

# Web-Based Help Documentation

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# Outline

- PowerWorld WebHelp
- Context-sensitive help from the user-interface
- Transient model documentation
- Tags for new features and improvements
- URL for each help topic



# PowerWorld WebHelp

http://www.powerworld.com/WebHelp

Print help topic

Navigation path

Selected help topic

Table of contents

The screenshot shows a web browser window displaying the PowerWorld WebHelp page. The browser address bar shows the URL: powerworld.com/WebHelp/#MainDocumentation\_HTML/Whats\_New.htm?Highlight=New. The page header includes the PowerWorld Corporation logo and a search box containing the word "New". The main content area is titled "What's New" and contains a list of features. Red arrows point to various elements: a print icon in the top right, a search box in the top right, a navigation path in the left sidebar, a selected help topic in the left sidebar, and a table of contents in the left sidebar.

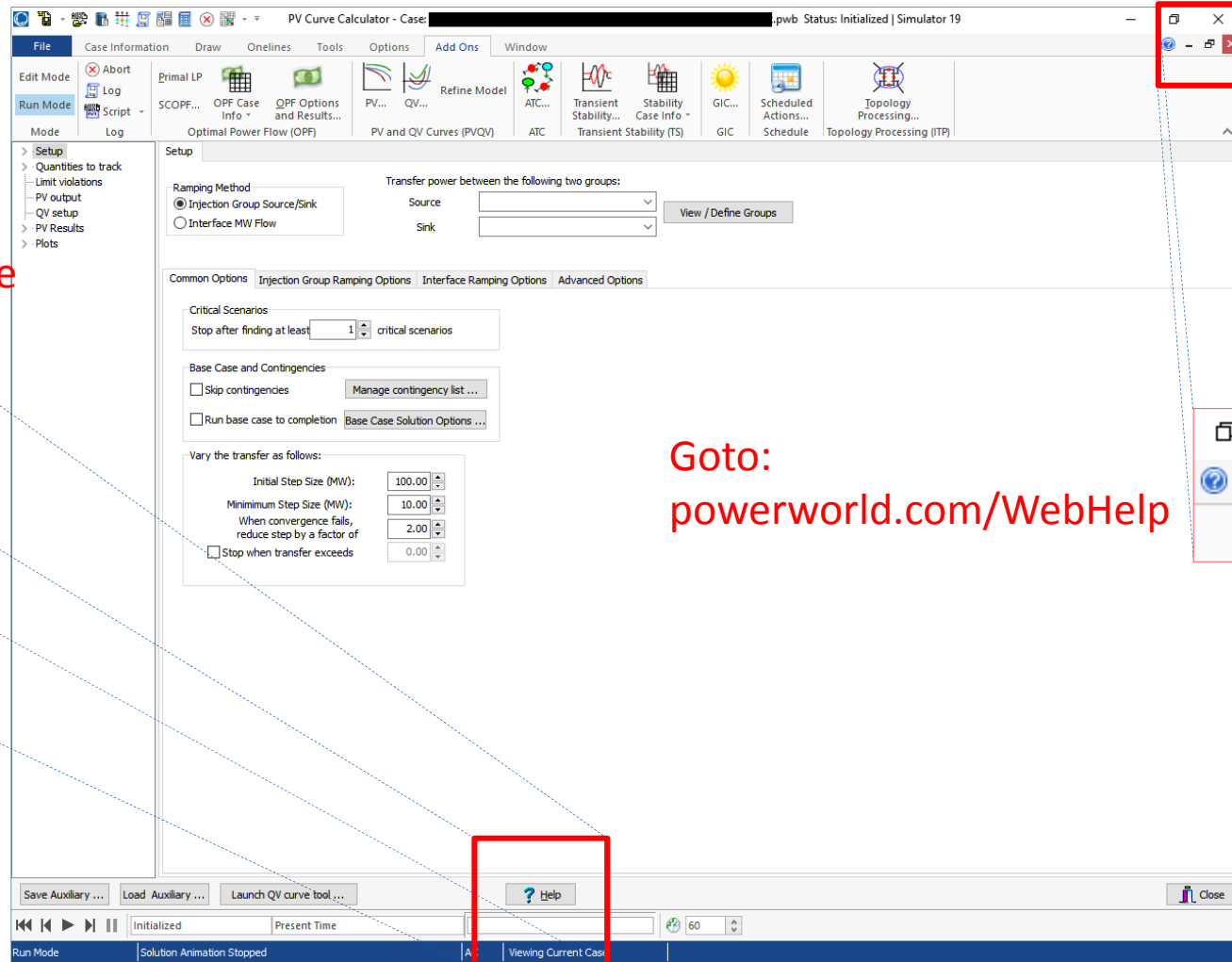
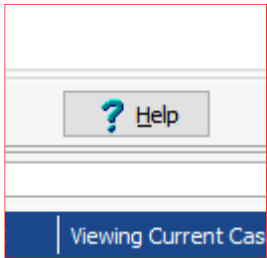
Remove search highlighting

