Setting up the GE RCCMD for use with the AARTS System

Rev A – January 14, 2013

Accel-RF Corporation specializes in the design, development, manufacture, and sales of accelerated life-test/burn-in test systems for RF and Microwave semiconductor devices. This white paper describes technical information related to the AARTS Hardware. For more information contact:

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1   System Description and Overview

This documents a procedure to setup and configure the GE LP-Series UPS with the Accel-RF Corporation Automated Accelerated Reliability Test Station (AARTS). Note that the exact model of the UPS should be sized appropriately for the expected maximum load of the system. A maximum load map for each phase of the 400V 3-phase circuits should have been supplied with the model delivered by Accel-RF.

The connections required for this setup are shown in Figure 1. The RCCMD monitoring and shutdown control interface is designed to work through an Ethernet communication interface. Since the UPS for the AARTS system is dedicated, it is undesirable to presume a corporate LAN is active and available for routing communications between the two systems during a facility power failure event. Therefore, the AARTS/UPS interface must incorporate a dedicate direct Ethernet interface between the two instruments, as shown in Figure 1.

Figure 1: AARTS to UPS connections
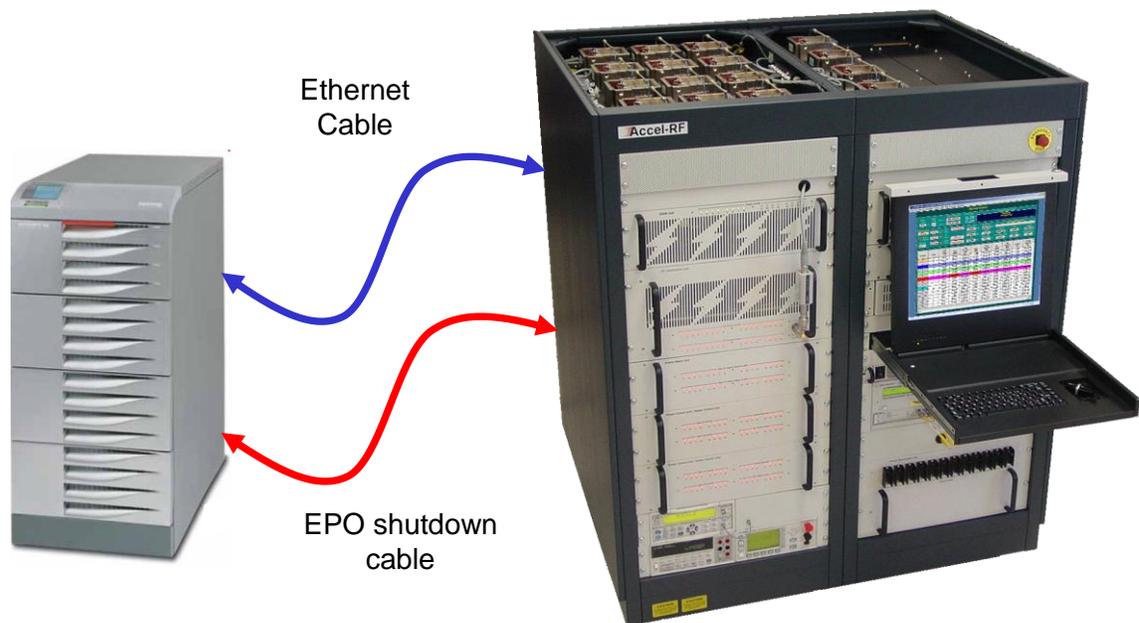
There are several steps required to properly configure the UPS to work with the AARTS system. The following sections describe step-by-step instructions for configuring both systems.

2   System Configuration

Several steps are required to configure the UPS for proper operation with the AARTS system.   The following Sections describe these steps in detail.

2.1   Configuring Windows TCP/IP settings

The Ethernet LAN adaptor must be configured to complementary settings that will work with the dedicated settings in the UPS. This section describes a method for setting the appropriate values.

Step 1: Open the Properties selection for the dedicated Ethernet card (note: the LAN may be accessed through the device manager, or Network settings in the Control Panel). The window shown below in the upper left should be displayed.

