IntelliTeam® II Automatic Restoration System Setup and Configuration

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March 11, 2024

The IntelliTeam Designer software supports the ability to configure a system in the native **IntelliTeam II Automatic Restoration System** mode of operation. This functionality is available in software version 7.1.x and later. These instructions demonstrate how to set up, configure, and validate an IntelliTeam II Automatic Restoration System with IntelliTeam Designer software.

IntelliTeam II Mode

The IntelliTeam II Automatic Restoration System supports slower, less-robust communication systems and can be used by customers that have deployed S&C automation equipment, such as IntelliRupter® PulseCloser® Fault Interrupters, 6800 Series Automatic Switch Controls, and IntelliNode™ Interface Modules. This mode of operation sends coach messages between team members to collect operational data and perform **Isolation** and **Restoration** functions in the event of a fault or **Loss of Voltage** condition occurring on distribution feeders.

This mode does not use runner messages such as the IntelliTeam® SG Automatic Restoration System does while running in **IntelliTeam II System Compatibility** mode. The runner messages require a higher speed, low-latency communication network.

Setup and Configuration

Follow these steps to configure an IntelliTeam II Automatic Restoration System when using IntelliTeam Designer versions 7.1.x and 7.3.x:

STEP 1. Draw a circuit using the IntelliTeam Designer application. See S&C Instruction Sheet 1044-570, "IntelliTeam Designer: *User's Guide*," for information about drawing circuits.

STEP 2. When the circuit drawing is completed, enter the necessary attributes for the circuit.

STEP 3. For the **IntelliTeam Options Enabled** setting, select the **ITII** option, as shown in Figure 1.

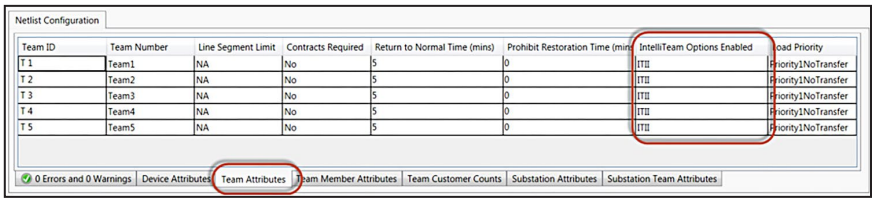

Figure 1. The Team Attributes>IntelliTeam Options Enabled setting.

STEP 4. For the **IntelliTeam Options Enabled** setting, select the **ITII** option, as shown in Figure 2.

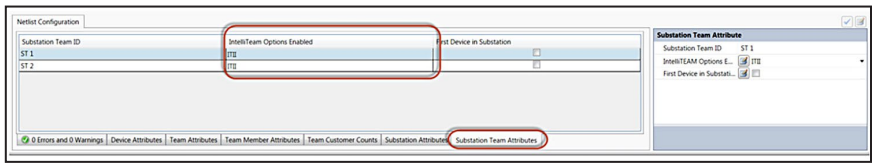

Figure 2. The Substation Team Attributes>IntelliTeam Options Enabled setting.

STEP 5. Validate and save the circuit drawing. Correct any validation errors if they occur.

STEP 6. When the circuit is successfully validated, open the communication manager and push the netlist to the controls. See S&C Instruction Sheet 1044-570, "IntelliTeam Designer: *User's Guide*," for information on how to set up the Communication Manager and push a netlist.

STEP 7. When the netlists have been successfully pushed, click on the **Clear** button in the *Communication Manager* screen to clear the netlists. This will stop the IntelliTeam system runners. See Figure 3.

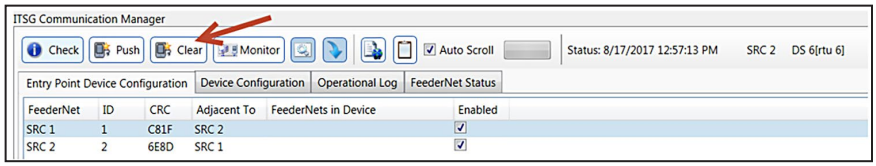

Figure 3. The ITSG Communication Manager Clear button for clearing netlists.

