

WRAS Regulations Scheme Bulletin

WRAS
Water Regulations Advisory Scheme

RSB No. 7 • JULY 2001

Alert on lead solder

WRAS is reinforcing the **Water Fittings Regulations**' message to plumbers that the use of lead solder in drinking water system plumbing is illegal.

The only exception is where water is not required to be wholesome, for example in closed circuits in space heating systems.

Lead solder was first banned for drinking water use by the 1987 water supply byelaws. The importance of this ban has been heightened by the European Union's planned reduction in the maximum allowable concentration of lead in drinking water from 50 micrograms per litre ($\mu\text{g/l}$ – equivalent to parts per billion) to 25 $\mu\text{g/l}$ in 2003 and further reduction to 10 $\mu\text{g/l}$ in 2013. Where lead solder has been used there is a risk that these very low concentrations of lead in water will be exceeded.

Illegal use continues

Recent experience shows that some plumbing work leaves much to be desired. The illegal use of lead solder and the improper use of flux are causing water suppliers, plumbing associations, water fittings manufacturers and health authorities to be concerned about health risks.

Investigation of a case of lead poisoning caused by illegal use of lead solder resulted in a survey of recently built homes. It revealed over 15% of houses up to three years old had illegal use of lead solder. This was not limited to one housing estate, one builder or one plumbing firm.

Alternatives to lead solder

Push-fit and press-fit fittings are alternatives to soldered joints. But where

soldered joints are required or preferred, lead free solders are available either in integral solder ring fittings or for end-feed use. The use of a solder such as number 23 tin/copper alloy soft solder, made to EN 29453, will ensure that lead levels are not a problem. Not only is it suitable for all soldering work, but because it is less dense than lead solder, there is more on a 500g reel, giving more joints per reel.

Fluxes – good and bad

Flux helps molten solder to wet, adhere to and alloy with the copper tube. The change to lead-free solder with its higher melting point requires the change to an appropriate flux. For ordinary soft solder joints, fluxes made from zinc chloride or zinc ammonium chloride are usual. The manufacturers' advice should be followed. Modern fluxes, especially the self-cleaning types, can be more aggressive to the copper tube and need to be used with extreme care.

Excessive use of flux causes increased rates of corrosion of the pipework. There are examples where water left in contact with poorly made joints suffering from excess flux residues caused very high levels of copper which turned the water blue and which could have been harmful to health. Ultimately, excessive corrosion can lead to premature failure of the pipework and leaks.

Advice on solder and fluxes

A recent leaflet on **Fluxes and Solders** has been published by the **UK Copper Board** which describes the proper selection of solder and fluxes and how to use them to minimise these problems. WRAS will shortly be publishing a Water Supply Industry

Another milestone

WRAS's **Water Regulations Guide** was launched on 20 February at Water UK in London.

With the publication of the **Water Regulations Guide** (see further details on page 4) another important milestone has been passed in the Water Supply Industry's promotion of the Regulations.



Steve Tuckwell, Manager of WRAS, (left) and Bob Baty, Chairman of WRAS, at the Water Regulations Guide launch.

However, it is not the end of the story. Interpretations and guidance are being issued on a regular basis as the feature on page 2 makes clear. We will endeavour to keep you up-to-date with the nuances of the regulations.

As the Water Regulations and Byelaws (2000) Scotland become more widely applied, new matters will arise for interpretation and advice. Please let the Scheme know if you have areas of uncertainty or information which could help others' understanding.

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Interpretations

As designers and installers become more familiar with the **Water Fittings Regulations** and the Water Suppliers implement their enforcement by means of notification, consent and inspections, issues arise which require interpretation and explanation.

Also, arising from the preparation of the **Water Regulations Guide** and from comments received, a number of matters requiring the application of common sense and due proportionality in practical interpretation have come to the notice of the Scheme.

From time to time the Scheme will issue **Enforcement Advice Letters** which summarise the interpretations and decisions which the Water Suppliers have endorsed, through the Scheme's Technical Committee.