Step 2: Select the "Internet Protocol TCP/IP" item and click on Properties. The right-hand window, shown below should appear.
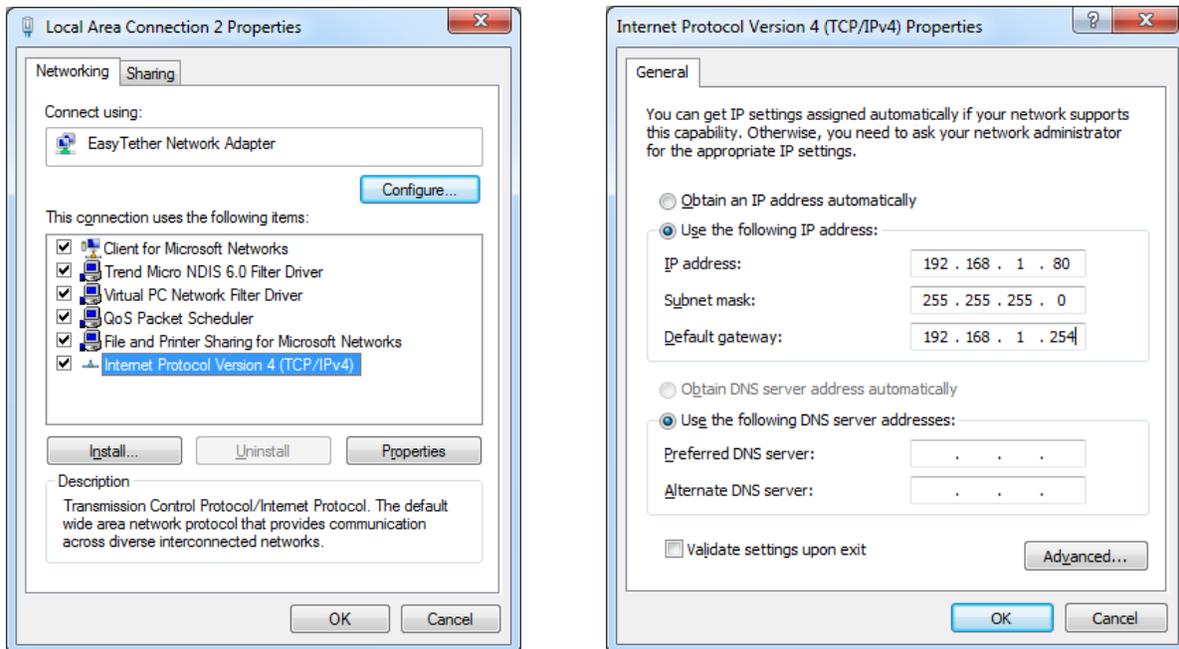
Step 3: Select the "Use the following IP address:" option and enter the values shown in the Figure above. Click "OK" to save the new settings.

2.2   Configuring UPS for Ethernet Connection

The UPS must first be configured using a serial interface to setup the IP information. The remaining configuration may then be performed using a browser-based user interface. This section describes typical settings that could be used for configuration.

1) Connect the SNMP adapter to a computer using a standard 1:1 serial communication cable.

2) Run a terminal simulator (e.g. HyperTerminal on a PC running Windows)

3) Configure the terminal simulator as follows:

115,200bps,
Terminal emulation VT-100
8 data bits,
1 stop bit,
parity none,
flow control none

4) Establish the connection and press <enter>

5) The default username (login) and password are "ge" and "ge"

6) A command-line configuration interface is entered. Type "menu" to enter the quick network configuration menu (see below). Enter the appropriate settings (similar to that shown) for the SNMP card.
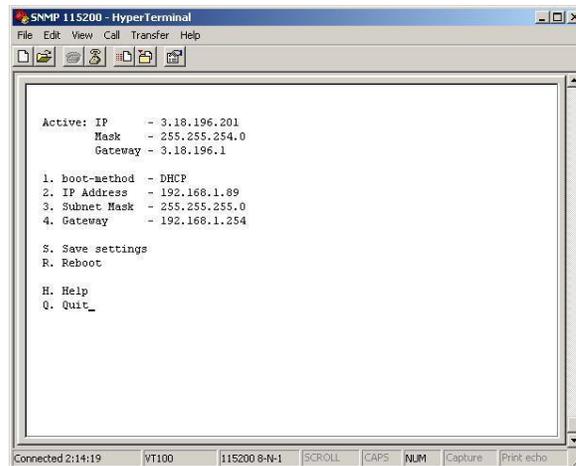
NOTE: Save the settings !
Apart from some network parameters, most setting are immediately active. However, the adapter will revert to the last saved settings at reboot. Therefore, in order to permanently modify the SNMP/Web adapter setting, remember to save the configuration after every change. This can be done by:
• Pressing S on the quick configuration menu
• Entering nvsave at the command interface prompt

