SLIDE 1

The LogBox has a total of 10 inputs. Five 'analogue' inputs which are used to monitor water levels, pipeline pressure, temperatures, turbine position. Two 'status' inputs which simply say if an input is ON or OFF, so for example you could use it to see if the generator is on grid or to see if the mains is OK. Finally there are three 'counter' inputs, these are primarily used to monitor the pulsed output from Energy meters, from these pulses the system can calculate average power over the last 10 minutes and clock those all-important kWh's! This regular kWh data is also very useful when filling out Water Abstraction returns.

The LogBox reports over an internet connection to our Logging Website. We are currently using 3G, land-line broadband and satellite connections successfully on different sites.

SLIDE 2

The Logging Website receives data from each LogBox once every 10 minutes. Each client has their own user log in which takes them to their generation overview page. At the top we can see the total output from the client's portfolio of sites.

SLIDE 3

If we scroll down a little we can look at the power output of each individual site. Next to each site is a notes box which we call the whiteboard. The Whiteboard can be used for us notify others if there is a problem at a site or an explanation of why a site is currently off grid.

SLIDE 4

We can then click on an individual site to see it in a bit more detail and we can see all the different inputs being monitored at that site.

SLIDE 5

There is a button called "Reporting" which takes us to a page where we can setup a regular report email. The report can be set to send daily, weekly or monthly can we can select what data we want on the report.

SLIDE 6

There is a Settings page which it used to connect each LogBox to the Logging Website. There is also a button to remotely calibrate the inputs to each LogBox.

SLIDE 7

We can also click on to Individual fields, we can select a date and time range to view and also download to the data range as a csv field so we can open it in a spreadsheet.

SLIDE 8

For each field we can also set a "Threshold Alarm". If the fields goes out of the pre-set range an email alert is automatically triggered. Third party websites can convert these emails into a text message if you would prefer.

SLIDE 9

In addition to the main Logging website there is the facility to setup what we call a "Kiosk Page" for each site. This is a more visual display of the sites power output and it has been popular for use in Visitors centres and Museums attached to hydro sites.

SLIDE 10

The aim of the LogBox is to be simple and low-cost. Most of our sites also have full VNC remote control but as they are all individual systems it would take a long time to log in and check each one. So the quick overview that the LogBox provides is really useful.

We have designed the LogBox hardware to be open-source so anyone is free to make their own, but our product is so cost effective we don't expect many people will bother. We currently sell the LogBox itself for £245. For use of the Logging Website we charge an annual subscription, currently that is £168. In addition to these costs you will need a power supply which costs between £5 and £15 depending on the model. If you would like the device installing on site we quote for this on a site by site basis.

SLIDE 11

Summary

- Easily accessible overview of generation sites

- Simple and reliable

- Long-term data logging

- Low cost solution

- Off-the-shelf components and open-source hardware

SLIDE 12

Contact details