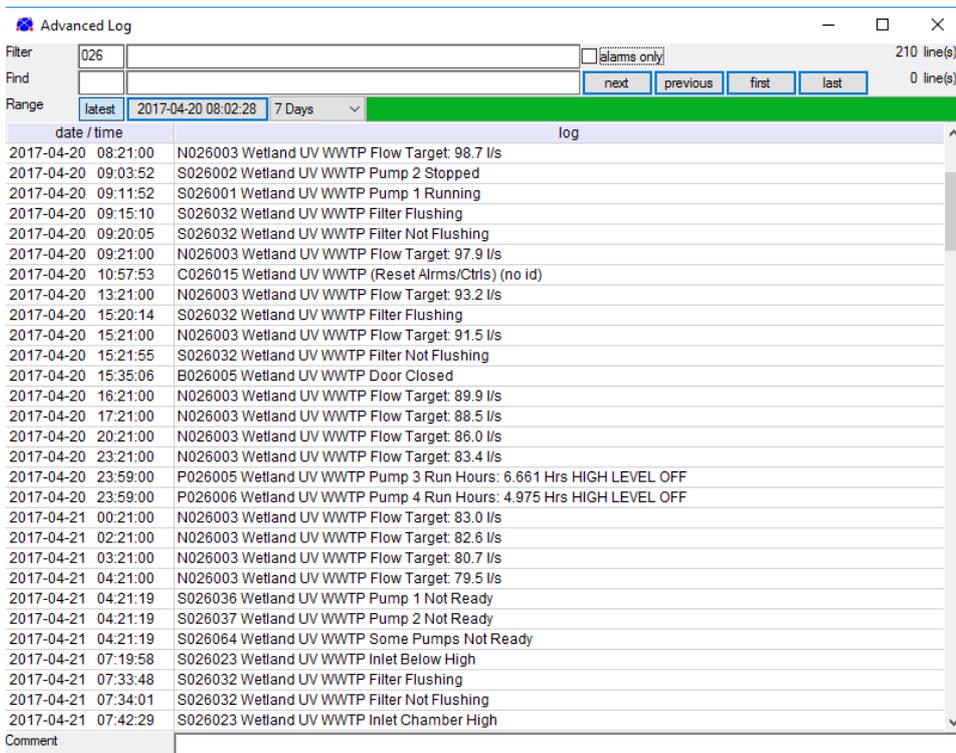


Powerlink 3.8.0

Abbey Systems is pleased to report a number of customers have migrated to Powerlink 3.8.0 recently, including Queenstown Lakes District Council, Palmerston North City Council, and just last week our first Power customer, ScanPower in Dannevirke.

There are some ***new features*** available in Powerlink 3.8.0 builds including:

- “Context Sensitive Help” is being updated now as Development occurs.
- “Multiday Filtered Log Files”; filtering allows users to refine searches based on a number of options including regular expressions, simple text matching & line type e.g. I/O point, Alarm Action, System Alarm etc. A subset of these features is also available in Aspex connected to a Powerlink 3.8.0 Master - see example below.
- Quick Reports now has “preset periods” for common report time spans, to save having to enter the date fields every time.
- “Enhanced File Transfer” for those customers with Powerlink FTP module. It can now handle XML & other formats i.e. JSON files in both directions, which allows data from websites to be imported into the SCADA Master for Control, Trending and Alarming purposes. EFT also creates an entry in the Log File when it runs and can automatically generate an Alarm if the transfer is unsuccessful, which is a real advantage.



