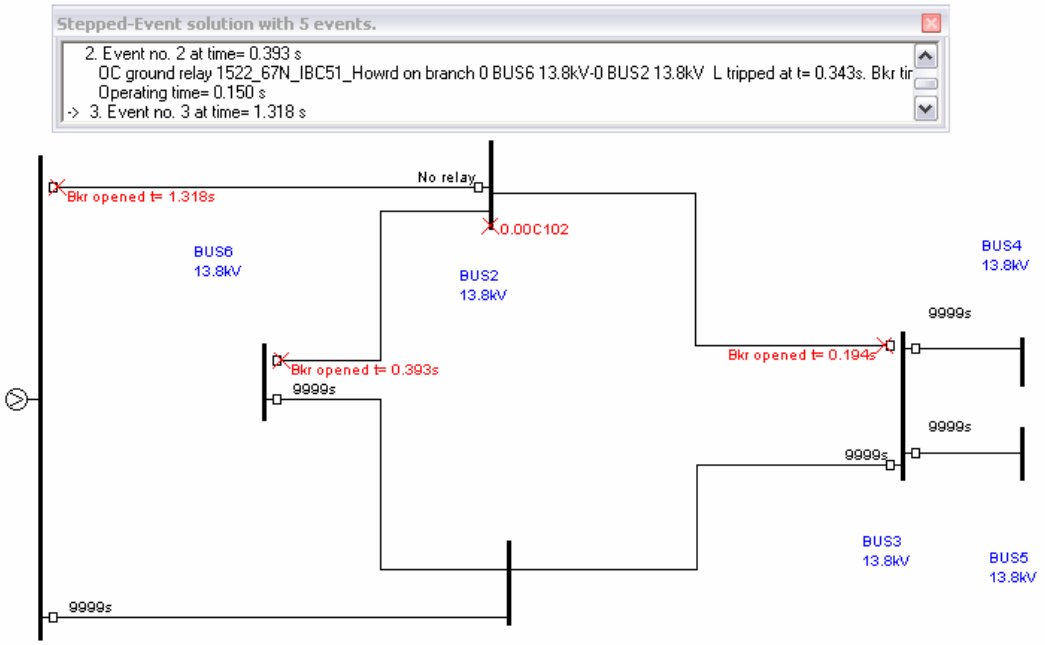
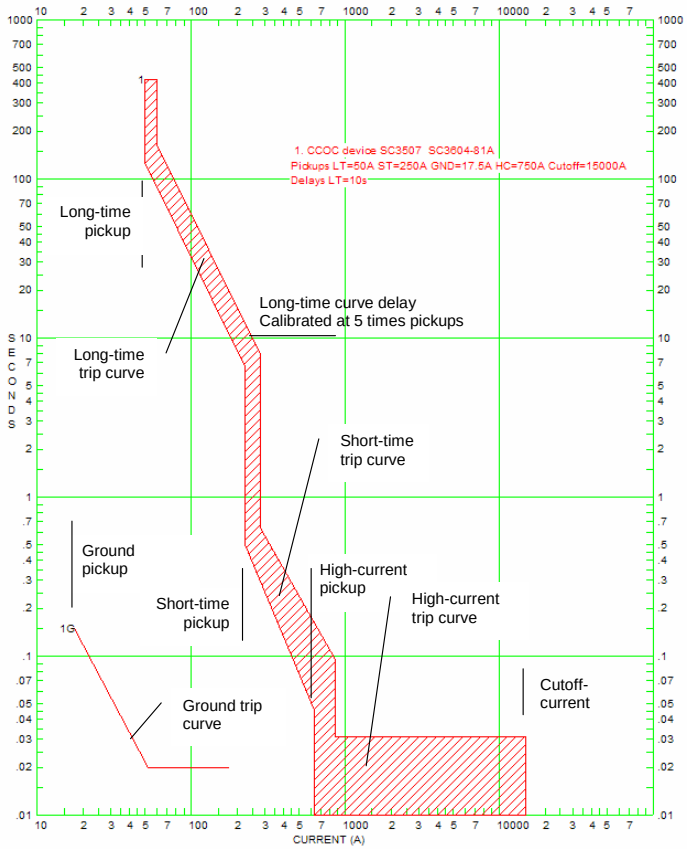
What's New in Version 9 of *ASPEN DistriView*™

1. **Stepped-Event Analysis:** This new command simulates a time sequence of events, starting with a fault you specify. The analysis ends when the fault is cleared or when the fault remains without further interruption. A modeless dialog box allows you to play the events, one at a time, on the one-line diagram. The picture below depicts the last event in the clearing of a single-line-to-ground fault at BUS2.