2.3   Configuring the UPS Shutdown Parameters

The GE browser-based user interface may be used to configure the shutdown parameters for the UPS.

The following screens show the steps required to configure the UPS for automatic shutdown.

Step 1: Open browser and select http://192.168.1.89. A login prompt will appear. Username is "ge", password is "ge".

Step 2: Select the System menu option and setup the "Network" settings as shown below:
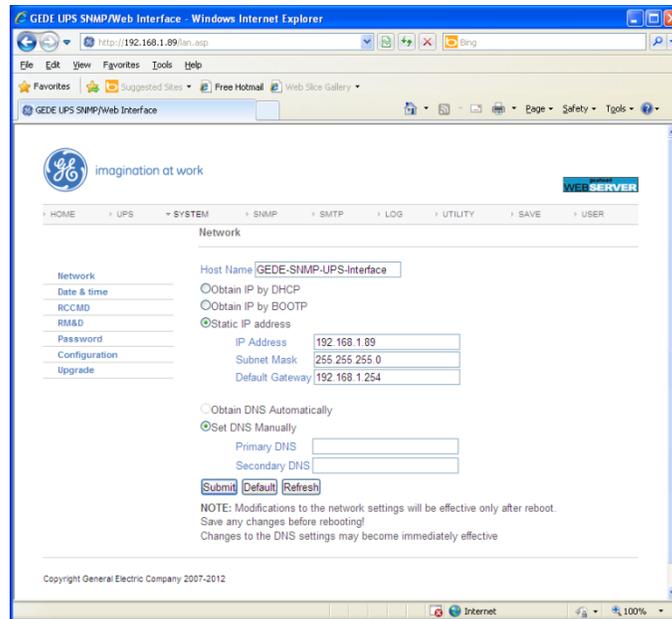

Step 3: Select the System menu option and setup the "Date & time" settings appropriately:
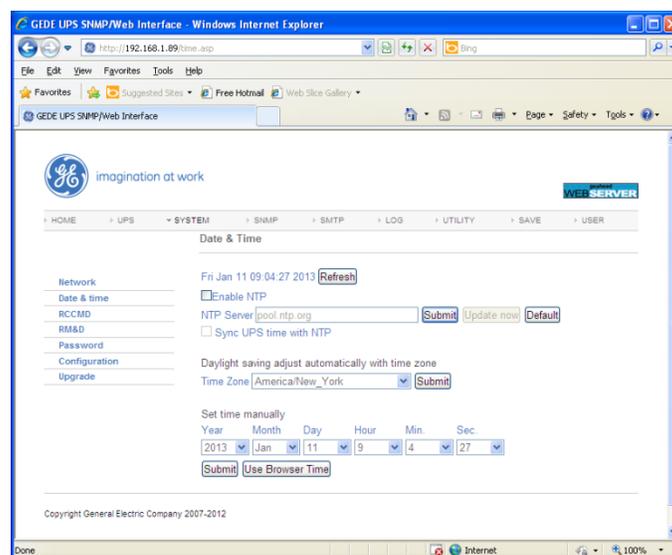
Step 4: Select the System menu option and setup the "RCCMD" settings as shown below. Note, this is the primary interface for configuring the shutdown events. The screen shot below shows the appropriate settings for test purposes and is for two separate computers on the same network. Click on Add and select the "After min on Battery" option. Enter the IP address of the computers that are configured with the RCCMD software.
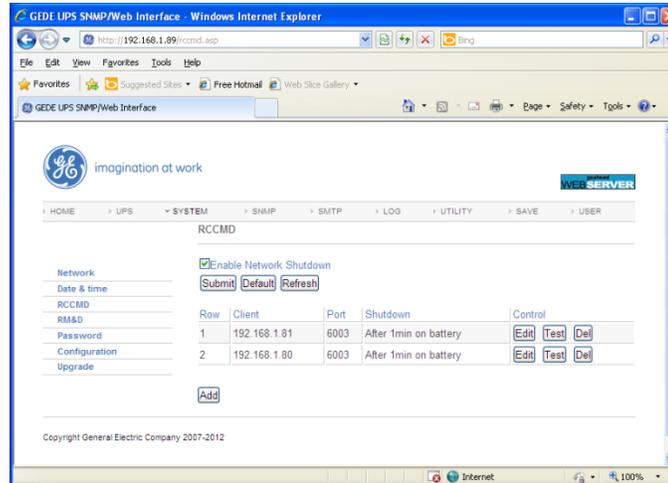