Verification

When the devices are successfully configured and netlists have been cleared (using the steps in the previous section), verify the netlists have been removed from all IntelliTeam system-enabled devices. This is necessary because the netlists are self-healing, meaning a single netlist left in a single device can be propagated to other devices, which will re-enable runner messages. Follow these steps to perform the netlist-removal verification process on every device:

STEP 1. Verify the netlists have been cleared by looking for confirmation in the **Operation Log** tab on the *ITSG Communication Manager* screen. See Figure 4.

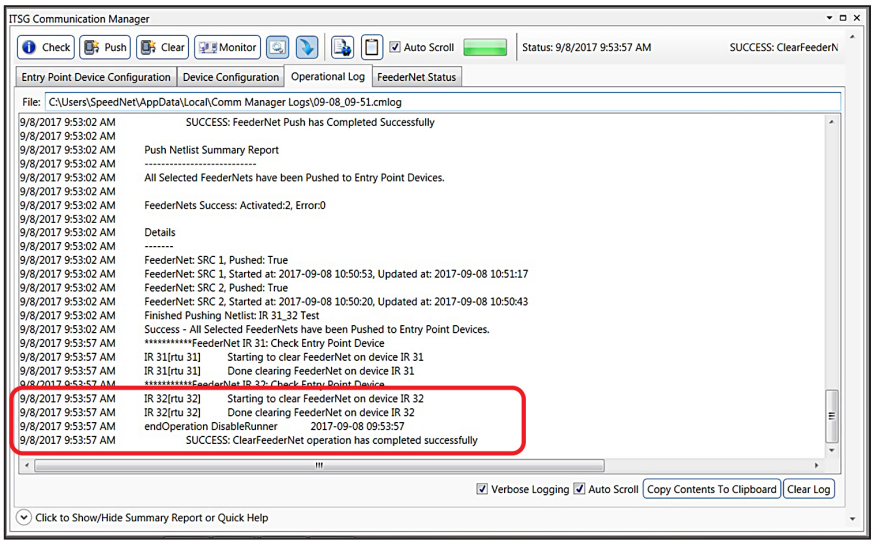

Figure 4. The Operation Log tab on the *IntelliTeam SG system Communication Manager* screen.

STEP 2. Open the IntelliLink Setup Software and verify the netlists have been removed from all IntelliTeam system-enabled devices by going to the *IntelliTeam SG>Activity Monitoring* screen and reviewing the Feeder Nets panel to make sure there is no FeederNetID listed there. See Figure 5.

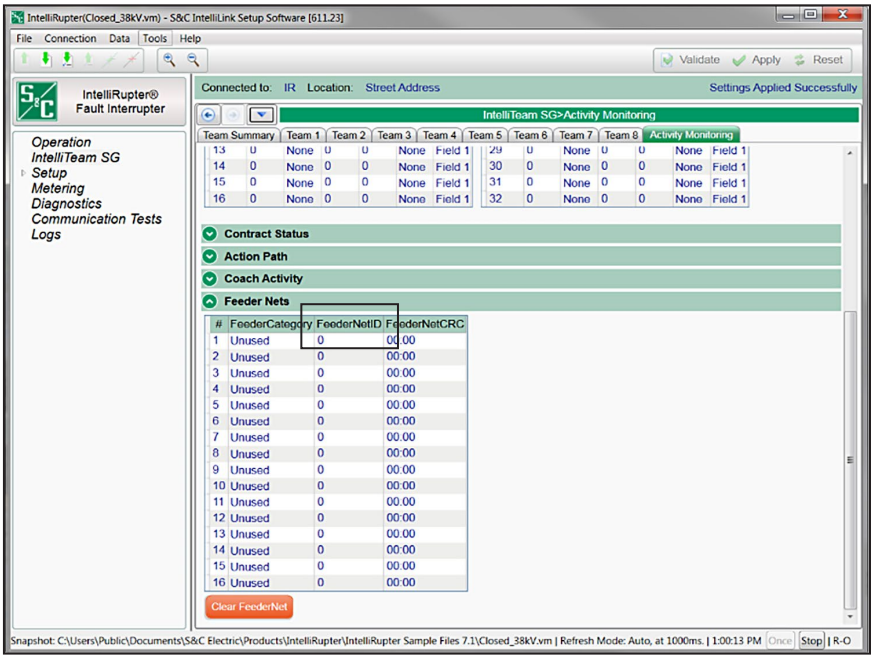

Figure 5. The *IntelliTeam SG>Activity Monitoring* screen – Feeder Nets panel.