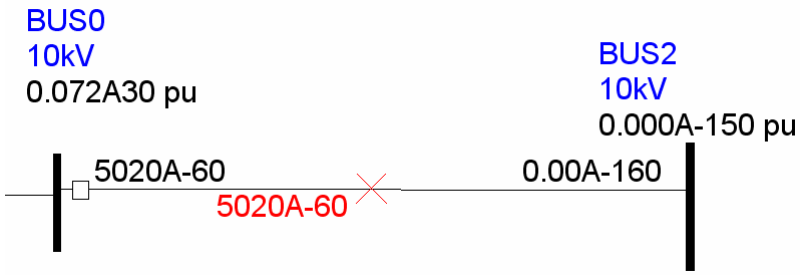
2. **Voltage Sag Analysis, Interactive Mode**: This new command automatically simulates a number of bus faults in its immediate neighborhood of a "monitored bus" and tabulates the monitored-bus voltage and the total fault duration (computed using stepped event analysis). The results are also shown graphically on the one-line diagram, where halos of different colors signify different degrees to which the neighboring bus faults have on the voltage-sensitive customer.
3. **Voltage Sag Analysis, Normal Batch Mode:** Given a text file with a list of monitored buses, *DistriView* calculates the voltage sag for each of the monitored buses in turn and deposits the results in a CSV file. This batch command uses the same method as that of the interactive mode.
4. **Voltage Sag Analysis, Advanced Batch Mode:** The input to this command is a batch command file, a text file with a list of cases. Each case consists of the monitored bus and a list of bus faults and intermediate faults to be applied. *DistriView* simulates these cases in turn and deposit the results in a CSV file.
5. **Vendor-Specific Distance Relay Models:** For the first time, *DistriView* has vendor-specific models for the following distance relay types: SEL-311, SEL-321, SEL-421, GE D60 and D90, Areva P437 and P443, ABB RAZOA, REL 511, REL 521, REL 531, Siemens 7SA522 and others. The fault-detection and tripping logic of the vendor-specific models are customized to simulate the actual relay. Also, the parameters of these relay models are exactly those of the actual relays in the field.

6. **Import relay settings directly from manufacturer setting files:** A new "Import" button in the breaker/relay-group dialog box lets you import relay settings directly from relay manufacturer's setting files to *DistriView*. The import command works with SEL-5010 Relay Assistant MDB file, SEL-5030 (ASELerator) setting text export files, and GE URPC CSV export files.
7. **New "Start from previous solution" and "Reset LTCs and voltage regulators" options for voltage-drop simulations.** In previous versions, each voltage-drop simulation begins with 1-pu bus voltages and LTCs and voltage regulators at their neutral position. These new options are designed to gives you greater flexibility.
8. **Improved voltage-drop report for style 3.** Previously the report included only lines and cables. In v9, the report includes the current and power flow on all transformers, regulators and switches.
9. **Automatic adjustment of reference angles for substation buses.** When a feeder is connected to multiple substations, the program automatic assigns the correct reference angle to all the substation buses when you perform a short circuit or voltage drop study. In previous versions, the reference angles of substation buses were always set to zero.
10. **Ability to model compounded curves of low-voltage power circuit breakers and new electronic fuses.** A sample compounded curve is shown below. The dialog box for compounded curve overcurrent devices (CCOC) gives you complete control over all the different parts of the curve.

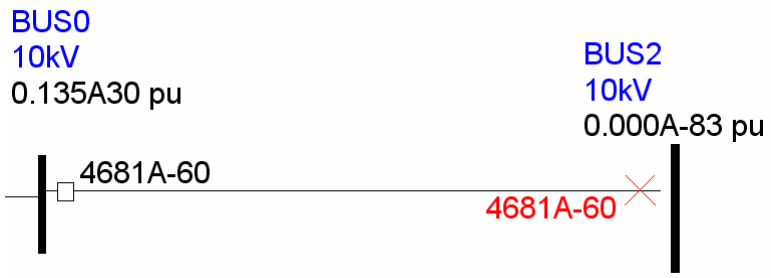


DistriView version 9.3 comes with a small number of CCOC curves in the file Cutler_Hammer.rly. We plan to add more CCOC curves to the overcurrent curve library in the near future. If you need a CCOC curve that is not in the library, please let us know and we will create it for you.