Step 5: Assuming the RCCMD software is installed (see Section 2.4 below), the connection can be tested by clicking on the "Test" command option and send a test message.

2.4   Configuring the RCCMD on the PC

RCCMD is a PC-resident service that GE has created for communicating with the management agent. The SNMP card installed in the UPS acts as that agent. A separate license key exists for each client computer on the network. Follow the steps below to install and configure.
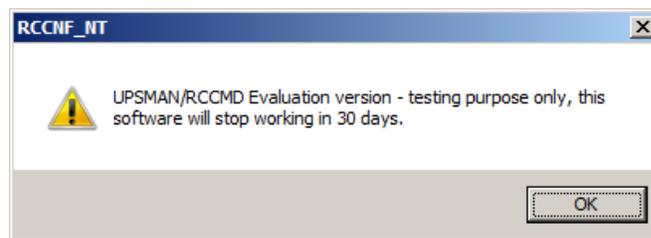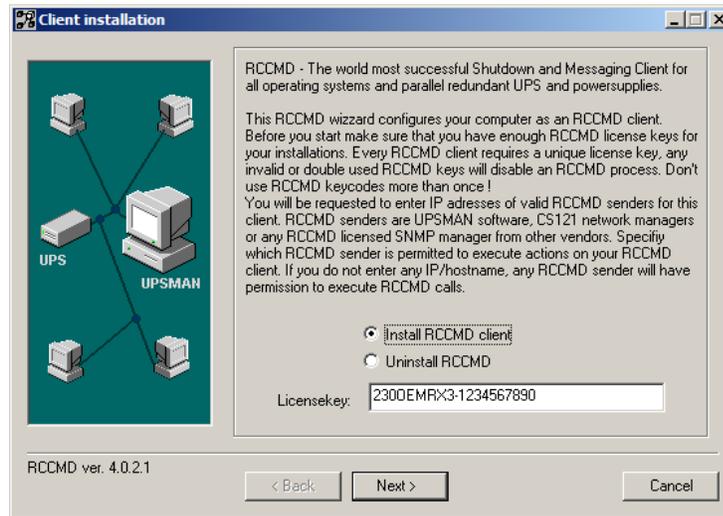
Step 1: Launch the installer and complete the setup process. Do not worry about configuration settings at this point.

