



**Tech20041215-1-1**

## **Maintaining accurate battery history**

Cellwatch maintains a record of all averaged daily results for a year in a file named *historyzzzz.his* where zzzz is the year. So *History2002.his* is the file for 2002's history.

This file can first be read on the third day after installation and no effort is necessary on the part of the installer to create this file as the Cellwatch software creates it automatically.

However, because of how this file is created some care and consideration needs to be given to the workings of the software when installing or changing configurations.

### **When you first start Cellwatch**

The history file is created automatically just after midnight on the day after install. The daily data is stored in columns and rows in the file, just like in a spreadsheet. So that the program knows what data each column or row contains it creates headers that are text labels to identify the data. The header for the file is the configuration file 'batconfig.cfg'. Organized very much like a spreadsheet, the file stores data against each entry taken from the configuration file.

Problems have occurred where a system is installed and left running and shortly afterwards the system configuration is changed as more UPS module batteries are installed and added to the configuration. If this happens, the original file integrity is maintained but only data for the initial file is added to the history file. This is because the initial headers for the history file is the batconfig.cfg file that was in use the night the system is first left running. Cellwatch cannot add extra headers to the file once created.

### **How to do it right**

If you do a phased start-up, delete the historyzzzz.his file or rename it each time you change the batconfig.cfg file. If you rename the file you can still view it through the history file view facility in Cellwatch as long as you leave the file extension as '.his'.

If, after the system has been commissioned the user requests more UPS batteries be added to the system, the same rule still applies. Rename the historyzzzz.his file where zzzz is the CURRENT year (to say *historyzzzzpart1.his*) and let Cellwatch create its new history file for the new configuration which can be viewed three days afterwards.

### **Can files be merged?**

In some cases, files can be merged so that some battery data is not lost. The problem with doing this is related to the basic structure of a spreadsheet program. Most spreadsheet programs have a maximum of 256 columns and an almost unlimited number of rows. The .his file can be rotated so



either the history or the size of the battery is limited by the 256 columns. Most often an abridged or shortened history can be produced that can be accommodated within the 256 column limitation and this is defined by the following rules.

The header for the history file uses the first 29 columns. Each day of history uses 7 columns. Therefore, no more than 32 days of history can be arranged horizontally in a spreadsheet without rotating the file.

If the file is rotated, then the battery size is now limited. The file requires one header column plus 8 columns for each control unit. So, a single CU system can have up to 61 DCMs, and those with more CUs have a corresponding reduction in DCMs.

NDSL is happy to work with installers to retrieve data and merge files if possible. Special arrangements must be made to send this data back to NDSL and a small charge may be made. NDSL will require the history file PLUS the new config file.

### **Conclusion.**

If the installer phases the start-up of a Cellwatch system or decides to retrofit extra strings onto an existing system, it is necessary to rename or delete the old history file in order to continue collecting data for the new file.

Old history files can be merged with new config files, but history may be limited if battery sizes are large – it's better to rename and start over.