STEP 3. Go to the *Logs>Status Point Log* screen, and find the status description for NET: ITII Mode and make sure it is active. See Figure 6.

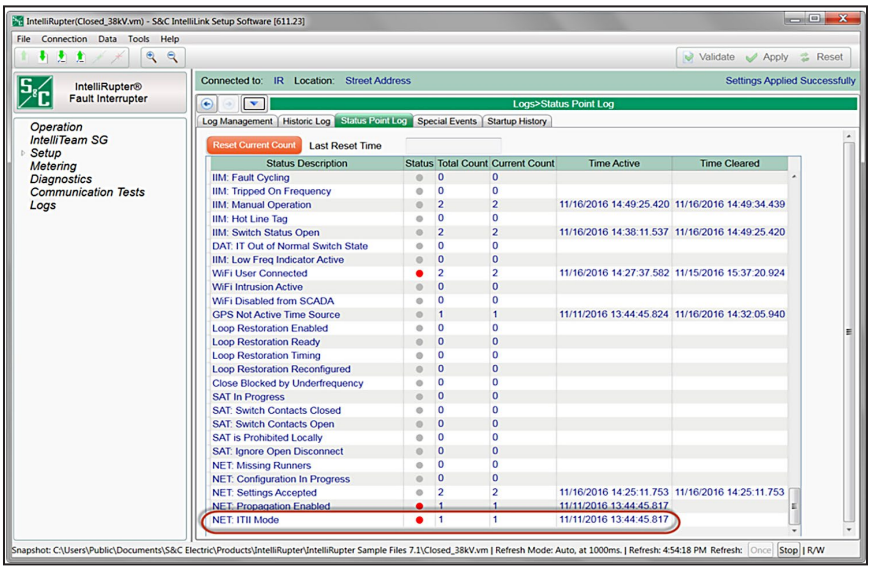

Figure 6. The *Logs>Status Point Log* screen – NET: ITII Mode entry.

This procedure must be completed for each IntelliTeam system-enabled device in the system to ensure the netlists have been removed and the runners are not active. If any device is found to have a netlist or FeederNet, either click on the IntelliTeam Designer communication manager **Clear** button to clear the netlists (see Figure 3 on page 4) or click on the **Clear FeederNet** button in the IntelliLink software on the *IntelliTeam SG>Activity Monitoring>Feeder Nets* screen (see Figure 5 on page 5).

Setup and Configuration

Follow these steps to configure an IntelliTeam II Automatic Restoration System when using IntelliTeam Designer version 7.5.x and later:

STEP 1. Draw a circuit using the IntelliTeam Designer application. See S&C Instruction Sheet 1044-570, "IntelliTeam Designer: *User's Guide*," for information about drawing circuits.

STEP 2. When the circuit drawing is completed, enter the necessary attributes for the circuit.

STEP 3. For the **Serial Number** setting in the **Device Attributes** tab, select the appropriate serial numbers and license for the devices on the circuit.

Note: In version 7.5, these will be either Gold or Bronze IntelliTeam SG licenses. In software version 7.6 or later, these can be Gold or Bronze IntelliTeam SG licenses or IntelliTeam II licenses. See Figure 7.

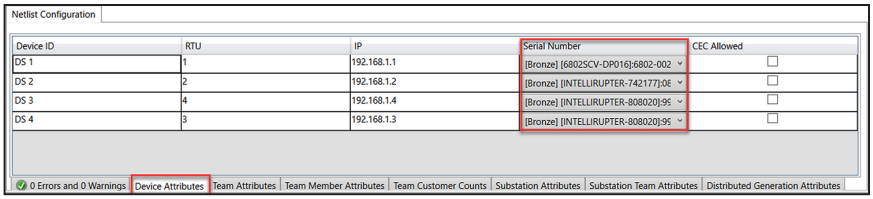

Figure 7. The Device Attributes Tab>Serial Number setting.

STEP 4. For the **IntelliTeam Options Enabled** setting on the **Team Attributes** tab, select the **ITII** option, as shown in Figure 8.

