



## Enhanced Substation Modeling and Secondary Grid Network Analysis

With the CYME Enhanced Substation Modeling module the user can model all the major components of distribution substations and any sub-network such as an industrial facility. The Secondary Grid Network Analysis module performs the power flow and short circuit analysis of heavily meshed secondary network distribution systems for any voltage level.

### Program Features

#### Substation Modeling and Analysis

The Enhanced Substation Modeling module is an add-on to the CYME software that provides the user with the capability to model all the major components of the distribution substation and any sub-network such as an industrial facility.

The graphic editor of CYME is utilized to build the One Line Diagram of the substation. This includes the representation of bus bars, multiple transmission line feeds, power transformers, tie points and protective devices.

The distribution feeder sources are now the transmission lines feeding the substation. The impact of all components of the substation as well as all components of the feeders connected to it are now taken into consideration during the analysis.

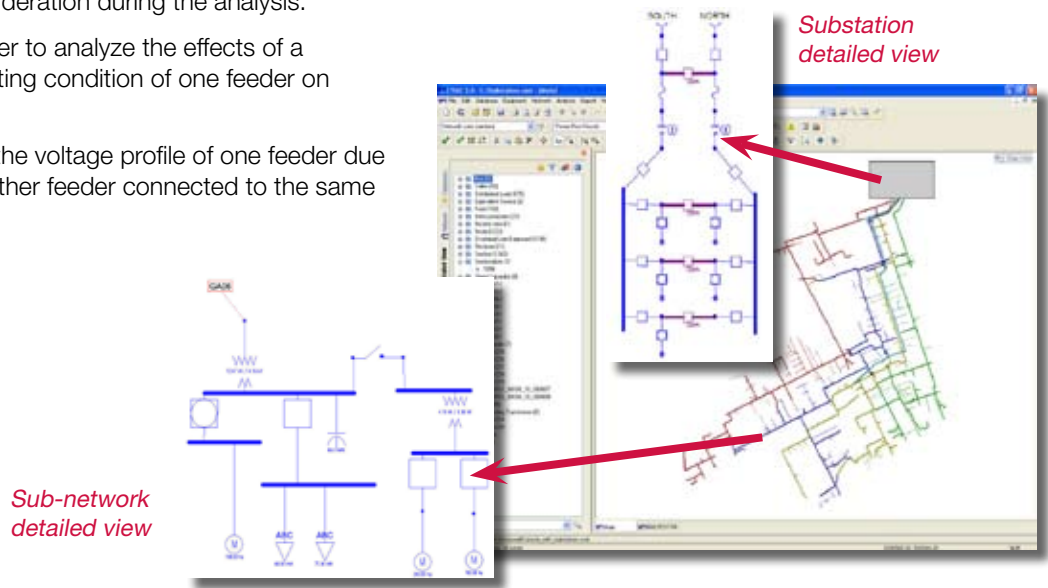
The substation allows the user to analyze the effects of a change in the nominal operating condition of one feeder on another.

A typical example would be the voltage profile of one feeder due to a fault on a section of another feeder connected to the same substation.

#### Sub-Network Modeling and Analysis

The module also allows the user to model sub-networks such as a detailed representation of an industrial facility. These sub-networks are considered to be a continuation of existing network feeders.

The module is fully integrated into CYME for voltage drop, short circuit, load allocation and capacitor placement analyses on both radial and looped systems. The analysis results for the equipment, including any color coded abnormal conditions, within the substation and the sub-network can be posted on the network one line diagram and in the reports.



## Enhanced Substation Modeling and Secondary Grid Network Analysis

Model and include substations, sub-networks and secondary grid networks in your simulations

### Secondary Grid Network Analysis

The Secondary Grid Network Analysis module is an add-on to the CYME Power Engineering Analysis Software. It is designed to perform the power flow and short circuit analysis of heavily meshed secondary network distribution systems for any voltage level.

The module enables the user to build the secondary grid by including the complete vaults with their transformers and protective devices, the secondary lines or cables, as well as the distribution transformers.

It uses the graphic editor of CYME to model the secondary network and display the results of the power flow and short circuit simulations on the one line diagram.

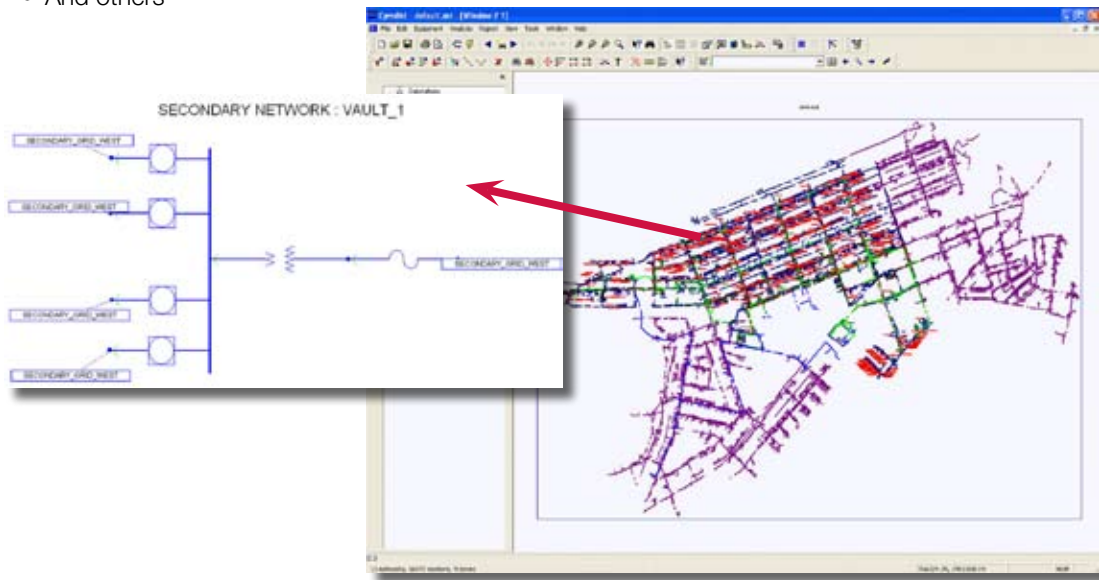
Any portion of the system can be selectively visualized in detail and system-wide results can be viewed for any type of simulation.

The module also includes a comprehensive suite of presentation tools for selective visualization and effective management of large data sets, like spreadsheets, rapid graphics and a multitude of context-dependent reporting facilities such as:

- Full voltage drop and short circuit reports
- Overloaded conductors and devices
- Abnormal conditions
- And others

### Unique Capability

The CYME Enhanced Substation Modeling module and the Secondary Grid Network Analysis module greatly enhance the capability of our CYME power system analysis software by including, in addition to the primary feeders, the substation detailed representation and the secondary grids all the way down to the customer's transformers.



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