Load-Scaling Setup and Configuration

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The IntelliTeam SG Automatic Restoration System application now supports the ability to scale loads to support cross-voltage IntelliTeam SG systems where different sections of the same IntelliTeam SG system span across multiple line voltages. This functionality is available in version 7.5.x and later software and is only available in the **IntelliTeam SG** mode of operation.

Follow the instructions in this document to set up, configure, and verify an IntelliTeam SG system spanning across multiple line voltages using the IntelliLink® Setup Software and IntelliTeam Designer applications.

Load-Scaling Support

The IntelliTeam SG Automatic Restoration System now uses various settings available in IntelliNode™ Interface Modules, IntelliRupter® PulseCloser® Fault Interrupters, and 6800 Series Automatic Switch Controls to scale the loading the IntelliTeam SG system uses to calculate team loads, source capacity, and maximum switch capacities.

The following IntelliLink Setup Software settings are used for scaling loads within the IntelliTeam SG system application:

- Line kV to 120 Vac Base Ratio – 6800 Series controls
- Voltage Transformer Wiring – 6800 Series controls
- Normal Operating Frequency – 6800 Series controls
- System Phase-to-Phase Voltage – IntelliRupter fault interrupters and IntelliNode modules
- System Frequency – IntelliRupter fault interrupters and IntelliNode modules

6800 Series Controls

Follow these steps to configure an IntelliTeam SG system that spans multiple line voltages on the same circuit using IntelliLink Setup Software:

STEP 1. Open the IntelliLink Setup Software and go to the *Setup>General>Site Related* screen shown in Figure 1.

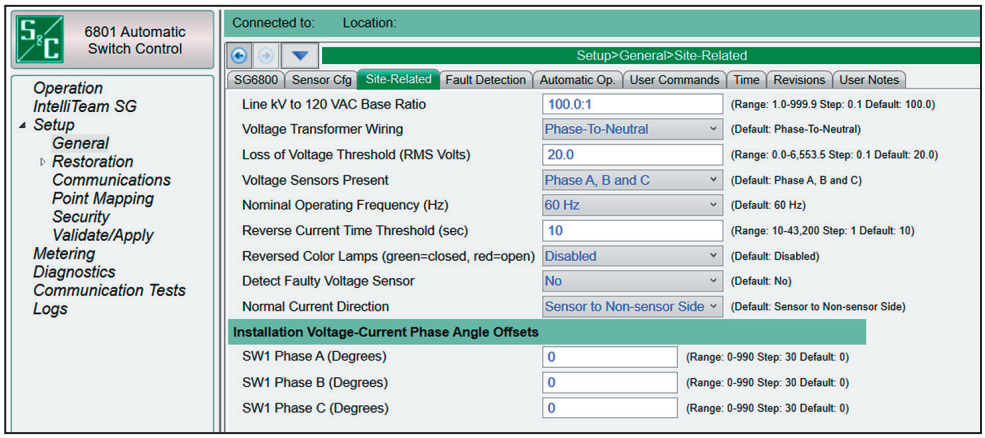

Figure 1. The 6801 control *Setup>General>Site-Related* screen.

STEP 2. Configure the **Line kV to 120 VAC Base Ratio**, **Voltage Transformer Wiring**, and **Normal Operating Frequency** settings to match the line voltage, transformer wiring, and operating frequency of the system on which the 6800 Series control is deployed. See Figure 2.