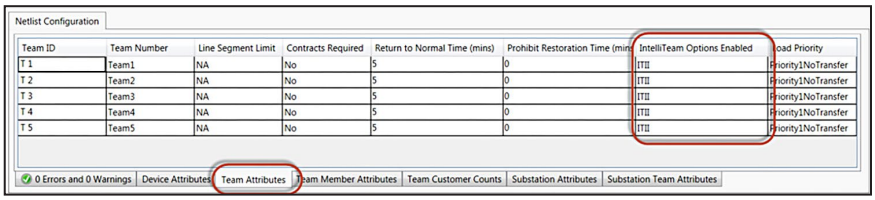

Figure 8. The Team Attributes>IntelliTeam Options Enabled setting.

STEP 5. For the **IntelliTeam Options Enabled** setting on the **Substation Team Attributes** tab, select the **ITII** option, as shown in Figure 9.

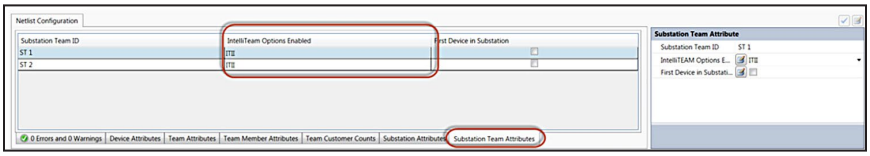

Figure 9. The Substation Team Attributes>IntelliTeam Options Enabled setting.

STEP 6. Go to the *Options>IntelliTeam II Setpoint Configuration* screen and select the firmware version of the devices in the circuit. See Figure 10.

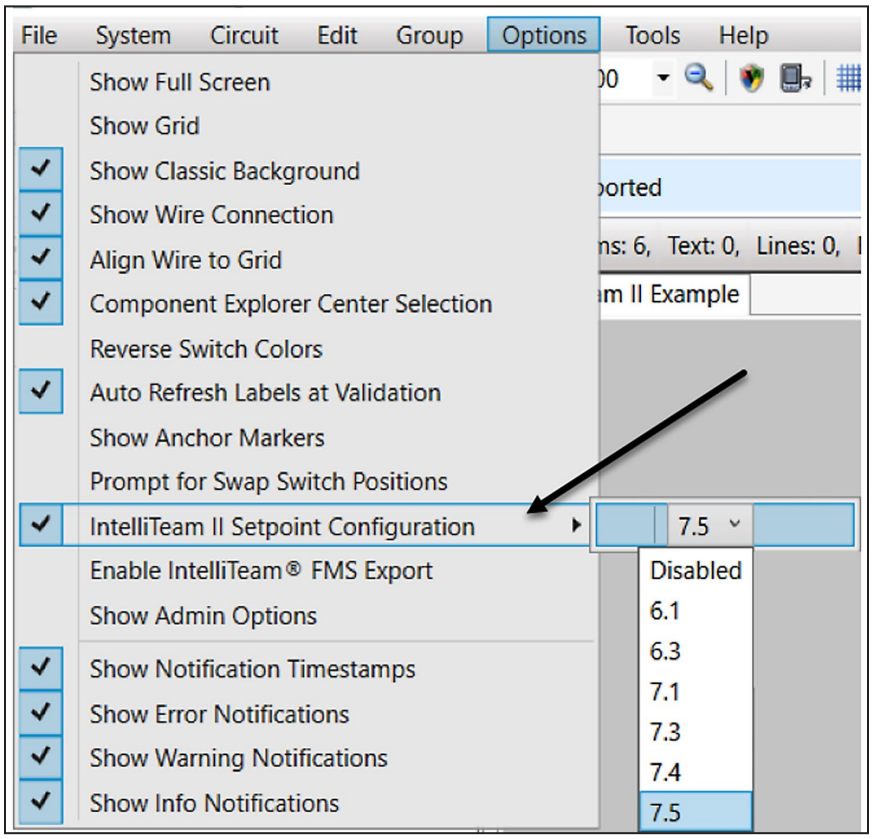

Figure 10. The IntelliTeam II Setpoint Configuration setting.

Note: The setpoint files created by IntelliTeam Designer will be based on the firmware version selected, and no mixed firmware setpoint files can be created.

Note: All devices must be on the same firmware version for the **Push** process to proceed if IntelliTeam Designer is used to send the setpoint files.