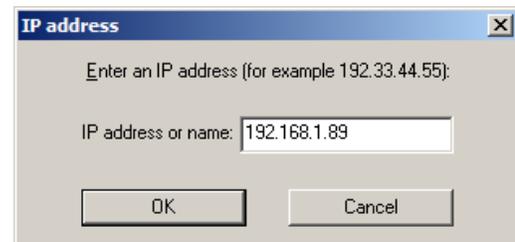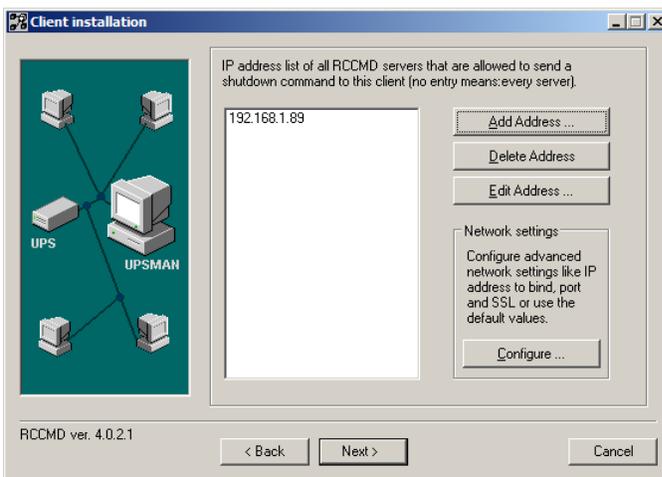Step 2: Launch the Configuration utility.
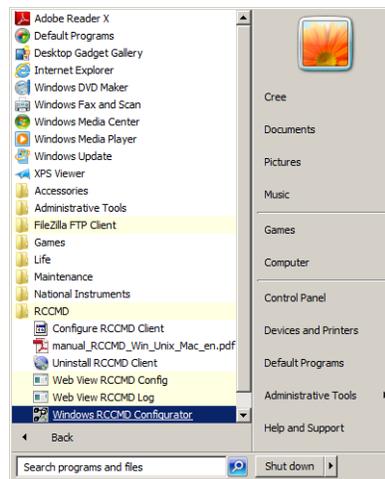
Step 3: Enter the License Key (accept the 30-day trial license if an official key is unavailable). Note, if two units are being configured change the last number "0" to "1", else the system may detect a fraud condition and disable the RCCMD service.

Step 4: Add the address of the UPS (default is 192.168.1.89) and click Next.

Step 5: Check the "Enable connection check" box and click Next. The test frame should

Step 6: In the "Execute at shutdown signal from RCCMD server" section, click Configure to setup the shutdown process.

Step 7: Click on the "Add custom application" command and navigate to the C:\LIFE folder and select UPSShutdown.BAT file.
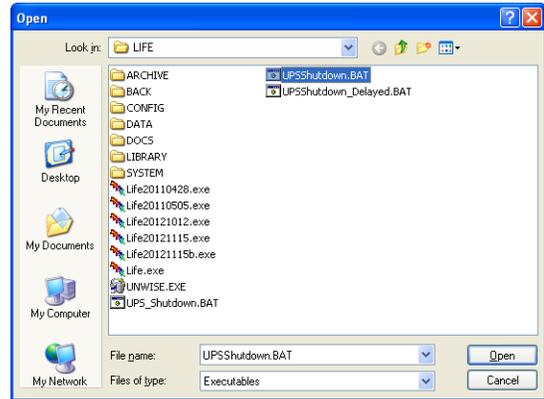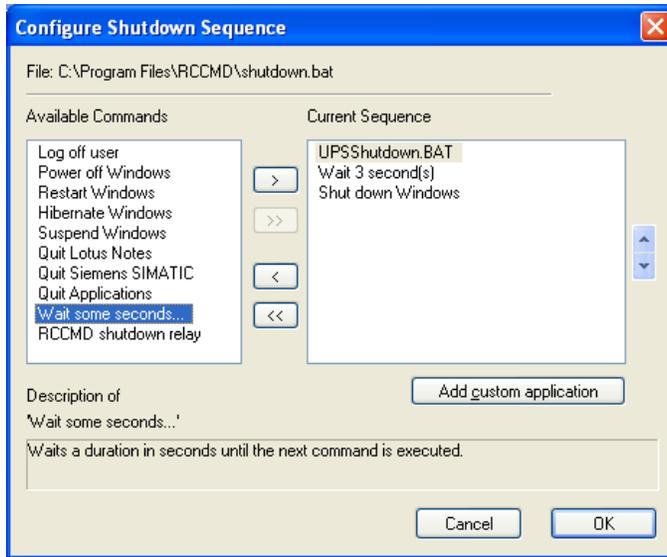