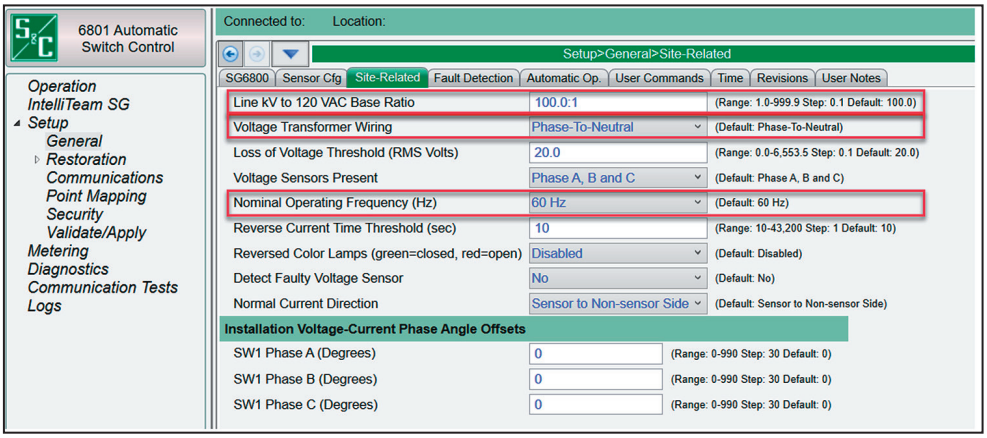

Figure 2. The 6801 control System Voltage and Operating Frequency settings.

STEP 3. Repeat Step 2 for every 6800 Series control in the IntelliTeam SG system.

IntelliRupter® Fault Interrupters

Follow these steps to configure an IntelliTeam SG system that spans multiple line voltages on the same circuit using IntelliLink Setup Software:

STEP 1. Open the IntelliLink Setup Software and go to the *Setup>General>Site Related* screen shown in Figure 3.

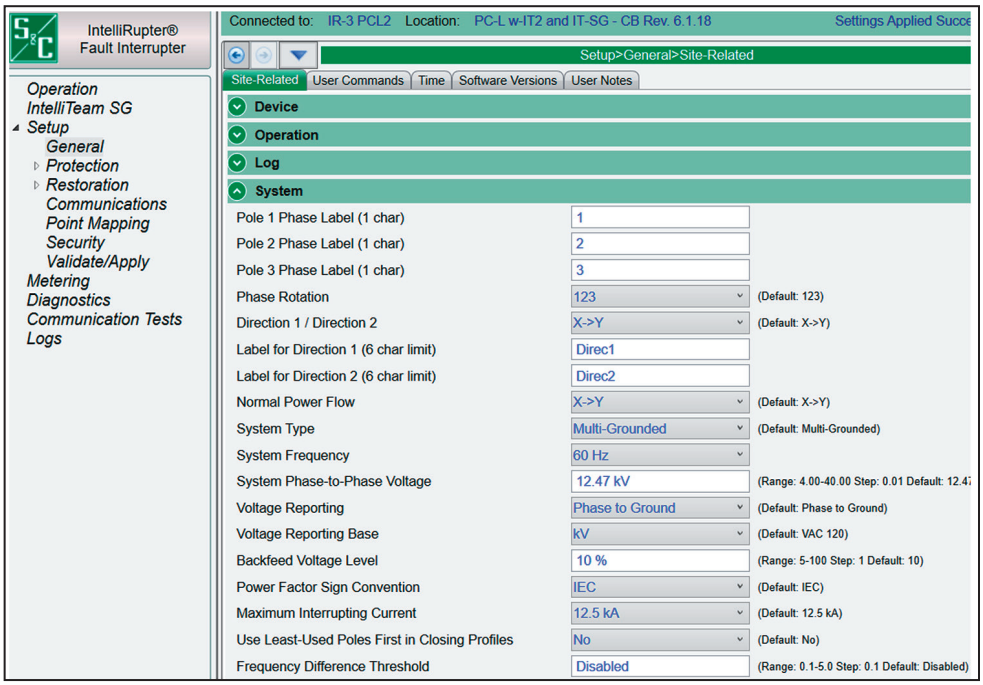

Figure 3. The IntelliRupter fault interrupter *Setup>General>Site-Related* screen.

STEP 2. Configure the **System Frequency** and **System Phase-to-Phase Voltage** settings to match the line voltage and operating frequency of the system on which the IntelliRupter fault interrupter is deployed. See Figure 4.

