



# ASPEN LEAFLET

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## ASPEN DistriView Debut

We just released *ASPEN DistriView*™ V1.0! *DistriView* is an integrated suite of analysis tools designed specifically for distribution systems. Its major components are voltage-drop analysis, short circuit and motor-start simulation, and relay coordination.

The attribute that sets *DistriView* apart from other ASPEN software is that *DistriView* is capable of simulating feeders with single- and 2-phase lines as well as unbalanced loads and shunts. Other distribution system-specific features in *DistriView* include transformers with broken wye and broken delta configurations, voltage regulators, induction motors, switches, fuses, reclosers and sectionalizers.

*DistriView* is the culmination of several years of hard work. We have mentioned this project so many times over the years that some ASPEN users may have written it off as another Silicon Valley vaporware. But vaporware it is not, as any of our new users at Ontario Hydro, Eugene Water and Electric Board, and South Norwalk Electric Works will attest! The reason the program took so long to come to market is that we decided to develop and perfect a new solution algorithm that is more versatile and faster than existing methods. This work has paid off: The solution logic in *DistriView* can handle radial as well as network systems that are fed by one or

more substation buses. There are 19 kinds of transformer to choose from. The program can also model synchronous generators (cogenerators) which hold the voltage and kW output at their scheduled values, subject to kVAR constraints.

*DistriView* does voltage-drop, short-circuit and motor-start simulation with the click of a button. The solution can be presented directly on the one-line diagram or in text. The figure on this page shows a sample voltage-drop solution.

*DistriView* models overcurrent relays and other protective devices in much the same way as *ASPEN OneLiner*™. The two programs share the same curve library, so that *DistriView* users have instant access to over 2700 sets of fuse, recloser and relay curves.

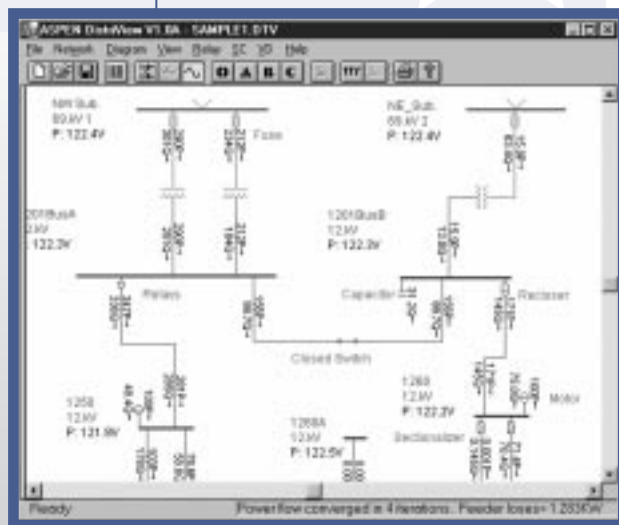
The Curves Window in *DistriView* can display up to 15 curves on a K&E paper-like grid. *DistriView* can also compute the vertical (time) separation between curves for a range of fault currents.

*DistriView* can be used stand-alone, or in conjunction with *OneLiner*. When used with *OneLiner*, the user can keep their transmission- and distribution-system data in sync by transferring to *DistriView* the Thevenin impedances at the substation buses. This way, *OneLiner* and *DistriView* together provide a uniform set of tools for short-circuit and relay-coordination studies for the entire company.

Please call if you want to find out more about *DistriView*. A working model is available on request.

## Relay Database Plans

We just released a new version of *ASPEN Relay Database*™. This version has many new features, including saved queries, cascade delete, the ability to import relay templates from the SEL5010 program, and a new facility to export relay-setting parameters to relay-test equipment.



The next version of the *Relay Database* to be released later this year will be 32-bit. [Ed: See related article, *16 Bits to 32 Bits*.] We also plan in this release to modify the data schema slightly to make it more flexible and to accommodate changes users have been asking for. The planned changes include:

- Creating additional fields in relay, breaker and other tables to allow users to store additional information of their choice.
- Changing the setting comments field from "memo" to a fixed-length text field.
- Changing certain index fields from floating-point numbers to long integers.

We will provide a conversion utility to convert all existing data to the new schema, so that the change will be transparent to most users. Users who have created their

## IN THIS ISSUE

ASPEN DistriView Debut .....	Cover
Relay Database Plans .....	Cover
16 Bits to 32 Bits .....	2
New Users .....	2



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own reports with *Crystal Reports*, however, will have to modify those report slightly to accommodate the new data structure.