Step 7: Select the "Wait some seconds…" option and click the right arrow to add it to the Current Sequence window. Enter 10 seconds for test purposes. Later this should be changed to 300 seconds to allow 5 minutes delay between the running of the BAT file and de-booting Windows. Click OK to return to the Configuration Window.
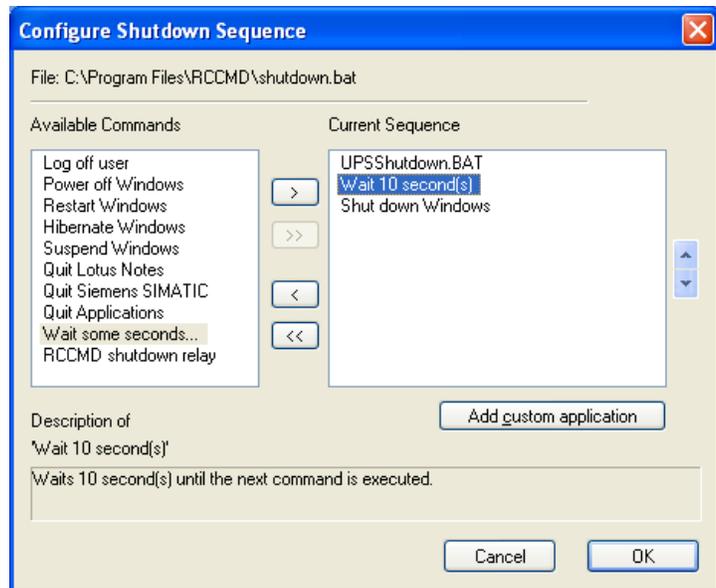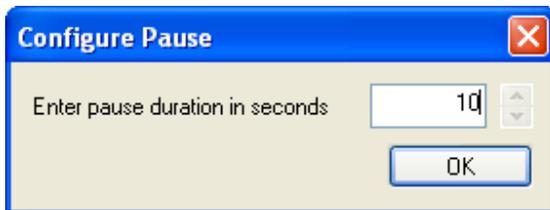
Step 8: Click on the RCCMD "Edit File" option. This opens the SHUTDOWN.BAT file in the RCCMD installation folder in Notepad. Change the line that says <UPSShutdown.BAT> to <call "C:\LIFE\ UPSShutdown.BAT>. This is required to properly execute the Batch file within Windows. Click File-Save and Exit.
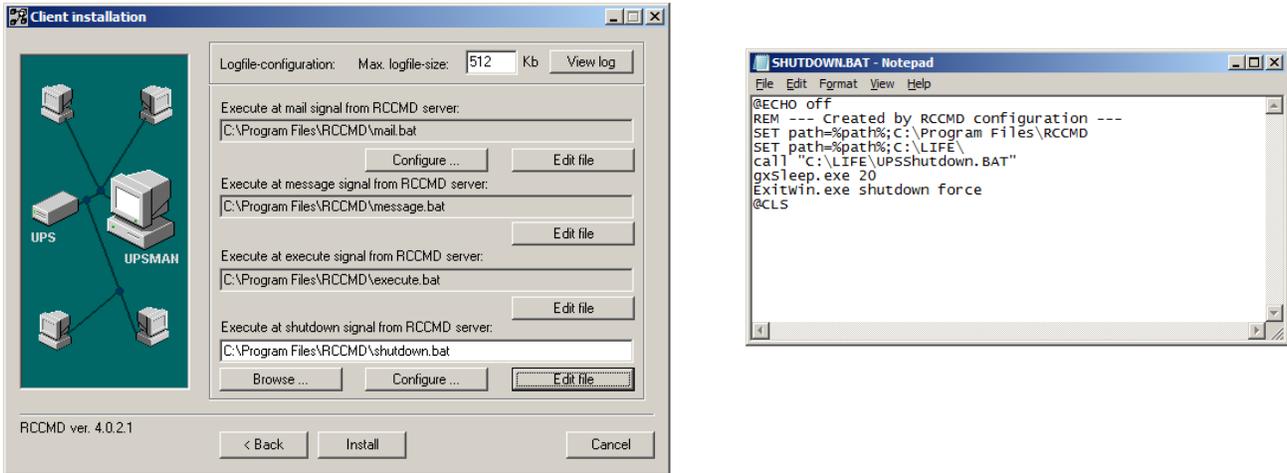
Step 9: Click on the "Install" command button. If completed successfully, the following screen will appear.
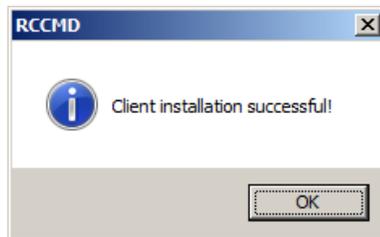
2.5   Configuring Windows to Run the Shutdown Script

Once the RCCMD utility is configured properly to initiate the shutdown sequence, and the shutdown conditions are met the UPSShutdown.BAT file is launched. That file should contain the following lines:

copy C:\LIFE\DEMO.TXT C:\LIFE\UPSSHUT

Note that the full pathname is required. The LifeTest program periodically checks for the existence of a file named "UPSSHUT" in the application installation folder. If it exists, it immediately shuts down all channels and terminates itself. After power is restored, and upon initialization, the LifeTest program will check for the existence of this file and delete it if found; hence, the operator need not remember to do so manually.

