

A new era for waterworks boards?

It used to be that foremen or other employees physically had to visit waterworks to check and regulate operations at all hours of the day and night. Has that era now come to an end? Evidence suggests that the supervision of waterworks via the Internet is now becoming the norm, and at the Arden Waterworks plant in Denmark this approach helps keep the board confident and well informed.

The thousand or so households in and around Arden in Denmark are in safe hands as regards their water supply. Two waterworks – one on either side of the town – pump water into the same distribution network, and both plants were fully renovated a couple of years ago, when they were fitted with new, identical Grundfos MPC-E systems with featuring CRIE 15-3 pumps. The plants were dimensioned so that each has the capacity to supply the 160,000 cubic metres of water that the North Jutland town consumes every year – should the need arise.

And it did quite recently. Pesticide residue was discovered in one of the bore holes, so the pumps at the Vestergade plant were shut down while the search for a new source continued. Søren Christoffersen, President of Arden Waterworks, was optimistic and expected both plants to be operating again this autumn.

SMS alarm system provides security

In the meantime, the task of supplying the town with water rested exclusively with the pumps at the Blåkildevvej plant. That is why Søren Christoffersen is particularly glad that he and his colleagues on the board chose to invest in an online monitoring system in connection with the renovation.

“Then as well as now it is essential that we are informed immediately if anything goes wrong because the pumps have to keep operating,” he says. “For example, we have experienced power outages and just a little while ago the system informed me that a switch was on the point of tripping. This message allowed us to replace the switch in time, and no-one was affected.”

Søren Christoffersen receives the alarm notifications as text messages on his mobile phone. In addition to notifying him about problems with the electricity supply, the messages may have to do with low pressure, water shortage or – as mentioned above – alarms from control units and switches, water spillages or break-ins.

Monitoring via the Internet

The monitoring system is a Grundfos GRM system and according to Poul Bøgelund, Senior Sales Engineer at Grundfos, it is a solution that is increasingly coming to the attention of private waterworks operators.

“Of course, this is largely because the initial investment is very reasonable and the system does more than provide the people responsible for the plants with a safety net in the form of alarm messages,” he explains. “GRM is also a tool that makes it possible to control and operate the waterworks remotely.”

The system collects data from pumps, pump control units, sensors, meters and so on and transmits them to a secure server at the Grundfos facility in Bjerringbro, Denmark. From here, the information from the individual waterworks is made available via the Internet to people with the relevant access codes – either only to read the information or to view the data and control the equipment remotely.

New technology attracting young volunteers to the boards

Poul Bøgelund has no doubt that the new, advanced pump systems and Internet technology will change the work of the waterworks boards in the future. The Grundfos engineer senses that the increased use of IT is making younger generations keener to participate in the voluntary work concerning water supplies for the local communities.

Søren Christoffersen confirms that the practical work has changed.

“Previously, I would often have to visit the two plants myself to check that everything was running as it should. Now I only have to drop by in person around once a month, but both I and my colleagues on the board check in via the GRM system several times a week,” says the Chairman of the Board, who finds the new technology simple to work with. “I mainly use the screen display to check on the pumping and the water levels in the clean water containers; I’m less concerned with the energy consumption because I know – and can see – that everything is running really well.”

In Søren Christoffersen’s opinion, the price of the subscription to GRM monitoring is very reasonable, because as he puts it: “It works – and that’s good ...!”

Smooth operation with MPC

“We haven’t had to make many adjustments to the operation settings of the new plants,” relates Søren Christoffersen. “The new, infinitely adjustable pumps provide very, very smooth, regular operation. We are very satisfied indeed ...”

And the words “... very satisfied indeed” were what convinced the board of Arden Waterworks to target the MPC solution from Grundfos. This was because Søren Christoffersen had consulted his colleagues in Hadsund, who had experience with the advanced solution. And in Hadsund, they were “... very satisfied indeed!”

FACTS ABOUT GRUNDFOS GRM

Monitoring via the Internet

- User access to all relevant data from a home computer
- Alarms sent as text messages to mobile phones
- Track the system’s 24-hour profiles to spot leaks in time, for example.
- Check pressure, water volumes and electricity supply
- Check motor speed
- Track energy consumption
- Automatic reports on pressure, flow, etc.
- Generate overviews of trends
- Organise shift plans for alarm supervisors
- Plan pump service procedures on the basis of operating data
- Remote control of pressure and type of operation; reset alarms.

FACTS ABOUT GRUNDFOS HYDRO MPC

Reliable and intelligent pumping system

- An all-in-one system – pumps and intelligent control
- Energy-saving regulation of up to six parallel-connected pumps
- A CR pump solution to match every need
- Very reliable
- High efficiency
- Thoroughly tested technology
- Easy to install
- Very user-friendly – easy to operate via a large display
- Data transmission via the Internet.

TECHNICAL DATA

Supply	24–240VAC, 50Hz
Pmax	11W
dim (H/B/D)	182 x 108 x 82 mm
Mounting screws	6 x M16 Ø4–Ø10
Cable dimensions	0.2–4 mm.

Number of inputs

- GENIbus for connecting pumps, control units and other Grundfos components (MP204 & CUE)
- 2 analog inputs, 0–10V / 0–20mA / 4–20mA
- 2 digital or counter
- 1 temperature input -50 to +200 °C.

Number of outputs

- 1 analog 0–10V
- 1 relay output (NO/NC) max. 240V, 2A.

Other

- Option to add more inputs via extra IO modules
- Free text for all inputs/outputs
- Each input/output can be included individually in the alarm setup
- Free choice of time delay before an alarm is forwarded to the next on-call supervisor
- Start-up via four simple steps

Additional information

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