



Upcoming Events

Five days of activities planned for the next CYME Users Group in June. Register on our web site:

- June 14: Course on Arc Flash Hazards in Distribution Systems.
- June 15 to 17: CYMDISTCYMTCC Users Group during which the new release of the CYME software will be presented.
- June 18: Additional Training Day on CYMDIST and CYMTCC software.

The next CYMDIST 5.0 and CYMTCC 5.0 training is scheduled to take place next October in Montreal, Canada.

- See www.cyme.com/courses/softwaretraining/ for details.

Visit us at:

- CIGRÉ, August 22 to 27, Paris, France

Seminar : Arc Flash Hazards in Distribution Systems

Cooper Power Systems proposes a one-day seminar about the arc flash phenomena in a distribution network, the risks posed to personnel, and the methods to evaluate and mitigate those risks.

This seminar will take you through arc flash and blast energy calculations and discuss the various regulations and standards being enforced in the industry along with the financial consequences of flash hazards. It will also look at the engineering analyses that

provide the data at each location in a distribution network used to develop and implement safety programs that reduce the risks to manageable and safe levels.

The seminar will be held in Montreal, Canada, on June 14 as part of the one-week activities of the annual CYME users group.

To learn more about the seminar visit:

<http://www.cyme.com/courses/technicalengineering/>

CYME Solutions for the Great DG Challenge

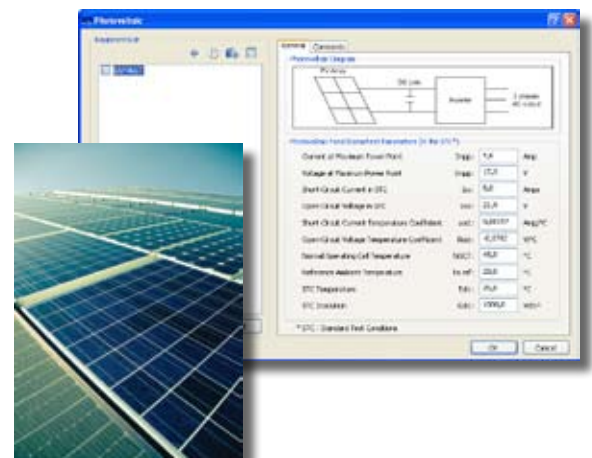
Distributed Generation (DG) use in distribution networks is propagating rapidly and the technology involved is advancing at a fast pace. This is rapidly changing the way distribution networks are designed, managed and operated.

We are now seeing more and more non-utility generation at the distribution level and although it is not a new phenomenon, the penetration level is rising to the point where the industry warning threshold of 10% has already been reached or will be very soon. Some utilities are even expecting small generation to reach around 25% presence in some areas. This requires engineers to be equipped with better tools to assess the impact of DG on their electrical networks.

With the CYME 5.02 release, the CYMDIST suite of applications for distribution analysis has been enhanced in a significant way to meet that growing need. It provides the ability to model all types of DG including all electronically coupled DG such as wind turbines (synchronous or induction), gas turbine (high speed), energy storage, photovoltaic, etc. These enhanced models are used in power flow, short-circuit, and transient stability studies. CYME also features a complete suite of DG models with their dynamic behavior, control functions and protection systems. The added DG resources are primarily electronically-interfaced DG resources and other conventional resources used in DG applications. Islanded systems simulation and network reduction are now included in CYMDIST in order to evaluate the impact of DG.

Having access to some of the best of tools is only part of the solution to the DG challenge. Following our commitment to provide customers with top of the line support, we are developing in-house expertise to help, train and coach users in the new field of DG and dynamic studies.

For customers not wanting to develop in-house expertise on DG or the ones who cannot afford to maintain such an expertise, we offer the services of experienced utility engineers that already worked on distributed generation. Members of our Engineering Consulting team have been working on DG since the early 90's and they have actively participated in the writing of the national interconnection standards for small generation.



Low Voltage Analysis: Load Flow and Contingency in Secondary Networks Analysis

The upcoming release of CYME 5.02 will feature a number of enhancements that allow even more precise modeling and analysis of secondary networks. Among those, a new type of equipment called a Network Protector for the modeling of grid systems and spot networks. In addition, a new robust load flow method will be added to the CYME Secondary Networks Analysis module to perform power flow analysis on heavily meshed secondary network distribution systems and to evaluate the initial state of the network protectors.

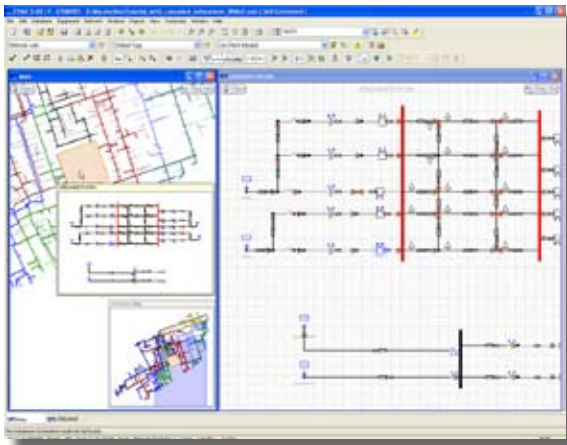
In their conventional configuration, secondary networks, also called grid systems, consist of underground cables or overhead lines interconnected into a complex low-voltage meshed system fed by a number of primary feeders and step-down transformers. This design, common in urban areas, has the objective of providing uninterrupted service: when the failure of any primary feeder occurs, the load on the grid is continuously fed by adjacent feeders supplying the network transformers. To prevent unwanted back feed of power into the primary feeders, automatic network protectors are placed at each network transformer.

The network protector will feature relay settings with automatic sensing of reverse power flow with sensitive, insensitive, and remote trip modes. An automatic closing scheme based on a straight closing curve will also be available to ensure power flow into the grid. By defining phasing and master offset voltage including phasing and master adjustable angle, the normal reclose option will automatically close the network protector to inject power into the

secondary grid. In order to evaluate the initial state of network protectors and to run contingency analyses, a new robust load flow will be available, and will use the Fast Decoupled method, a variation of the full Newton-Raphson.

CYME will also feature a new analysis called *Load Flow Contingency* that can be combined with the *Secondary Networks Analysis*. It will be possible to evaluate the power flow and the state of the network protectors after a contingency event such as the disconnection of a line, the modification of loads and generation factors in a zone, etc. This analysis will report the contingency ranking and limit verification reports on elements of the network.

The combination of the new *Load Flow Contingency* analysis working with the *Secondary Networks Analysis* module will provide additional tools to planners for the design and analyses of urban grid systems.



Upcoming CYME Web Seminars

The web seminars series highlighting the powerful new features of our CYME 5.0 software is continuing in May and June. These live seminars are interactive and conducted by a CYME engineer allowing you to ask your questions and receive immediate feedback.

Each seminar cover a different and specific engineering analysis topic.

See the current schedule on the CYME web site:

www.cyme.com/courses/WebMeetings/

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