

## Application Note Reporting occasional ‘under frequency’ error alarms

### Customer Requirements

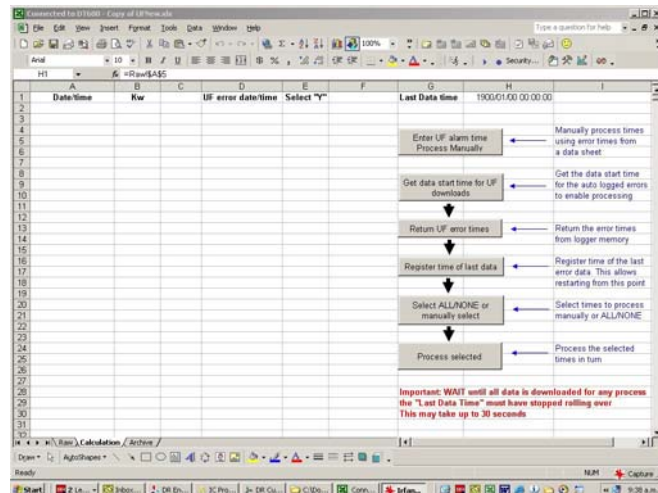
The client, an effluent treatment plant operator, was periodically experiencing “under frequency” error alarms in 5 substations and needed to know what the power levels were (in kW) immediately before and after these alarms. Staff went on site to investigate but the alarms were infrequent and the cause could not be determined.

### Equipment

- DT50 x 5
- Memory cards x 5
- Power transmitters
- Alarm contacts

### Software

- dataTaker ActiveX Control
- Microsoft© Excel



### Datataker Solution

The *dataTaker DT50* data logger was selected because of its ability to accept complex programs, could store data for extended periods via a memory card and was affordable. *dataTaker ActiveX Control* was also used. This is a tool written for software developers to aid in the creation of application software for use with *dataTaker* data loggers. It can be used in any software development environment that supports ActiveX technology such as Microsoft Excel and Access, Visual Basic, C++, LabVIEW and others.

Excel was used in this instance and each data logging connection was given a unique name. The kW log continued until the memory card was full. The value was stored every 5 seconds giving a maximum data storage capability of 35 days. The memory was set to “over-write when full” as data over 35 days old was of no value to the client.

In the event of an alarm, the operator opens the relevant Excel spreadsheet and clicks on a button graphic. This initiates *dataTaker ActiveX Control* to connect to the data logger and download 120 samples (10 minutes data) before the alarm and 240 samples (20 minutes data) after the alarm.

This data is then stored in Excel where graphs are automatically produced.

Another button is used to connect to the data logger and display the data in an Excel graph in real time regardless of the alarm condition.

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A third button allows the data to be manually retrieved by time and date. The time and date of any alarms are also displayed.

No more than the most basic computer skills are required for the on-site operators to download and display their data.

With the information gathered, the problem can now be pinpointed allowing for better diagnosis with the non-synchronizing of the electric generator the likely culprit.

The client can save costs on manpower, as there is little need for site visits. They also have a much improved reporting system that can be operated without utilizing their highly trained technical staff.

## Other application users

Manufacturing process  
Energy providers

If you need more detail on this application please contact [joyce.reid@datataker.com.au](mailto:joyce.reid@datataker.com.au)

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