Search box



# Context-Sensitive Help From The User-Interface

Goto:  
Context-sensitive  
help topic

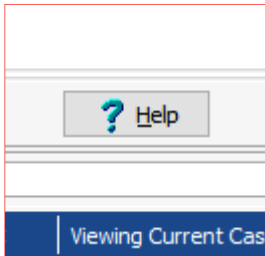


Goto:  
[powerworld.com/WebHelp](http://powerworld.com/WebHelp)



# Context-Sensitive Help Topic

Goto:  
Context-sensitive  
help topic



The screenshot shows a web browser window with the URL `powerworld.com/WebHelp/Default.htm#cshid=1303`. The page title is "PV Curves Dialog". The browser's address bar shows the URL. The page content includes a search bar, a "Contents" sidebar, and a main content area. The "Contents" sidebar lists various topics, with "PV Curves" expanded to show "Dialog", "Setup", "PV/QV Quantities to Track", "Limit Violations", "Output", "QV Setup", "Results", "Plots", and "QV Curves". The "Dialog" item is selected. The main content area displays the following text:

*PV and QV Curve Add-On (PVQV) > [PV Curves](#) > Dialog*

### PV Curves Dialog

[See Also](#)

To display this dialog, go to the [Add Ons](#) ribbon tab and select **PV Curves** from the **PV and QV Curves (PVQV)** ribbon group. The PV Curves dialog contains all of the setup and controls for processing and analyzing the PV curve analysis. The dialog is broken down into several pages:

- [Setup](#)
- [Quantities to track](#)
- [Limit violations](#)
- [PV output](#)
- [QV setup](#)
- [PV results](#) (Launching the analysis is done from this page.)
- [Plots](#)

There are several buttons at the bottom of the dialog that are available regardless of the selected page.

[Save Auxiliary...](#) [Load Auxiliary...](#) [Launch QV curve tool...](#) [? Help](#) [Close](#)

**Save Auxiliary...**

Clicking this button will prompt for a filename in which to save an [auxiliary file](#). PV-specific results and option settings are not saved with the case when it is saved to file. Use this option to store any results and settings that need to be retained for future use.

The PV Curve Tool Settings dialog shown below will be displayed with options for specific data to include in the auxiliary file. Check the box next to a particular data set to save this data in the auxiliary file. Which key field to use when identifying objects in the file can also be specified on this dialog. Click **OK** on this dialog to finalize saving the file or **Cancel** to abandon the file save.

The "PV Curve Tool Settings" dialog box is shown with the following options:

- Save PV Curve Tool Options
- Save PV Curve Tool Results
- Save Contingencies (Including CTG Options)



# Context-Sensitive Help For Transient Models

**Show Block Diagram**

status | Sub-Intervals | Data

**Goto: Transient modelling documentation**

**Show Block Diagram**

Step-up Transformer | Termin

Set to Defaults

**Goto: Context-sensitive help topic**

**Help**



# Help For Transient Models

Goto: Transient modelling documentation

Machine Model: GENROU

powerworld.com/WebHelp/Default.htm#cshid=TSMModels\_MachineModel\_GENROU

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Transient Stability Data Management

Transient Models

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    - CSTAT
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    - GEN\_BPA\_MMG2
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    - GEN\_BPA\_MMG4
    - GEN\_BPA\_MMG5
    - GEN\_BPA\_MMG6
    - GENCC
    - GENCLS
    - GENCLS\_PLAYBACK
    - GENDCO
    - GENFluxDecay
    - GENPWTwoAxis
    - GENROE
    - GENROU

Machine Model: GENROU

AutoCorrection Properties

Model Equations and/or Block Diagrams

**Machine Model GENROU**

*Machine Model GENROU*  
Solid Rotor Generator represented by equal mutual inductance rotor modeling

**Electrical Torque**

$$\psi_q = \psi_q'' - I_q X_d''$$

$$\psi_d = \psi_d'' - I_d X_q''$$

$$T_{elec} = \psi_d I_q - \psi_q I_d$$

**Mechanical Swing Equations**

$$\dot{\delta} = \omega + \omega_0$$

$$\dot{\omega} = \frac{1}{2H} \left( \frac{P_{mech} - D\omega - T_{elec}}{1 + \omega} \right)$$

$\omega$  = per unit speed deviation, so  $\omega = 0$  means we are at synchronous speed and  $\omega = 1$  would mean it's spinning at double synchronous speed  
 $\omega_0$  = nominal system frequency in Hz

