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In brief

- WATERWIDE's half year sales are 29% up on the same period last year.
- WATERWIDE's exceptional service wins praise from senior building services manager.
- WATERWIDE seeks additional field service engineers to facilitate further expansion of the company.
- WATERWIDE wins record number of new jobs in the last quarter.

## 'MOT' FOR BUILDINGS

The government is putting forward a proposal for a mandatory MOT for buildings. Within a few years the proposed MOT, which would initially cover only 'large' buildings, would focus on regular testing and monitoring relating to the buildings energy efficiency. (As per the latest draft of a revision to the building regulations).

This then, could implicate the use of cooling water systems, being a user of potentially large amounts of energy.

There is also, however, a growing and more widespread interest becoming apparent to make this MOT far more comprehensive to cover all the main building services. This certainly would directly include the way in which cooling towers and closed water heating / chiller systems are sampled, treated, monitored and controlled. (For example where water is used in Air Handling Units or Versatemp systems). It would seem that in this respect, that WATERWIDE is already ahead of the game.



Nearly all buildings use water for either heating or cooling.

Editors Note:

Lets us hope therefore that the HSE's guidance note on the prevention or control of Legionellosis in water systems is taken on board en bloc....if only to save more red tape being issued from yet another government department.

## NEW LEGIONELLA GUIDANCE

The long awaited new guidance document on the prevention and control of Legionellosis in water systems is due for imminent publication (at the time of writing). As soon as it is officially issued, WATERWIDE will be assessing the implications of the new guidance in the light of current WATERWIDE prac-

tice.

We do not expect to have to make many changes to our policy for looking after cooling systems and down water services as we are aware that many of the changes proposed at the draft stages of this documentation, are

already being carried out as part of our normal practice.

All of our sites (both cooling water and down water services) however, will be re assessed to the new guidance and clients advised of any changes.

As legislation becomes tighter on what can and cannot be put down the drain, so Companies are being forced to face the issue of proper effluent disposal. For many years, the 'polluter pays' scenario has forced companies with strongly non environmentally acceptable effluent to consider the (cost) implications of self site treatment or specialist disposal. The increasing legislative pressure throughout industry to clean up their act is however, forcing even smaller producers of effluent to consider best methods of disposal. The advent of COSHH risk assessments and the newly implemented Environmental

standard EN ISO 14001 forces the producers of effluent to look critically and take stock of and account for, the methods of effluent disposal.

More and more companies, facing ever increasing effluent charges are now considering the possibility of their own effluent treatment plant on site.

With technology improving and moving forward rapidly in this area, the long term benefits of treating ones own waste to improve discharge quality and thus reduce costs is becoming attractive.



WATERWIDE has a wide range of effluent cracking and settlement products and can assist in effluent treatment studies on most types of industrial effluent. Please contact us for more details.

WATERWIDE have been using the WC310 cooling water controller for the monitoring and control of cooling tower systems, with great success. The WC310 controller is a microprocessor driven unit utilising a series of menus which enable extremely flexible programs to be designed. The unit allows either timed or conductivity bleed to be

established. It also allows full flexibility on the dosing of inhibitor, which can be fed on pulse, timed or dosed as a proportion of bleed. Biocides are controlled so as to be dosed on a set frequency basis. Alternatively a small upgrade to the basic unit, can be set to dose relative to redox. The unit can be set to enable a biocide

lock out such that the system is prevented from bleed-



WATERWIDE's WC310  
Cooling water control unit

*The WC310...*

*A complete water  
treatment control unit  
in one box*

## FAULTY BALL FLOATS

A common experience it seems, over the last few months, is the occurrence of faulty ball floats.

These are the floats designed to regulate and control water into a storage tank. Generally of the copper

type, it seems that every float our engineers have inspected recently has been water logged through a corrosion pit on the floats surface. Where water usage is low and the float has little movement, then often the float will just

remain buoyant, even though it contains a considerable amount of water inside. When the float has to control the whole tank making up after a clean however, then often the float never regains its buoyancy. BE AWARE!!

## TECHNICAL FORUM

# MONEY DOWN THE DRAIN

The question of efficiency in a steam raising boiler plant can be viewed from a variety of angles. Ultimately however, it all comes down to cost. Inevitably it is the cost of making the efficiency improvement against the pay-back cost and time.

Improvement in efficiencies on this type of plant can be categorised into three main groups.

Proper water treatment to minimise scale deposition. Minimising boiler water blowdown.

Installing heat recovery equipment.

Much has been written about proper chemical treatment of boiler feed water in these newsletters. In brief, the better the feed water quality, the cleaner the boiler water is likely to be. This in turn leads to reduced surface deposition thus making the most optimum use of the heat transfer between fire side and water side. The thing about the cost of chemical treatment, is that with correct treatment, the benefits of using the treatment can be seen with a clean opening of the boiler at the time of inspection.

Minimising blowdown and using waste heat recovery systems are also very important ways of making savings, although less tangible in terms of 'viewing' the result. The payback only manifests itself on paper through reduced cost and only after what is usually an apparently

fairly high cost of capital expenditure. It is often for this reason (initial outlay) that installation of such equipment is put back to a 'later date'.