The RCCMD shutdown utility automatically deboots Windows after the Shutdown Sequence completes. The 5 minute delay after the running of the UPSShutdown.BAT file allows adequate time for the LifeTest software to terminate gracefully before the system turns OFF.

One last step may be necessary to finalize the PC configuration. The RCCMD utility runs as a Windows service. Depending on what permissions are setup and/or which login user account is active, it may be necessary to create a user with Administrator priviledges, assign it to the service, in order to properly run the Windows de-booting shutdown scripts. Enable the Administrative Tools under the Control Panel and lanuch the "Services" interface.
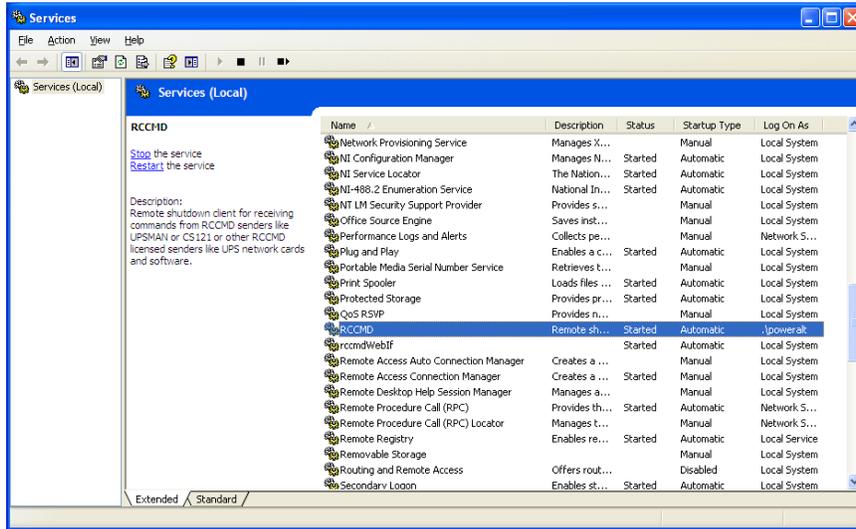

Right Click on RCCMD and click on Properties. Then, click on the Log On tab and enter the Superusers account info similar to the following. Click OK to save. Then, Right Click on RCCMD and select "Restart" to restart the service with the new settings.
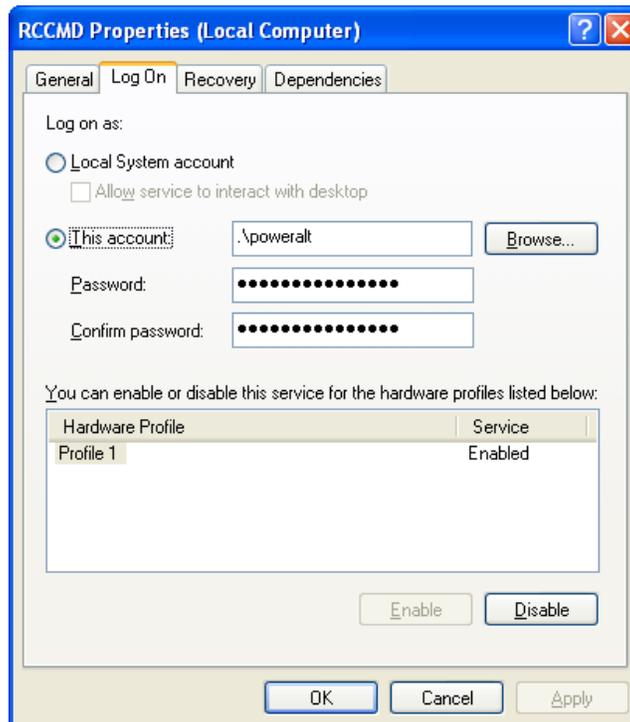
3   Testing the Setup

Once everything has been configured, the shutdown paradigm should be tested.   By following the configuration settings described in the preceding Sections, the shutdown parameters should have been set to very small times (1 minute after AC Fails to the 1st warning and 10 seconds for the shutdown process to be initiated) (note: after verification, the values should be reset to 15 minutes on battery and 5 minutes for the script to complete). Figure 2 illustrates the pertinent events timing.

