

POWER SYSTEM DESIGN

HVDC

WIND GENERATION

INSULATION COORDINATION

LIGHTNING STUDIES

SWITCHING SURGES

FERRORESONANCE

MOTOR STARTING

ADVANCED LINE & CABLE

MODELING

POWER ELECTRONICS AND FACTS

CONTROL SYSTEM DESIGN

EMTP-RV

SIMULATION SOFTWARE



The reference for power systems transients

www.emtp.com

What is EMTP-RV?

EMTP-RV is a full-featured and technically advanced simulation and analysis software for power system transients.

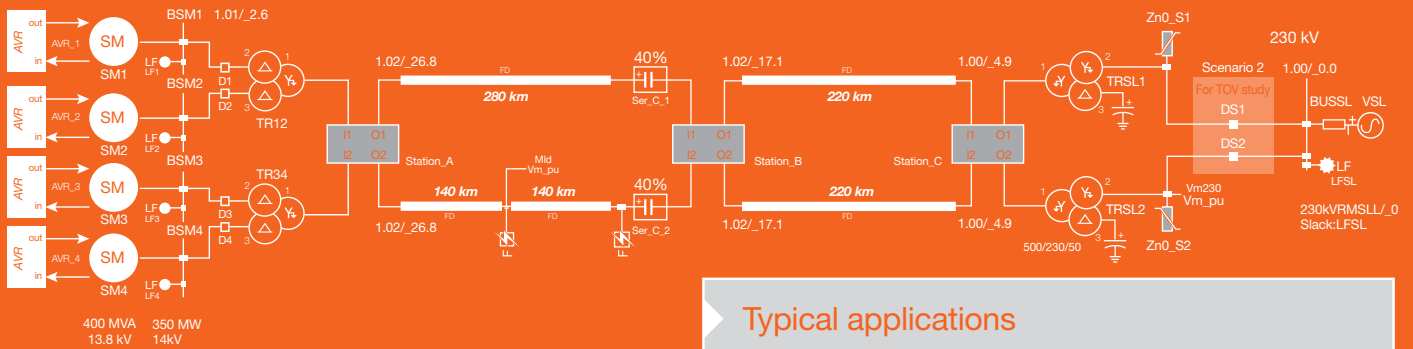
The package is a sophisticated computer program for the simulation of electromagnetic, electromechanical and control systems transients in multiphase electric power systems.

EMTP-RV features a wide variety of modeling capabilities encompassing electromagnetic and electromechanical oscillations ranging in duration from microseconds to minutes.

EMTP-RV's standard library provides a comprehensive and well-documented list of components and function blocks that allow the user to realize easily complete and complex power system studies. It includes:

- Advanced model of electrical machines,
- Detailed and precise models of lines and cables,
- Complete models of transformers that can model saturation and the hysteresis of the magnetic core,
- Extensive library of control devices and functions,
- HVDC library.

Transmission of 1450 MW over 500km 500 kV lines. Transient stability study.



Typical applications

- ✓ Power System Design
- ✓ HVDC
- ✓ Wind generation
- ✓ Insulation coordination
- ✓ Lightning studies
- ✓ Switching surges
- ✓ Ferroresonance
- ✓ Motor starting
- ✓ Advanced line & cable modeling
- ✓ Power electronics and FACTS
- ✓ Control system design

About EMTP-RV

The story of the development of EMTP-RV

EMTP-RV (ElectroMagnetic Transient Program) is the end result of the "EMTP restructuring project" undertaken by the DCG in 1998 for modernizing the EMTP96 software. In order to rationalize the development of the program, the EMTP Development Coordination Group (DCG) was founded in 1982.

At present, North American members of DCG include American Electric Power service corporation (AEP), Centre for Energy Advancement through Technological Innovation (CEATI), Hydro One networks and Hydro-Québec. DCG members outside North America include CRIEPI (Central Research Institute of Electric Power Industry) from Japan and Electricité de France (EDF).

Why RV?

In 2003, the EMTP Development Coordination Group (DCG) released a new Restructured Version, EMTP-RV, developed under the technical leadership of Hydro-Québec. It features new and improved functionalities, as well as state-of-the-art analysis tools. Re-engineered to provide greater simulation performance and design convenience, EMTP-RV is not an upgrade. It is a complete replacement of EMTP96.