STEP 7. Go to the **File>Save As** menu entry and save the circuit.

Note: If the circuit is not saved before validation is attempted, an error message will occur stating the circuit must be saved before setpoints can be created. See Figure 11.

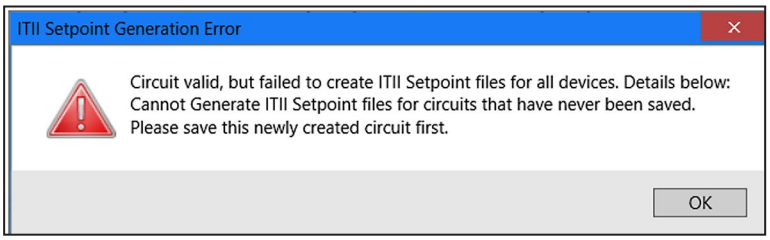

Figure 11. The Setpoint Generation Error dialog box.

STEP 8. Validate the circuit. Correct any validation errors if they occur and re-validate the circuit. When the **Validation** button is clicked on and no validation errors occur, the IntelliTeam Designer application will create setpoint files saved to the local drive where the circuit was saved. See Figure 12.

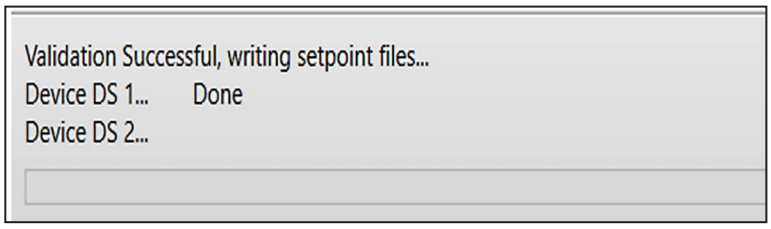

Figure 12. The Setpoint File Creation dialog box.

Configuring Devices With Setpoints Using IntelliTeam Designer

Follow these steps when using IntelliTeam Designer to push the setpoint files to the devices:

STEP 1. Open the communication manager and run a communication check to the controls by clicking on the **Check** button. See Figure 13.

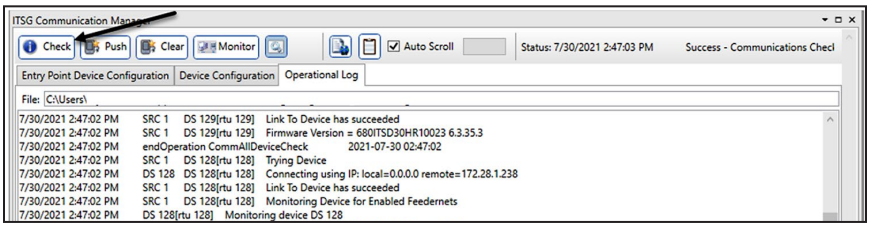

Figure 13. The communication Check button.

STEP 2. Push the IntelliTeam II system setpoint files by clicking on the **Push** button. A warning message will appear. See Figure 14. Make sure all devices have accurate switch states and then click on the **Yes** button to proceed.

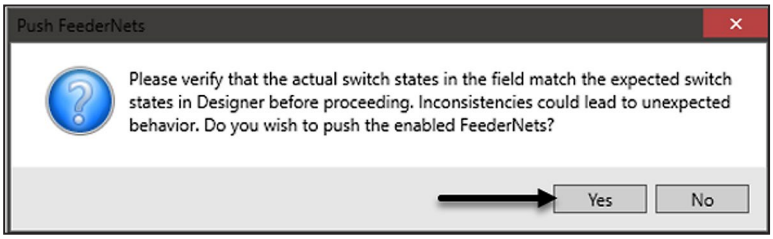

Figure 14. The Push FeederNets dialog box.

STEP 3. Go to the **Operational Log** tab and check the log to make sure the settings are being loaded and applied to the devices. See Figure 15.

