



# ASPEN LEAFLET

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**Export Fault Result for Relay Testing**

Following fault results are available for export:

1. 1LG Close-in fault on: NEVADA	132. kV - REUSENS	132. kV 1 L
2. 1LG Remote-bus fault on: NEVADA	132. kV - REUSENS	132. kV 1 L
3. 1LG Interm. fault 50.00 on: NEVADA	132. kV - REUSENS	132. kV 1 L

Edit the list above to keep only faults that you want to export. You may also customize fault description strings. But you need to keep the fault index numbers unchanged

**Output Options**

Output action: ☐ Append file ☒ Overwrite file

File type: ☒ Tab delimited (.out) ☐ Comma delimited (.csv)  
☐ Doble (.ss1, .bxt) ☐ COMTRADE (.dat, .cfg, .hdr)

Sequence quantities: ☒ Io and Vo ☒ I2 and V2

CT ratio 1 =  CT ratio 2 =  PT ratio 1 =  PT ratio 2 =

Figure 1

## PowerScript for Relay Testing

Testing relays with simulated short-circuit currents and voltages is made easier by a PowerScript™ file named FLTEXPRT.BAS that was shipped with OneLiner V2001. The script can be used to test a single relay, or a pair of relays in an end-to-end test. To begin, you must simulate all the faults of interest within OneLiner. When you execute the script, it outputs the relays' secondary currents and voltages for a sequence of events to either Doble SS1 files (that work only on Doble test sets) or COMTRADE files (that work on virtually all test sets). Recently, engineers at Bonneville Power Administration used this script for a battery of end-to-end tests on a 500 kV line. We have made a number of improvements based on their feedback. The improved version, named FLTEXPRT1.BAS, will be shipped with OneLiner Version 9.

For more details, please download a technical paper on this subject, available both in English and Portuguese, from the Community | User Download page of our web site.

## Fall Lineup of Program Updates

We will be releasing a number of major updates within the last three months of 2003. Here is a quick preview:

### ASPEN OneLiner™

The *What's New* document of version 9 spans 14 pages. The most important new features include a boundary-equivalence wizard, a easier-to-use dialog box for 3-winding transformers, the ability to enter transformer impedances on its own MVA base, a new method for checking relays of virtually any primary-backup combination (overcurrent to overcurrent, overcurrent to distance, distance to overcurrent, distance to distance, and

recloser to overcurrent relays), the ability to check relays system wide, the ability to set the prefault voltage magnitude, a new recloser object, a customizable data browser, four new distance relay methods (ABB REL521 and REL316, and Siemens 511 and 513), a user customizable distance-relay DLL, an improved network-anomalies checking function, and many others.

### Breaker Rating Module™

An improved algorithm in the new version distinguishes between currents from nearby generators and currents from other sources, and uses different multipliers for each. You can specify additional outages to be considered for each breaker. The new version also works with IEC standards.

### ASPEN Power Flow Program™

With the exception of relay-specific features, Version 9 of *Power Flow* has the same new features as *OneLiner*. New power-flow features include a new dc-line model, a load tap changer model for 3-winding transformers, and a new customizable Solution Browser that displays the power flow solution in a tabular form.

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### ASPEN Relay Database™

The new release employs Microsoft's ADO as its "middleware", instead of Borland's BDE. Two improvements came as a direct result of this change: (1) memo fields can each hold up to 2 Gbytes of characters, and (2) the setup for the client/server version is much easier than before. Other new features include test templates, the ability to store and retrieve setting files, test files and other files as binary objects within the database, a new "briefcase mode" for the client/server version, a new SEL-5030 export capability, and the ability to have requests of different relay templates for a given relay.

### ASPEN Line Constants Program™

Users will receive a new 32-bit version of the program with some new features. The most important of these are the ability to output line impedances in per-unit in the *Construction Editor*, and an "export" command that writes the program results to an LTB file for *OneLiner* and *DistriView*.

### Tech Support in Spanish

Sylvio Cayres, who has been our Portuguese tech support for some time, is taking on the responsibility of providing tech support in Spanish. Please write to scayres@aspenninc.com for this service.

### Improved ASPEN Web Site

The ASPEN web site has been completely redone. It looks better, and it is better organized than before.

The User Forum is working again. You can find it under the "Community" tab. We invite you to post in the Forum your wish lists, general questions, help-wanted messages, and other information you want to share with the ASPEN community at large. However, the Forum is not right venue for tech-support questions that

require immediate response. They should be sent to support@aspenninc.com instead.

Under the "Demo" tab you will find a link to the Relay Database Web Interface hosted by a server in ASPEN. The data you see are fictitious, but the interface itself is real.

Under the "News" tab you will find news and information on upcoming events, such as the schedule and sign-up sheet for classes.

### Upcoming Events

- *OneLiner* Users Group Meeting: Morning of Oct. 20, 2003, in Spokane, WA, one day before the Relay Conference.
- Relay Database Workshop: Afternoon of Oct. 20, 2003, in Spokane, WA.
- ASPEN Hospitality Suite: Oct. 20-23, 2003, in Spokane, WA, during the Western Protective Relay Conference.
- *OneLiner* class in Spanish: Feb. 10-12, 2004 in Panama City.
- *DistriView* class: March 4-5, 2004, in San Francisco, CA.
- *OneLiner* class: March 17-19, 2004, in Tampa, FL.

### New Users

#### Breaker Rating Module

- Progress Energy, Raleigh, NC
- E. Kentucky Power Coop., Winchester, KY
- Entergy Corp., New Orleans, LA
- International Transmission Co., Ann Arbor, MI
- National Grid USA, Northborough, MA
- Teshmont Consultants LP, Winnipeg, MB, Canada

#### DistriView™

- Alaska Electric Light & Power, Juneau
- City of Colton, CA
- City of Vineland, NJ
- ConEdison Solutions, White Plains, NY
- ESA NW, Inc., Corvallis, OR
- Guam Power Authority

- IMPulse NC, Inc., Mount Olive, NC
- Jacksonville Electric Authority, FL
- National Taiwan University, Taipei
- Orbital Technical Solutions, Toldeo, OH
- PGandE, San Francisco, CA
- We Energies, Milwaukee, WI

#### Line Constants Program

- Brad Edler, Dalton City, IL
- Elektroistok, Belgrade, Yugoslavia
- Jacksonville Electric Authority, FL
- US Power Services, Alpharetta, GA

#### OneLiner

- Acres International Ltd., Niagara Falls, ON, Canada
- Allgeier, Martin and Associates, Joplin, MO
- Brad Edler, Dalton City, IL
- ELETROSUL, Florianopolis, SC, Brazil
- Elektroistok, Belgrade, Yugoslavia
- GP Technologies Ltd., Edmonton, AB, Canada
- International Transmission Co., Ann Arbor, MI
- J.J. Bergeron & Co., Metairie, LA
- MSE Power Systems, Inc., Albany, NY
- SGS Witter, Albuquerque, NM
- Teshmont Consultants LP, Winnipeg, MB, Canada
- Unidad de Transacciones, S.A. de C.V., El Salvador
- Virelec, Ltd., Mississauga, ON, Canada

#### Power Flow

- Electricity Company of Ghana
- Elektroistok, Belgrade, Yugoslavia
- GP Technologies Ltd., Edmonton, AB, Canada
- SNC - Lavalin Inc., Calgary, AB, Canada

#### Relay Database

- Chattanooga Electric Power Board, TN
- Keyspan Energy, Hicksville, NY
- Memphis Light, Gas & Water Div., TN
- Potomac Electric Power Co., Washington, DC
- US Power Services, Alpharetta, GA