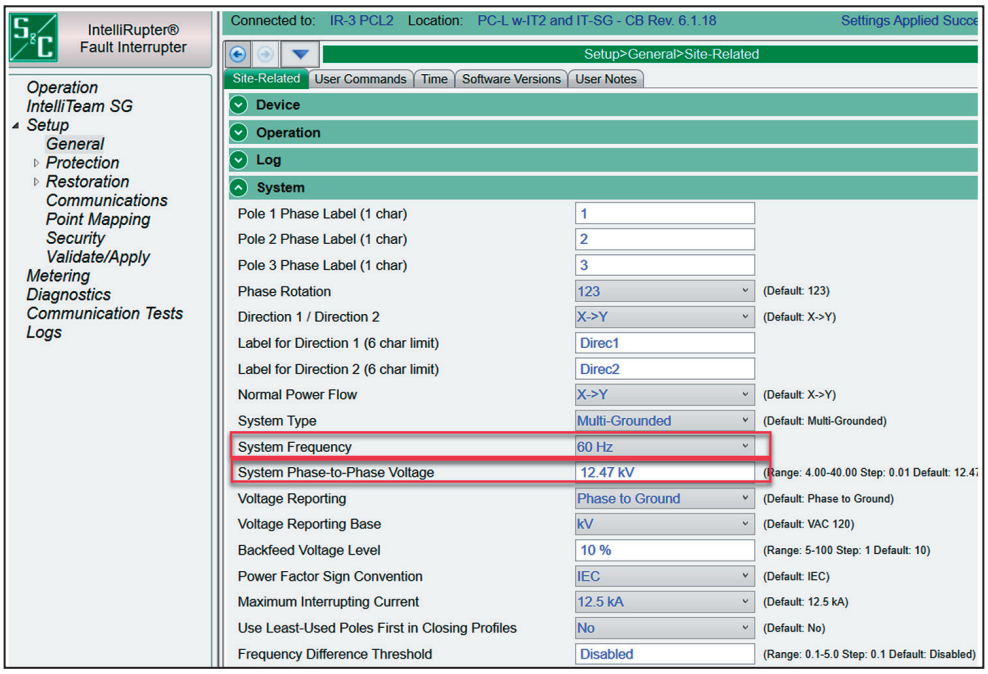

Figure 4. The IntelliRupter fault interrupter System Frequency and System Phase-to-Phase Voltage settings.

STEP 3. Repeat Step 2 for every IntelliRupter fault interrupter in the IntelliTeam SG system.

IntelliNode™ Interface Modules

Follow these steps to configure an IntelliTeam SG system that spans multiple line voltages on the same circuit using IntelliLink Setup Software:

STEP 1. Open the IntelliLink Setup Software and go to the *Setup>External Device>Auto Operation* screen shown in Figure 5.