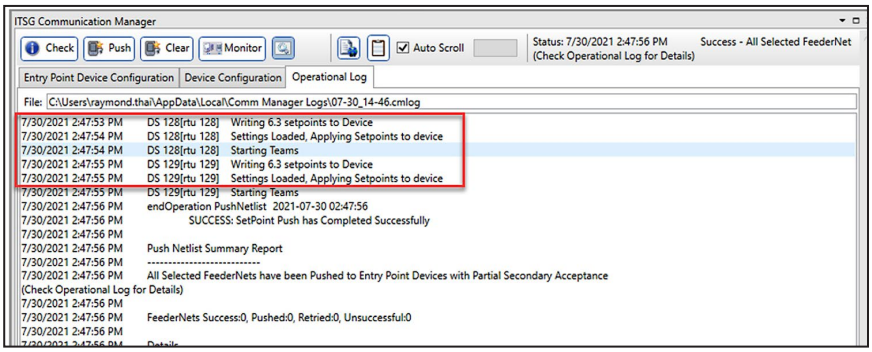

Figure 15. The Operational Log tab showing setpoint files loaded and applied.

STEP 4. Go to the **Device Configuration** tab and verify all devices have accepted their setpoint files. See Figure 16.

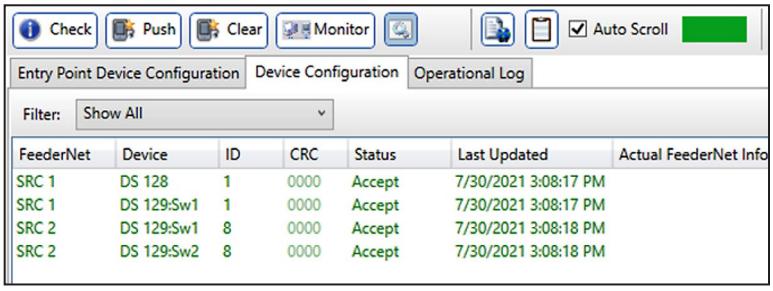

Figure 16. The Device Configuration tab setpoint files accepted.

STEP 5. Proceed to the "Verification" section on page 14 to verify the devices are now configured for the IntelliTeam II system.

Configuring Devices With Setpoints Using IntelliLink® Setup Software

Follow these steps when using the IntelliLink Setup Software to load and apply settings to the devices:

STEP 1. Open the IntelliLink application and select the appropriate connection type (i.e., Local or Remote). See Figure 17.

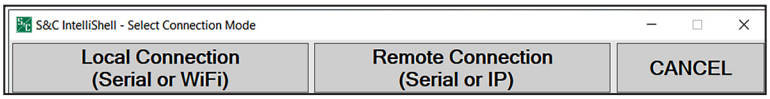

Figure 17. The IntelliShell - Select Connection Mode dialog box.

STEP 2. Select the appropriate product type and verify all other connection settings. Then, click on the **IntelliLink** button to launch the IntelliLink Setup Software. See Figure 18.

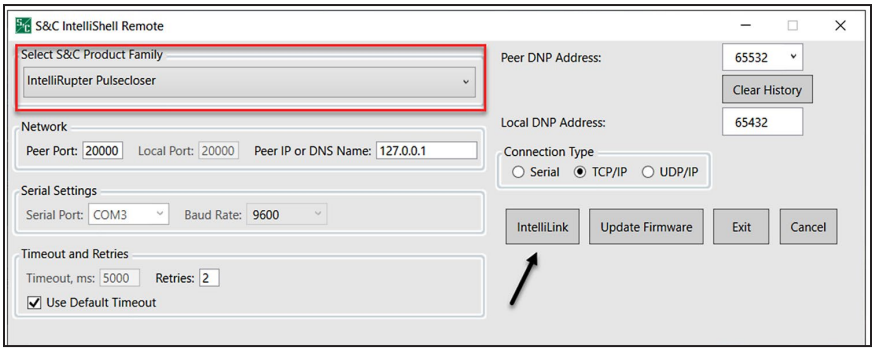

Figure 18. The IntelliShell Remote dialog box.

STEP 3. Go to the **File>Load Setpoints** menu option. A Windows file-selection screen will open. Navigate to the folder where the .xspt setpoint files were saved and select the file for the device to which IntelliLink software is connected. See Figure 19.

