Configuring Power Save Mode Operation in GLOBALCOM NYCT Stations

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Overview

When an NYCT station loses primary power and resorts to battery backed up power, it is desired to turn off non-essential LED displays in this "Power Save Mode." Those non-essential displays that cannot be powered off physically via power buses need to be told to go into standby mode, i.e., processor running, but do not turn on any LEDs, which are the main power drain in displays. A few essential displays – at key locations in the stations – will be told to go into a special power save mode, which means they only activate their red LEDs (half the power of amber, which activates both the red and green LEDs).

The control flow for entering Power Save Mode is shown in the diagram at right. To properly configure Power Save Mode, an installer must complete the following configuration steps:

- Configure GLOBALCOM to accept a contact closure and declare a power fault.

- Configure GLOBALCOM to detect the power fault and need to go into Power Save mode

- Configure the Telecite Driver software (used for all standard NYCT protocol signage) to know which displays are the emergency displays to go into Power Save Mode rather than be left in standby mode.

Each of these configuration steps is explained further below.
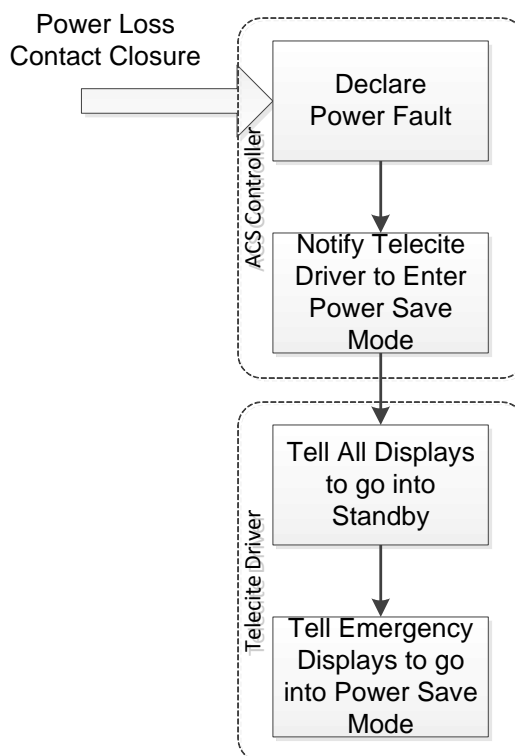
Configure Contact Closure for Power Fault

This is done by configuring a contact closure input, e.g., on a T9040NLR device, to do a "Set Fault" action on a closure and "Clear Fault" action on the release of the closure. It is not set in stone what fault type or fault number value to use. A value IED often uses for this is Fault Type 8, which generally means "Visual Display Degraded" with any fault number (although a special high value may be best to avoid confusion). Other values can be used, but the user is advised to avoid fault type 2 or 4 as these have other assigned meanings in the ACS. For example, when configured, the setup of the Set Fault action might appear as in the figure below.

Configure GLOBALCOM to Detect Power Fault

There is a setting buried in the vACS.exe.config file that tells the controller what fault type (if any) means the displays should go into Power Save Mode. This file is found in C:\IED\Services\vACS. One needs to edit this file and find the setting "SignPowerSavingModeFaultType" and change the value from what it was (probably zero) to the value used in the Set Fault configuration in the previous configuration step. This section of the config file may appear as shown below.

After editing and saving, the vACS service needs to be restarted (or the controller rebooted) for these changes to take effect.

Configure Emergency Displays in TeleciteDriver

This is done by editing the TeleciteDriver.ini file and entering entries for "PowerSaveEmgZoneSignX" as shown in the example below. The values left of the equals signs should be sequential (e.g., 1, 2, 3), and the value right after the equal sign is a sign ID that must match a Sign# entry in the [SignList] section. A properly configured TeleciteDriver would have all signs in the sign list, so that it can supervise the signs and declare sign faults when any go offline or detect internal problems. In the example below, the emergency signs are every other sign, one per zone (third position in sign address). However, for only this Power Save Mode purpose, it would suffice to only have the emergency signs in the sign list.

```
;
; Version 1.7.0.0 Settings
;
PowerSaveEmgZoneSign1=1, 1
PowerSaveEmgZoneSign2=3, 1
PowerSaveEmgZoneSign3=5, 1
[SignList]
Sign1=1.2.1.1
Sign2=1.2.1.2
Sign3=1.2.2.1
Sign4=1.2.2.2
Sign5=1.2.3.1
Sign6=1.2.3.2
```