Figure 2: AARTS/UPS Shutdown Events Timing
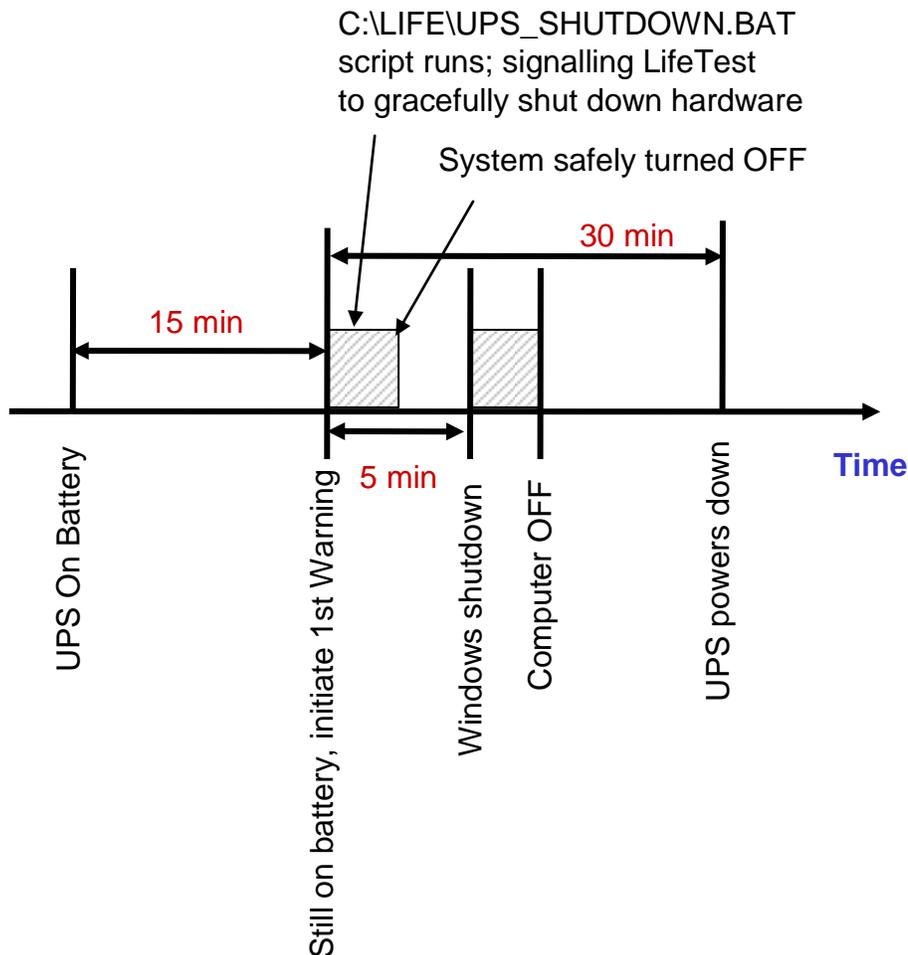
Note that if the main power is restored before the 1st Warning occurs, the system should continue uninterrupted.   However, after the 1st Warning, the system will shutdown following the prescribed sequence. Once power is restored to the UPS, the output might be restored; however, the computer will remain OFF until it is restarted. When the LifeTest software is started again, the UPSSHUT file will automatically be deleted be deleted so that another event may be properly monitored without further user action.

4 Support

The following contacts may be used to obtain additional information:

For additional support configuring the UPS, please contact Accel-RF or GE Digital Energy at the following numbers:

GE
   Retrieve local support number at http:// http://www.gedigitalenergy.com/digitalenergy/contact.htm

Accel-RF
   858-278-0274 (8:00AM to 5:00PM Pacific Time Zone)