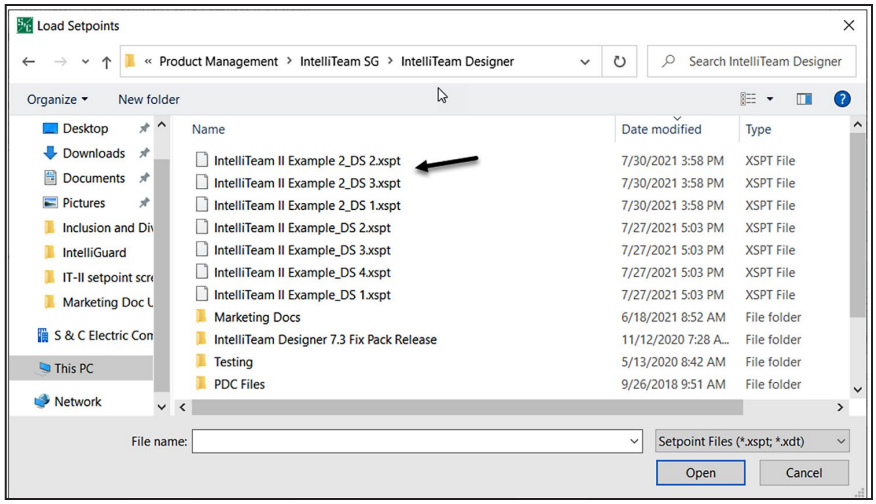

Figure 19. The Load Setpoints dialog box.

STEP 4. The Load Setpoints dialog box opens. Select the Restoration check box and make sure all other check boxes are unchecked. Then, click on the **Load** button. See Figure 20.

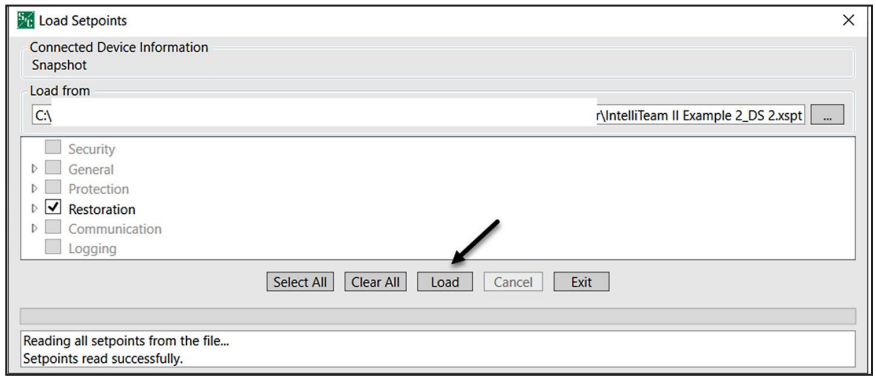

Figure 20. The Load Setpoints dialog box.

STEP 5. When the setpoints are loaded into IntelliLink software, a verification message is displayed. See Figure 21.

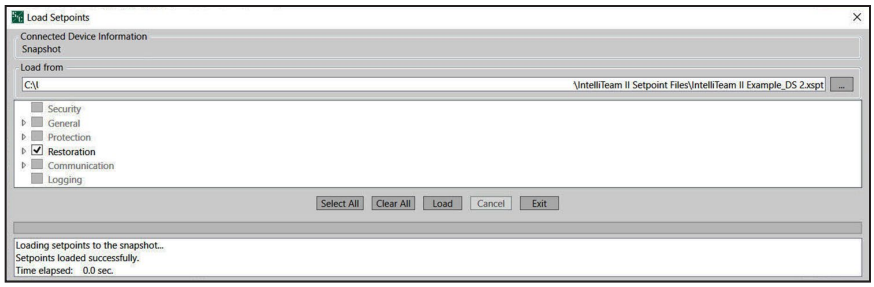

Figure 21. The setpoints loaded successfully verification message.

STEP 6. Go to the *Setup>Validate/Apply* screen. Validate and apply the settings to the device. See Figure 22.