To help justify the installation of a heat recovery system which in turn will lead to reduced blowdown, the following example may be of use.

Take a boiler plant running



Savings to be made.

at 100 psi with a feed water temperature of 50 C.

From steam tables, it can be deduced that at 100 psi, the calorific value of the steam produced will be 2764 kJ/kg. At 50 C under atmospheric pressure, the feed water will have an energy value of just 207 kJ/kg.

Increasing the feed temperature to 80 C will increase the energy value of the feed water to 336 kJ/kg. (The difference between 50 C and 80 C being 129 kJ/kg). Dividing this difference by the 2764 kJ/kg in the steam and multiplying out as a %

shows a percentage saving of the amount of energy (fuel) needed to produce any given amount of steam. This example equates to a 4.6% saving.

This figure is somewhat oversimplified as it assumes several variables are basically constant and that the boiler is running at 100% efficiency. Even theoretically, this cannot be. It does however, demonstrate the benefit of using waste heat recovery to raise the feed water temperature.

There are other spin offs in heating the feed water with waste heat. Increasing the feed temperature reduces the amount of dissolved oxygen present. This in turn reduces the requirement for oxygen scavenger which reduces the TDS loading. This then reduces the amount of blowdown required and hence in turn reduces the energy wastage associated with putting hot water to drain. It is also worth noting that the reaction rate between a catalysed sulphite oxygen scavenger and oxygen doubles for every 18 F increase in feed temperature.

The benefits therefore, are there for the taking.

*Save up to 4.6 % on fuel costs by increasing the feed temperature from 50 C to 80 C*

## NEXT ISSUE:

The Technical Forum looks at the problems and the treatments of iron fouling in base exchange resins (paper 616). It also looks at microbiological development in these units. The methods

and types of contamination are discussed in detail and an explanation given to the remedial actions which can help both minimise and prevent further problems.

The use WATERWIDE's well established range of IONX 2 and IONX 4 products are discussed.

**The Industrial Water Treatment Specialists**

**WATERWIDE**  
 Birchfield  
 Upper Rochford  
 Tenbury Wells  
 Worcs.  
 WR15 8SR

Phone: +44 (0)1584 781500  
 Fax: +44 (0)1584 781600  
 Email: enquiries@waterwide.co.uk



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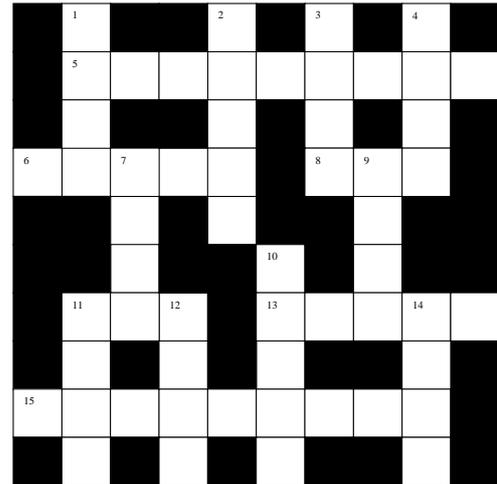
**The Crossword**

Across

- 5 Degradation of metal
- 6 Azole chemistry might protect this
- 8 Phenol ? (Indicator)
- 11 A Tax on a brewing kettle
- 13 It twists (Backwards and forwards).
- 15 Minimises 5 Across for example

Down

- 1 The remains of a wound
- 2 Your cooling tower may need this 'protection' in the winter
- 3 Someone who 'uses'
- 4 Your cooling tower should have no components made of this
- 7 In a lab, you may have a clean one, a



dirty

one or maybe both.

9 Direction

10 A bleed from a cooling tower may use one

11 A gas orifice

12 A Safety device on a switch

14 Paddles in water

**Win ...either :**

Tick Preference ...

- A days carp fishing for two in May 2001 on WATERWIDE's private pools ...0
- A bottle of scotch.....0

Complete the crossword and return (photocopies acceptable) to WATERWIDE's office no later than Friday 1st December 2000. Drawn on Monday 4th December 2000

Entry open to all. You do not have to be a WATERWIDE customer to enter. WATERWIDE's decision is final.

Name.....Position.....

**CHLORINE DEMAND**

The chlorine demand of a water is the amount of chlorine which needs to be dosed in order to obtain a 'free residual' of chlorine in the water.

Chlorine demand is affected by the presence of oxidisable material present in the water. Thus a water with a high organic content is likely to have a higher chlorine demand than a water with a low organic presence.

In other words, it would take more chlorine to obtain a free residual with a high organic content than it would with a low organic content.

As a result, it is extremely

important for your water treatment company to have assessed the chlorine demand of a water before setting up a chlorine (or other



Decaying leaf debris can increase the chlorine demand

oxidising) biocide program. If a water has a chlorine demand of 5 mg/l, then in or-

der to achieve a free residual of say 1 mg /l , then 6 mg/l would have to be dosed; 5 mg/l to satisfy the chlorine demand and 1 mg/l to obtain the free residual.

This is a very important concept to understand and to be aware of if micro organisms are to be controlled in a water system.

If the chlorine demand is not met, then there will be no free residual chlorine which in turn means that there is an increased potential for microbiological activity and the problems which can arise from their presence.