In parallel with the 32-bit conversion, we are developing a client-server version of the *Relay Database* using the *Oracle* database engine. We have looked at many database engines and settled on *Oracle* because it is the database of choice at most electric utilities for billing and mission-critical applications. Existing *Relay Database* users should consider upgrading to the client-server version if they have many thousands of relay records and are willing to pay for the speed and robustness of the *Oracle* engine. The license fee paid for the *Relay Database* can all be applied toward the client-server version. The client-server version is scheduled for release at the beginning of 1998.

## 16 Bits to 32 Bits

Microsoft has made clear since the debut of *Windows 95* that the future of PC software lies in 32-bit. The old 16-bit *Windows* programs still run in 32-bit operation systems, but they run somewhat slower than 32-bit applications, and they have no access to any of the latest services and tools.

We plan to follow this trend and convert all ASPEN programs from 16-bit to 32-bit in the next 12 months. In most cases, the conversion process involves rewriting a small portion of the program logic, re-compiling and re-linking the program with new switches, and putting the finished product through extensive QA tests to make sure everything is still working properly. The next version of the *Relay Database* to be released in late 1997 will be our first 32-bit application. The 32-bit database will be faster and more robust, especially for utilities with many thousands of relay records. The next release of *OneLiner*, *Power Flow™* and *DistriView* in early

1998 will still be 16-bit. We will convert them in the version following that. The effect of the 32-bit conversion will probably be less pronounced for these programs.

We will no longer upgrade the 16-bit version of a program once it is converted to 32-bit. ASPEN users who are still using *Windows 3.x* therefore should plan on upgrading their operating system to either *Windows 95* or *Windows NT* in the next 12 months.

## New Users

We welcome the following new users who licensed our software since the last issue of *Leaflet* was published in Sept. 1996.

### ASPEN DistriView

- Eugene Water and Electric Board, OR
- Ontario Hydro, Canada
- South Norwalk Electric Works, CT

### ASPEN OneLiner

- ABB, Ltd., Taiwan
- Alabama Electric Coop.
- Alberta Power Ltd., Canada
- Aramco Services Co., Saudi Arabia
- Arizona Electric Power Coop.
- Berdal Stromme a.s. Consulting Engineers, Norway
- CFE, Mexico
- Central Vermont Public Service
- China Light & Power, Hong Kong
- City of Calgary, Canada
- Clark Public Utilities, WA
- Detroit Edison, MI
- Electric Power Systems Engineering Co., Egypt
- Empresa Nacional de Electricidad S.A., Spain
- GE Power Management, S.A., Spain
- Gray's Harbor P.U.D., WA
- H.A. Simons Ltd., Canada
- Hydro Electric Corp., Australia
- Lockheed Martin Idaho Technologies
- Luz del Sur, Peru
- Midland Electricity plc., England
- Mitsubishi Research Institute, Japan

- N.V. Sep, the Netherlands
- ORSA Consulting Engineers, CA
- PERTAMINA, Indonesia
- Public Power Corp., Greece
- S&C Electric, IL
- Sarawak Electricity Supply Corp., Malaysia
- Saudi Consolidated Electric-Central
- Societe Tunisienne de L'Electricite & Gaz, Tunisia
- South Indiana Gas & Electric
- Sunflower Electric Power Corp., KS
- TRANSENER, S.A., Argentina
- Taiwan Power Co.
- Zimbabwe Electricity Supply

### ASPEN Power Flow

- ABB, Ltd., Taiwan
- Empresa Nacional de Electricidad S.A., Spain
- GE Power Management S.A., Spain
- Hydro Electric Corp., Australia
- Lockheed Martin Idaho Technologies
- Nebraska Public Power District
- S&C Electric, IL
- SSR Engineers, Inc., MT
- Taiwan Power Co.
- energyAustralia

### ASPEN Relay Database

- Arizona Electric Power Coop.
- BP Exploration, Inc., AK
- Central Louisiana Electric Co.
- Commonwealth Electric Co., MA
- Edelnor S.A., Peru
- Empresa Nacional de Electricidad S.A., Spain
- Golden Valley Electric Assoc., AK
- Hydro Electric Corp., Australia
- Niagara Mohawk Power Corp., NY
- PG and E, CA
- Portland General Electric Co., OR
- Public Power Corp., Greece
- Puget Sound Energy, WA
- Tacoma Public Utilities, WA
- Taiwan Power Co.
- West Kootenay Power, Canada