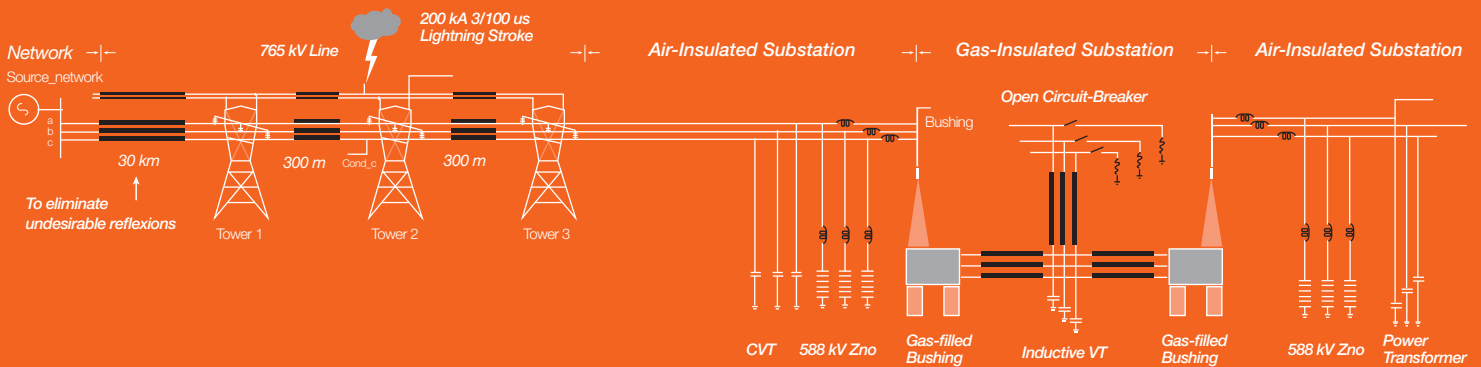


The simulation of power systems has never been so easy!

EMTP-RV's strengths:

- Used worldwide as a reference tool by the main actors of the power system industry since many years (EDF, Hydro-Québec, RTE and many other utilities, manufacturers, consultants...),
- Large field of power systems applications,
- Numerical robustness and stability,
- Comprehensive built-in libraries including detailed models of electrical machines, transformers, lines, cables, ...
- Automatically initializes time-domain simulations from steady-state,
- Capability to simulate very large power systems and power electronics systems without compromising precision,
- The most advanced user-defined modeling capabilities using DLLs and devices in the GUI,
- The same design can be used for load-flow, steady-state, time-domain and frequency scan simulation,
- Scriptable and customizable easy-to-use GUI,
- Many application examples are provided with EMTP-RV,
- Reactive and efficient technical support,
- Competitive pricing.

Insulation coordination study of a 765 kV GIS.



EMTP-RV package includes

EMTPWorks: The Graphical User Interface

An advanced, yet easy-to-use graphical user interface that maximizes the capabilities of the underlying EMTP-RV engine. EMTPWorks provides many customization options and one can easily adapt it to match its unique needs.

EMTP-RV: The computational engine

A powerful and super-fast computational engine that provides significantly improved solution methods for nonlinear models, control systems, and user-defined models.

ScopeView: Data display and analysis

Provides waveform visualization and advanced mathematical post-processing capabilities. ScopeView is a data acquisition and signal processing software very well adapted for the visualization and the analysis of EMTP-RV simulation results.

EMTP-RV simulation options

With EMTP-RV, complex problems become simple to work out! Suited for the analysis and the design of any power system with several simulation options. These are:

- ✓ Load-flow
- ✓ Steady-state solutions
- ✓ Time domain solutions
- ✓ Frequency scans



EMTP-RV



POWERSYS has been developing, marketing and distributing EMTP-RV since April 2011. POWERSYS is a consulting and software company providing global solutions of engineering software and services for industry, research and education in the field of electrical & electromechanical power systems.

Our main market orientation is to offer specialized, affordable and expandable software to our customers. The combination of the different software constitutes a complete range in the field of electrical power systems, power electronics and electromechanics.

EMTP-RV services:

Before and after sales support is very important to us. EMTP-RV's team will provide you with comprehensive assistance and technical support.

- Dynamic development roadmap
- Prompt and effective technical support
- Strong customer service culture
- Personal commercial follow-up
- Worldwide network of distributors

Contacts

EMTP-RV Official Distributors

Local distributors may be available in your country. Check the list of distributors at www.emtp.com

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Discover the power of EMTP-RV!

Try EMTP-RV and our comprehensive support services during a 30-Day evaluation:

If you have not already tried EMTP-RV, feel free to request your full professional **trial license** to explore the full capability of the software.

Technical support services:

During your evaluation, our technical support team will assist you in your use of the software.

Online support section:

In this section you will find videos tutorials, an exchange platform, FAQ, technical presentations and a forum.

The EMTP-RV User Community is becoming more and more active!

The EMTP-RV User Community is here to support User Groups and to share technical presentations from previous meetings. The community is animated by professional from industry and academics really involved and motivated. Most of them have been using EMTP-RV for years now.

Events:

Many events are regularly organized such as training, user group meetings and courses.



www.emtp.com



EMTP-RV users references:

ABB, ALSTOM GRID, AREVA T&D, AUSGRID, BKW, ATCO, BC HYDRO, CEPRI (China Electric Power Research Institute), CHUBU ELECTRIC POWER, CONSOLIDATED EDISON, CRIEPI (Central Research Institute of Electric Power Industry), EDF, ENERGY AUSTRALIA, EPRI (Electric Power Research Institute), GENERAL ELECTRIC, HYDRO-QUEBEC, INDIAN INSTITUTE OF TECHNOLOGY, LAHMEYER, MITSUBISHI, NEW YORK POWER AUTHORITY, NOVA SCOTIA POWER, REN, REPOWER, RTE, SIEMENS, SNC-LAVALIN T&D, TOSHIBA.