Process Automation offers various expert services using his more than 20 years experience.

Design review of specifications for new turbine controller

Using our experience from different types of controller, our experts can advice during the review of specifications, offers and during design review phases for new projects.

Using LSTS during FAT or SAT for new turbine controller

By application of this simulation tool during FAT, possible problems are detected right away. By using the tool during the SAT, the hot commissioning phase can be shortened.

Using LSTS during overhall after major modifications inside existing controller

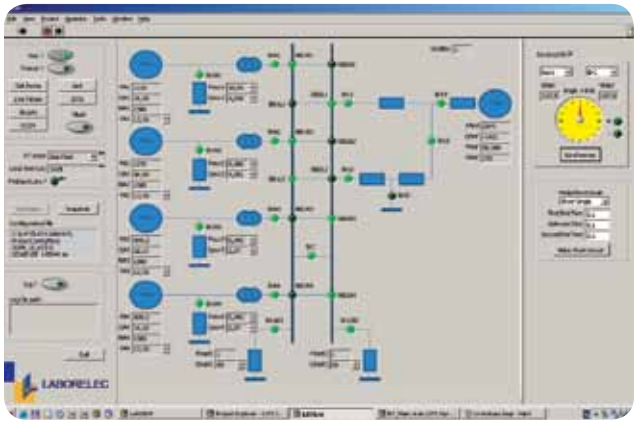
After modification of the existing controller, the LSTS-tool can test the modifications and validate the new parameters. In other words: you get 100% confidence that newly made modification causes no other incident.

Troubleshooting inside existing turbine controller

LSTS can be connected directly to an existing controller (analog or digital) and repeat real cases in different scenario in order to understand what happened during the last incident.

Using LSTS as training tool

By connecting our tool with an existing controller, your operators can be trained through their own DCS system. LSTS can also help in training the operators to adequately react on special grid incidents.



The LSTS interface during FAT or SAT.

The LSTS is directly connected to the turbine controller.

Five reasons for you to choose Laborelec:

- > One-stop shopping for your energy related services
- > More than 40 years of experience
- > Increased profitability of your installations
- > Independent and confidential advice
- > Recognized and accredited laboratory

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