| date / time | log |
|---------------------|--|
| 2017-04-20 08:21:00 | N026003 Wetland UV WWTP Flow Target: 98.7 l/s |
| 2017-04-20 09:03:52 | S026002 Wetland UV WWTP Pump 2 Stopped |
| 2017-04-20 09:11:52 | S026001 Wetland UV WWTP Pump 1 Running |
| 2017-04-20 09:15:10 | S026032 Wetland UV WWTP Filter Flushing |
| 2017-04-20 09:20:05 | S026032 Wetland UV WWTP Filter Not Flushing |
| 2017-04-20 09:21:00 | N026003 Wetland UV WWTP Flow Target: 97.9 l/s |
| 2017-04-20 10:57:53 | C026015 Wetland UV WWTP (Reset Alrms/Ctrls) (no id) |
| 2017-04-20 13:21:00 | N026003 Wetland UV WWTP Flow Target: 93.2 l/s |
| 2017-04-20 15:20:14 | S026032 Wetland UV WWTP Filter Flushing |
| 2017-04-20 15:21:00 | N026003 Wetland UV WWTP Flow Target: 91.5 l/s |
| 2017-04-20 15:21:55 | S026032 Wetland UV WWTP Filter Not Flushing |
| 2017-04-20 15:35:06 | B026005 Wetland UV WWTP Door Closed |
| 2017-04-20 16:21:00 | N026003 Wetland UV WWTP Flow Target: 89.9 l/s |
| 2017-04-20 17:21:00 | N026003 Wetland UV WWTP Flow Target: 88.5 l/s |
| 2017-04-20 20:21:00 | N026003 Wetland UV WWTP Flow Target: 86.0 l/s |
| 2017-04-20 23:21:00 | N026003 Wetland UV WWTP Flow Target: 83.4 l/s |
| 2017-04-20 23:59:00 | P026005 Wetland UV WWTP Pump 3 Run Hours: 6.661 Hrs HIGH LEVEL OFF |
| 2017-04-20 23:59:00 | P026006 Wetland UV WWTP Pump 4 Run Hours: 4.975 Hrs HIGH LEVEL OFF |
| 2017-04-21 00:21:00 | N026003 Wetland UV WWTP Flow Target: 83.0 l/s |
| 2017-04-21 02:21:00 | N026003 Wetland UV WWTP Flow Target: 82.6 l/s |
| 2017-04-21 03:21:00 | N026003 Wetland UV WWTP Flow Target: 80.7 l/s |
| 2017-04-21 04:21:00 | N026003 Wetland UV WWTP Flow Target: 79.5 l/s |
| 2017-04-21 04:21:19 | S026036 Wetland UV WWTP Pump 1 Not Ready |
| 2017-04-21 04:21:19 | S026037 Wetland UV WWTP Pump 2 Not Ready |
| 2017-04-21 04:21:19 | S026064 Wetland UV WWTP Some Pumps Not Ready |
| 2017-04-21 07:19:58 | S026023 Wetland UV WWTP Inlet Below High |
| 2017-04-21 07:33:48 | S026032 Wetland UV WWTP Filter Flushing |
| 2017-04-21 07:34:01 | S026032 Wetland UV WWTP Filter Not Flushing |
| 2017-04-21 07:42:29 | S026023 Wetland UV WWTP Inlet Chamber High |

Figure 1 example Aspex Multi-day Filtered Log File [in this case filtered by the RTU#, 026]

Recent projects

Wairoa District Council - Tidal clock



Figure 2 Wairoa Bar - WWTP & ponds to the left

Wairoa District Council's Waste Water Treatment Plant has Resource Consent to discharge treated effluent to the Wairoa Estuary at night time, after high tide has occurred and before low tide turns some 6 hrs 15 mins later. The estuary flows through a narrow opening and across a bar, so it's important that discharge from the treated ponds occurs only on an outgoing tide and stops sufficiently before slack water occurs, so as it is flushed from the estuary before the flow is reversed. Tides are influenced by a number of factors including the lunar and solar cycles and coastal conditions.

Traditionally control of the discharge was done by manually by entering the high tide times at the Abbey SCADA Master, twice a day for 10 days in advance. It was a repetitive chore and Wairoa DC's Engineers sought to save the time and risk in continuing with this approach by automating it. Abbey Systems Senior Project Manager Graeme Clover, researched the issues that applied to tides around coastal New Zealand and developed a suite of Master Control Programs which were fine-tuned during the initial implementation stage. This entailed applying a sinusoidal correction factor to the High Tide times during a lunar month (to correct for the sun's influence). If it is during the night hours, this "Tidal Clock" now issues Valve Open / Close commands to the Swampfox Discharge Pond RTU and controls the discharge effectively. The "clock" does need synchronising periodically, but in comparison to manually entering tide times, synching times to a recent high tide is a simple task to perform every 3 months or so.

