RTDS NEWS

January 2004

NOKIAN CAPACITORS ➢ **selects the RTDS Simulator**

Yet another manufacturer has adopted the RTDS™ Simulator to test their protection and control equipment. In September 2003, an RTDS system was installed at Nokian Capacitors in Tampere, Finland.

Nokian Capacitors engineer and manufacture equipment and systems for reactive power compensation and harmonic filtering. Their customers include both industrial and utility clients. With 170 employees, Nokian Capacitors' business involves various systems including Static Var Compensators (SVC), series capacitor banks, and Thyristor Controlled Series Capacitors (TCSC).

Nokian Capacitors had their first experience with the RTDS Simulator while performing control system tests for an SVC installation in Brazil. Nokian's customer, FURNAS Centrais Elétricas SA, specified that the SVC controls must be tested using an RTDS Simulator. RTDS Technologies was engaged to perform the simulation work and the controls were shipped to Canada for testing in the simulation lab.

The advantages of an RTDS Simulator became apparent during the studies in Canada and eventually led to the purchase of a simulator for the factory in Finland. According to Nokian Capacitors –

"With a real time simulation system, it is possible to investigate and develop the control system in a laboratory environment as if it would be run in the real high voltage grid. Even tests that would involve high risks in the real system can be done without the chance of damage."

"Factory and routine tests for projects can be run and the control system parameters can be set in advance to match requirements. This makes the commissioning of the complete system faster and easier."

Nokian Capacitors has found the RTDS Simulator easy to work with and has used it on several projects since the installation was made. Three different types of applications have been simulated:

- Arc furnace compensation
- Rolling mill compensation
- Utility SVC

Their next simulation target is for the testing of TCSC protection and control.
The feedback from Nokian Capacitors has been positive –

"The simulation results have been consistent and the simulations have been extremely helpful,

IIIIRTDS
Technologies
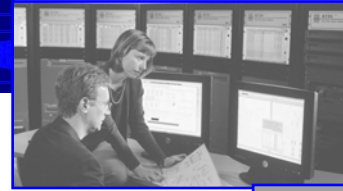
especially in developing the control system for arc furnace compensation."

"Factory tests on an SVC control system for rolling mill compensation was done using the RTDS Simulator. The results of the simulation matched precisely with the results obtained on site when the SVC was taken into operation."

We would like to thank Nokian Capacitors for sharing their experience and contributing to RTDS News. We hope they remain a knowledgeable and demanding RTDS customer for many years.

WHAT'S NEW ?

RPC Network Solution – Now 54 Nodes!
We have recently completed software development to allow the RPC Network Solution to solve a maximum of 54 single-phase nodes. The RPC Network Solution can be solved with just one of the two RISC processors on the RPC card.

What can you do with the other processor? …

Phase Domain Transmission Line Model
The Phase Domain transmission line model developed for the Manitoba HVDC Research Centre's PSCAD/EMTDC is now available on the RTDS Simulator. The Phase Domain model runs only on the RPC card.

PI Sections and Bergeron Lines for RPC
PI section and Bergeron line models were also implemented for the RPC. One of the features of the new line models is the ability to include circuit breakers within the line itself. This reduces the number of nodes that have to be solved by the network solution.

RTDS Technologies New Office

RPC Component Stacking
An automated stacking algorithm has been implemented for the RPC card. It is no longer necessary to drop down an additional component. All of the new RPC models are given a load factor. When a Draft case is compiled, RPC component models are collected until the maximum load is met or until all RPC components are taken care of.

DDAC – Analogue Output Card
The DDAC is a new 12 channel analogue output card. The card is isolated and connects to 3PC cards via an optical fiber. A DSP is included on the card to provide oversampling of all channels at 2.5 microseconds. The resulting waveform is extremely smooth.

Client Resources Area @ rtds.com
The client resources area of the RTDS Technologies website is available for any system still covered under warranty or by the extended warranty and maintenance agreement. Please contact us at rtds@rtds.com if you do not have a login ID and password. The client resources area contains a download section for the latest software releases, release notes, trouble shooting information, documentation updates, and a host of other information.

MOVED to NEW LOCATION

We are now settled in our new facility. The mailing address has changed, but our email, website, phone and fax remain the same.

RTDS Technologies Inc.
300-137 Innovation Drive
Winnipeg, Manitoba
CANADA R3T 6B6

Phone: (204) 989-9700
Fax: (204) 452-4303
Email: rtds@rtds.com
Website : www.rtds.com

UPCOMING EVENTS

DPSP 2004
Exhibition April 5-8, 2004 in Amsterdam, The Netherlands

IEEE/PES General Meeting
Hospitality Suite June 6-12, 2004 in Denver, USA

PESC04
Exhibition June 20-25, 2004 in Aachen, Germany

Cigré – General Session
Exhibition August 30-September 3, 2004 in Paris, France

31st WPRC
Exhibition October 19-21, 2004 in Spokane, USA

Real time digital simulation for the power industry