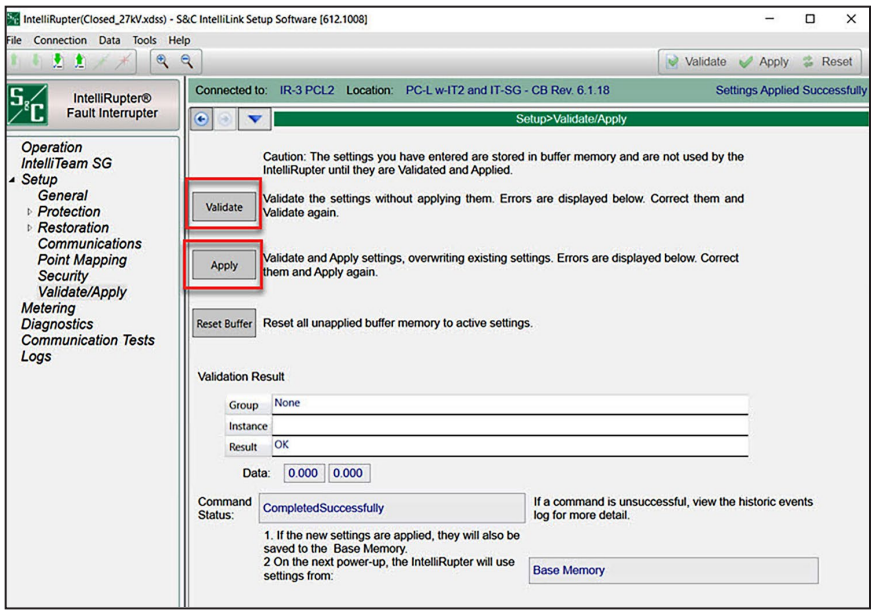

Figure 22. The *Setup>Validate/Apply* screen.

Verification

Using IntelliLink Setup Software, go to the *Logs>Status Point Log* screen, and find the status description for NET: ITII Mode and make sure it is active. See Figure 23.

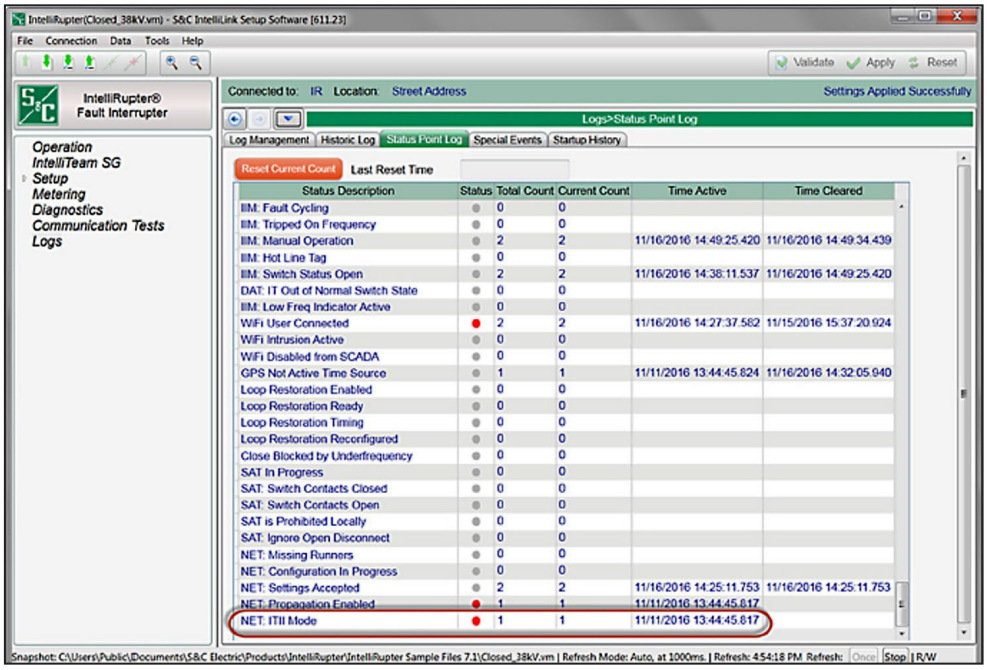

Figure 23. The *Logs>Status Point Log* screen.

This procedure must be completed for each IntelliTeam device system enabled in the system to ensure the setpoint files have been loaded, validated, and saved on the devices. If this status point is not active, go back to Step 1 of the "Configuring Devices With Setpoints Using IntelliTeam Designer" section on page 9 if using IntelliTeam Designer to load the setpoints on the devices. When using IntelliLink software to load the setpoints on the device, go to Step 1 of the "Configuring Devices With Setpoints Using IntelliLink® Setup Software" section on page 11.