**Network Interface Equations**

$$Z_{source} = R_a + jX_d''$$

$$Y_{source} = \frac{1}{R_a + jX_d''} = G + jB$$

$$V = \frac{d\Psi}{dt} = j(1 + \omega) (\psi_d'' + j\psi_q'')$$

$$V_d + jV_q = (-\psi_q'' + j\psi_d'') (1 + \omega)$$

$$I_d + jI_q = (V_d + jV_q)(G + jB)$$

**Convert to Network Reference**

$$I_r + jI_l = (I_d + jI_q) e^{j(\delta - \frac{\pi}{2})}$$

Note: If option Ignore Speed Effects in Generator



# New Features & Improvements

The screenshot shows a web browser window displaying the PowerWorld help page for the Case Information Toolbar. The page title is "Case Information Toolbar" and the URL is "powerworld.com/WebHelp/Default.htm#MainDocumentation\_HTML/Case\_Information\_Toolbar.htm". The page content includes a search bar, a navigation menu on the left, and a main text area with various settings and options. Three callout boxes are overlaid on the page:

- Top Left Callout:** "This option applies to all case information displays." **Use Concise Variable Names and Headers** **Added in Version 19** Variable names within Simulator have been overhauled starting **Version 19**. This is described in more detail in the [PowerWorld Object Variables help topic](#). This option must be chosen to use the more concise variable names when looking at field variable names in the user interface or when writing out to an Auxiliary File. If this option is not chosen then the legacy variable names will be used. In addition, a new **Concise Auxiliary File (AUX) header** is available when writing out AUX files. This option must be chosen to write out Auxiliary Files using the new concise format.
- Bottom Left Callout:** "This option applies to all case information displays." **Use Concise Variable Names and Headers** **Added in Version 19** Variable names within Simulator have been overhauled starting **Version 19**. This is described in more detail in the [PowerWorld Object Variables help topic](#). This option must be chosen to use the more concise variable names when looking at field variable names in the user interface or when writing out to an Auxiliary File. If this option is not chosen then the legacy variable names will be used. In addition, a new **Concise Auxiliary File (AUX) header** is available when writing out AUX files. This option must be chosen to write out Auxiliary Files using the new concise format.
- Right Callout:** "starting **Version 19**. This is described in more detail in the [PowerWorld Object Variables help topic](#). If this option is not chosen then the legacy variable names will be used." **Use Concise Variable Names and Headers** **Added in Version 19** Variable names within Simulator have been overhauled starting **Version 19**. This is described in more detail in the [PowerWorld Object Variables help topic](#). This option must be chosen to use the more concise variable names when looking at field variable names in the user interface or when writing out to an Auxiliary File. If this option is not chosen then the legacy variable names will be used. In addition, a new **Concise Auxiliary File (AUX) header** is available when writing out AUX files. This option must be chosen to write out Auxiliary Files using the new concise format.





# Unique URL For Each Help Topic

Contingency Element Type

[http://www.powerworld.com/WebHelp/Default.htm#MainDocumentation\\_HTML/Contingency\\_Element\\_Type\\_3W\\_Transformer.htm%3FTocPath%3DContir](http://www.powerworld.com/WebHelp/Default.htm#MainDocumentation_HTML/Contingency_Element_Type_3W_Transformer.htm%3FTocPath%3DContir)

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Search

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    - Concise Contingency and Remedial Acti
    - Saving Contingency Records to a File
    - Global Actions
    - Contingency Blocks
    - Remedial Actions
    - Contingency Category
  - Contingency Analysis Dialog
  - Contingency Element Dialog
  - Contingency Element: Open Breakers

Contingency Analysis > [Contingency Element Dialog](#) > Type: 3-Winding Transformer

## Contingency Element Type: 3-Winding Transformer

[See Also](#)

The following describes the options available when creating a contingency element of type *3-Winding Transformer*. Contingency elements are created from the [Contingency Element Dialog](#), and additional details of how to create contingency elements can be found here.

### Action Settings

**Open**

The Open action will set the Status of the selected three-winding transformer to *Open* if the three-winding transformer Status is *Closed*. If the three-winding transformer Status is already *Open*, this action does nothing.

**Open Breakers**

See the special topic on [Open Breakers](#) for more detail.

**Close**

The Close action will set the Status of the selected three-winding transformer to *Closed* if the three-winding transformer Status is *Open*. If the three-winding transformer Status is already *Closed*, this action does nothing.

**Close Breakers**

See the [Close Breakers for Contingencies](#) topic on the [Contingency Element Dialog](#) topic.

[http://www.powerworld.com/WebHelp/Default.htm#MainDocumentation\\_HTML/Contingency\\_Element\\_Type\\_3W\\_Transformer.htm%3FTocPath%3DContir](http://www.powerworld.com/WebHelp/Default.htm#MainDocumentation_HTML/Contingency_Element_Type_3W_Transformer.htm%3FTocPath%3DContir)

- Type: Abort
- Type: Area
- Type: Branch
- Type: Bus
- Type: DC Converter
- Type: DC Line
- Type: Generator
- Type: Injection Group