New Products

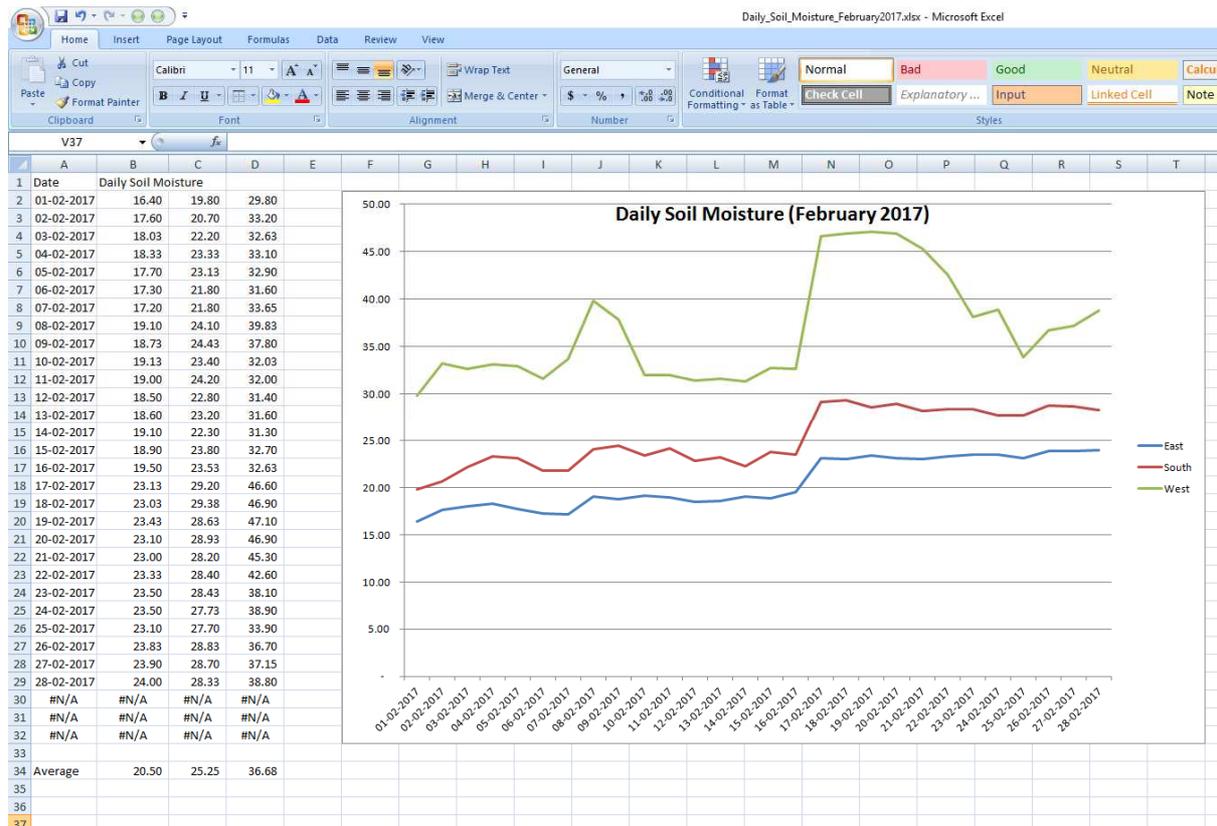
SMS Alarm Modem Power Switch



Here's a switch designed to go between the SCADA Master and SMS Alarm modem that restarts the modem by cycling the power to it, should the SCADA System detect the modem is inactive. Most Mobile Network Operators carry out changes to their networks while we're all asleep. Not every customer experiences these problems, but for those that do, this switch can save missing a critical Alarm and having to face the music or something much worse the following morning. Call it an inexpensive insurance policy

Emailed Data & Graphs in Excel

Our new "Powerlink email Alarm module" has another very useful feature. As well as sending out Alarms it can be used to send out Reports. The format can be CSV, or as in the sample below, an Excel spreadsheet. The great thing about this is you get the dataset, as well as trends of those points. Multiple reports can be appended to the same email and Quick Reports allows these to be set up, generated and sent automatically.



Training Courses

Abbey Systems Training courses are next scheduled for mid September 2017.

| | | |
|----------------------|-----------------------|---------|
| General Operations | Mon, Tue 11 & 12 Sept | \$1,100 |
| Programming | Wed 13 Sept | \$700 |
| Reporting | Thur 14 Sept | \$700 |
| Aspex | Fri 15 Sept | \$700 |
| Hardware & Technical | Tue, Wed 19 & 20 Sept | \$1,250 |

To confirm a place on any of the courses please call or email Cathy for details cathy@abbey.co.nz including names of good nearby hotels to stay at. There are at least 3 moderately priced hotels within 10 minutes walk of our offices. We're also two blocks from Cuba Street, which has a large range of good eating places.

Improving Disaster Resilience

Abbey Systems is doing its bit towards building resilience for our customers' operations. Our Disaster Recovery plan includes the following:

- Powercat, Topcat & Swampfox RTU hardware. Quantities of our standard RTUs are located in Hamilton with our Integrators, AD Riley - Control Systems.
- Our Securelink & Cellular RTU secondary Secure Hub has been recently migrated to the cloud. It's now running on a Microsoft Azure virtual Server. The primary hub is still running in our offices, but they now share the load and provide diversity and redundancy for users.

Operating System upgrades

There are still a number of our customers running their SCADA Masters on Windows XP Operating System and hardware older than 5 years. With Windows 7 now on notice it is time to make the move soon while we can. Win7 is an extremely well proven OS.

For further details of any items in this newsletter please contact Abbey Systems Ltd
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