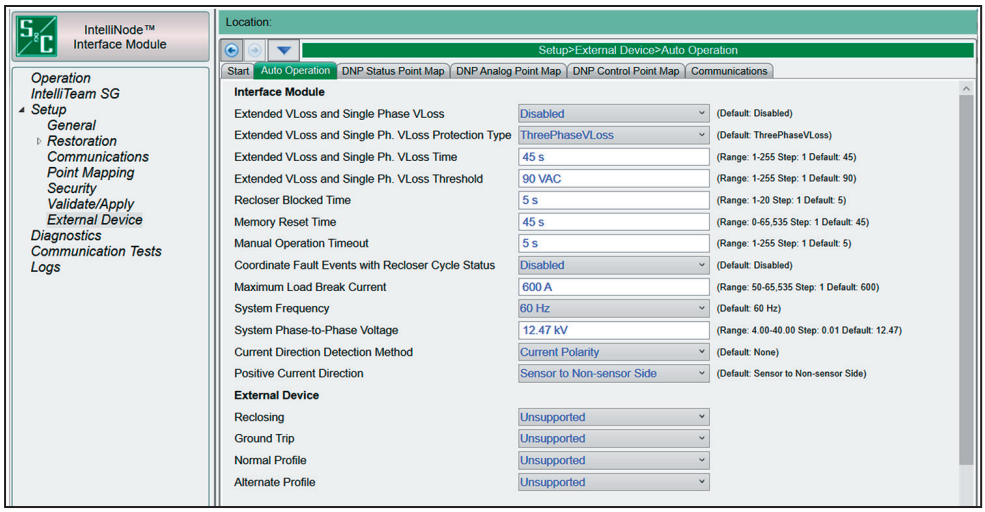

Figure 5. The IntelliNode Interface Module *Setup>External Device>Auto Operation* screen.

STEP 2. Configure the **System Frequency** and **System Phase-to-Phase Voltage** settings to match the line voltage and operating frequency of the system on which the IntelliNode module is deployed. See Figure 6.

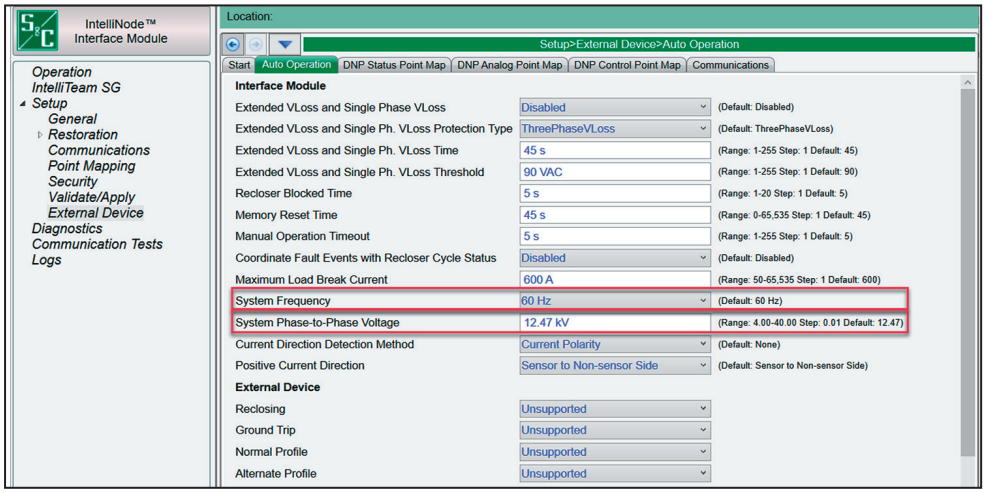

Figure 6. The IntelliNode module System Frequency and System Phase-to-Phase Voltage settings.

STEP 3. Repeat Step 2 for every IntelliNode module in the IntelliTeam SG system.

Follow these steps to configure an IntelliTeam SG system spanning multiple line voltages on the same circuit using IntelliTeam Designer software:

STEP 1. Draw a circuit and configure the IntelliTeam SG system using the IntelliTeam Designer application. Refer to S&C Instruction Sheet 1044-570, "IntelliTeam® Designer: *User's Guide*," for information about drawing circuits and configuring the IntelliTeam SG system.

STEP 2. Validate the circuit drawing and correct any validation errors. Then, save the drawing file.

STEP 3. When the circuit is successfully validated, open the Communication Manager and push the netlist to the controls. Refer to S&C Instruction Sheet 1044-570, "IntelliTeam® Designer: *User's Guide*," for information about configuring the Communication Manager and pushing the netlist.

To verify an IntelliTeam SG system has been properly configured for multiple line voltages, perform the following checks:

STEP 1. Verify there are no **System Voltage Unrecognized** DNP status points active in any device in the system. If any are active, go to the *Setup>General>Site-Related* or *Setup>External Device>Auto Operation* screen of the applicable device and check the entered configuration settings. See Figure 7.