11. **Ability to simulate intermediate faults on lines and cables.** An intermediate fault is a short circuit in the middle of a line. It is also known as a "sliding fault." The picture below shows a 50% intermediate fault on a line.



12. **Ability to simulate line-end faults on lines, cables, voltage regulators and transformers.** A line-end fault is a short circuit at the end of a branch, after the branch has been disconnected from the remote bus. The picture below shows a line-end fault at the BUS2 end of the line.



13. **New "level" attribute for nodes.** You can now assign a level of 0, 1, 2 or 3 to each node. In the dialog box for voltage-sag analysis" and "fault all buses" commands, you will find options like "output faults on nodes level 0 or higher" and "fault nodes level 0 or higher". When reading *OneLiner* files, *DistriView* v9 assigns level 0 to tap busses and level 1 to all other buses.
14. **View | Power Profile and View | Neutral Current Profile commands for voltage-drop solution.** These two new commands let you plot the profile of real and reactive power and neutral current for a voltage-drop solution.
15. **CSV Report for the Profile Window.** In addition to showing the voltage, power or current profile as a graph, *DistriView* v9 gives you the option of generating a report of the profile data points in CSV format.
16. **Voltage-Drop solution report in tree-walk format**. The tree-walk format was used only for the Check | Feeder Coordination command in previous version. We added this format for voltage-drop solution reports in v9, at the request of many *DistriView* users.
17. **Five-fold speedup of the** S_Ckt | Fault All Buses **command.**
18. **More test points for reclosers.** The Show | Relay and Recloser Test Values command in the Curves Window now shows 11 test points for each recloser curve, up from 4.
19. **New "interrupt time" parameter for reclosers.** For older reclosers, the curves provided by the manufacturer for are for the clearing time. For newer reclosers, the curves are for the response time. The interrupt time – the difference between the clearing time and the response time – has to be entered separately. In *DistriView* v9, once you entered a non-zero interrupt time for a recloser, the program will plot both the response curve and the clear curve with the area between the curves shaded. The trip time shown on the one-line diagram is always the clearing time.

20. **New feature in the Edit | Shift Factor command in the Curves Window for recloser-fuse coordination.** In the Edit | Shift Factor dialog box, you can activate the new features by (a) selecting a recloser fast curve and clicking on action "Apply load side fuse coordination time multiplier" or (b) selecting a recloser slow curve and clicking on action "Apply source side fuse coordination time multiplier". Both features are designed to help you visualize the coordinating time interval between a fuse and a recloser, with the heating of the fuse taken into account.
21. **Network | Remove Tap Nodes – Run Batch command:** This new command removes tap nodes that are listed in a text file. When a tap node is removed, the adjacent line sections are merged into one.
22. **Bigger TTY buffer:** The buffer that holds the contents of the TTY Window has been expanded to 12,000 lines, from 4960 lines.

Installing DistriView Version 9

The enclosed CD-ROM can be used to update an existing installation or to make a new installation. Please follow these instructions to install the *DistriView* v9 on your PC:

1. **Recommended: Backup your data including all binary data files (with .dtv extension), distance relay library file (with .drl extension), overcurrent curve files (with extension .rly) that you have customized, the conductor library file (with .cdb extension), and reliability class library file (with .rlb extension), just in case.**
2. **Do NOT uninstall version 8 until version 9 is working.**
3. **Run** d:\DV\setup**, assuming d: is the CD drive on your PC. Choose '**Regular Setup' **unless you are making a file-server setup for a "Workstation Setup".** (See the new Getting Started document at d:\manuals\gettingstarted.pdf for more information on different ways of setting up the program.)

   By default, the setup program will create a directory on your hard disk and copy the program files to the folder C:\Program Files\ASPEN\DV_v9.

   If you are upgrading from version 8, the program will re-use the existing Overcurrent Library folder as the new *DistriView* Library Directory. The version-9 setup program will copy your distance library files (which is usually aspen.drl), conductor library file (usually aspen.cdb) and reliability class library file (usually aspen.rlb) to this folder, if they are not there already.

   Starting with version 9, all the library files referenced by the program must be in the *DistriView* Library Directory.