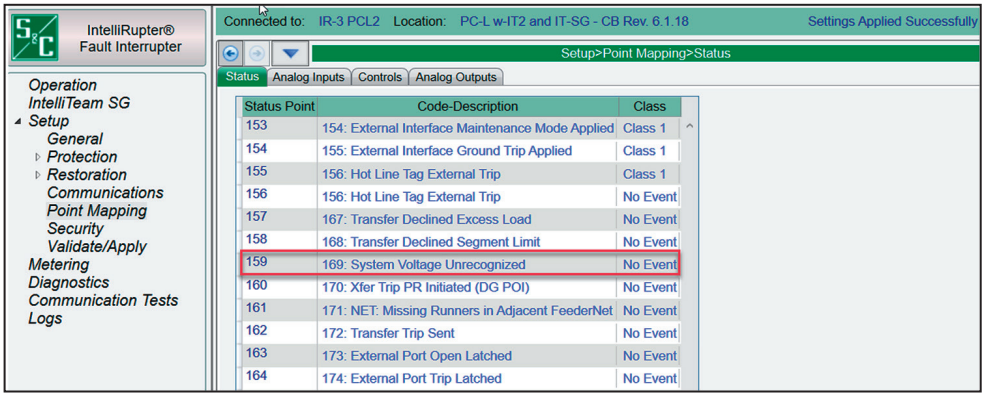

Figure 7. The System Voltage Unrecognized status point.

STEP 2. When a restoration event occurs involving an open tie-switch with different voltage classes on each side, go to the *Logs>Historic Log* screen and verify there is a "System Voltage Classification Difference Detected" log entry. When there is no entry, go to the *Setup>General>Site Related* or *Setup>External Device>Auto Operation* screen of the devices in the system and review the entered configuration settings. See Figure 8.

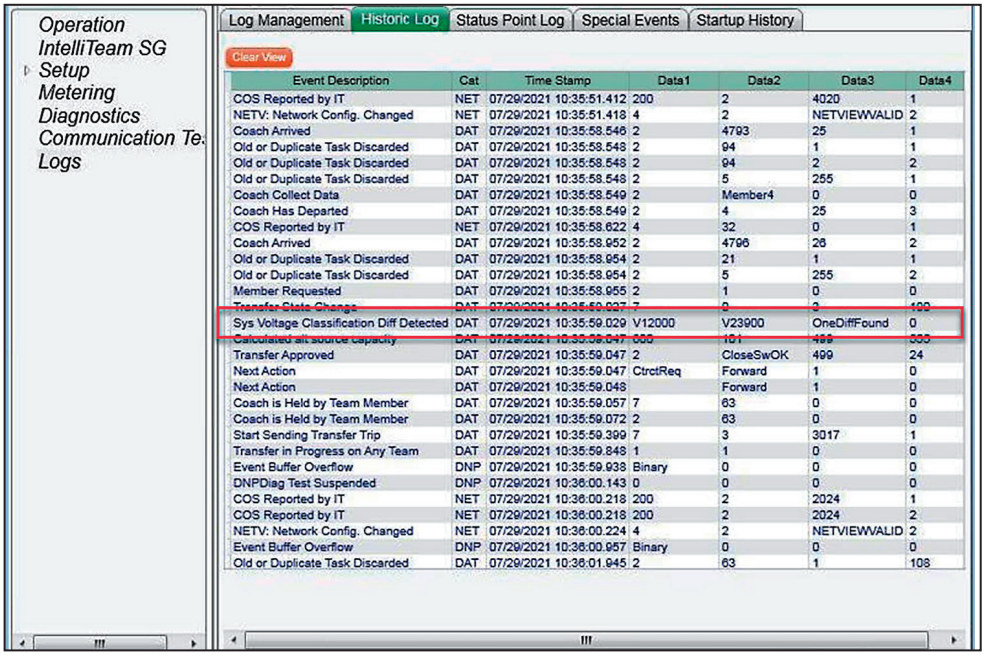

Figure 8. The System Voltage Classification Difference Detected log entry.