Enforcement Advice Letters were issued in June 2000 (No.1) and February 2001 (No.2) and their contents are summarised below.

Copies of the letters were sent to the Department of the Environment, Transport and the Regions (DETR) so that note may be taken of any concerns in future amendments to the Regulations. The Scheme will be grateful to receive details of any further areas that may be regarded as requiring enforcement advice.

Notification

Ponds or swimming pools (Regulation 5 (1) 'Table', Item 5 and DETR Guidance G31.2)

Item 5 of the Table in Regulation 5 refers to notification of the installation of swimming pools and ponds '*replenished by automatic means*'.

There is an apparent contradiction between this and the DETR Guidance (G31.2) which requires '*no supply or distributing pipe should be permanently or directly connected to a pond, fountain or pool*', implying no automatic means of replenishment are permitted.

The notification requirement is related to the conservation of water whereas the DETR Guidance is referring to prevention of backflow. The Regulation and the Guidance will be satisfied if, where a pond, fountain or pool is replenished by automatic means, the water supply is protected against backflow via a Type AA or Type AB air gap.

Specification of shower unit types (Regulation 5 (1), 'Table', Item 4(c))

The Regulations require prior notification of single shower units of a '*type specified by the Regulator*'.

The intention of this provision was to enable water suppliers, if they so wished, to require water metering of those customers who installed showers that consumed large volumes of water.

The Government's advisors considered proposals for specifications based upon flow rate or the use of multiple shower outlets but decided that such specifications were not practicable. The Regulator has decided not to adopt a specification for shower units at present.

Notification – Drawings (Regulation 5 (3) (d) (ii))

Under Regulation 5 drawings do not have to be submitted for the notification of large baths, notifiable showers (*but see above*), non hand-operated garden watering systems and automatically replenished swimming pools, (i.e. items 4(a), (c), (h) or 5 in the 'Table' in Regulation 5). In practice, for other simple proposed installations, drawings may not be readily available.

In such situations it was agreed, that at the discretion of the Water Supplier, if there was enough information to enable a decision about consent to be reached, the Regulation regarding drawings would have been satisfied.

Toilet Talk

Warning pipes - WC Flushing Cisterns (Schedule 2 Paragraph 25 (1) (h))

Schedule 2 to the Regulations requires every flushing cistern (excluding pressure flushing cisterns and urinal cisterns) to have a warning ('overflow') pipe or a 'no less effective device'.

The Water Supply Industry decided that subject to the conditions below, a **standing overflow** discharging into the WC pan will be regarded as a no less effective device in place of a warning pipe.

This arrangement is permitted provided that the inlet valves are of an approved type complying with the Regulations and, for compact inlet valves (e.g. those manufactured to meet BS1212 Part 4), a strainer is incorporated in, or fitted upstream of, the float operated inlet valve to trap debris (swarf etc.) which might cause premature failure of the valve.

These conditions are to reduce the risk of water being wasted through leakage of the

WRAS Risk Assessment Seminars

To protect against contamination by backflow the Water Fittings Regulations and Byelaws 2000 have emphasised the concept of **Risk Assessment Using Fluid Categories**, defined in chemical and microbiological terms which may not be familiar to many who have to understand them.

WRAS is to organise a seminar to:

- **Explain Fluid Categories and relate them to everyday situations**
- **De-mystify the process of Risk Assessment**
- **Publicise the interpretations of fluid categories which have already been determined by the Water Supply Industry for specific installations and applications.**

Speakers will include the Scheme's Scientific Advisor – **Professor Jeni Colbourne**, experienced Water Suppliers' Regulations Managers and the WRAS Manager, **Dr. Steve Tuckwell**. The meeting will be of relevance to fittings manufacturers, designers, specifiers, installers and enforcement staff.

It is proposed to hold the seminar in the Autumn at a number of venues around the country, so that as many people as possible can attend from all levels of organisations.

Details will be available from WRAS in the summer via the website or via Oakdale (see back page for contact details).

Interpretations

inlet valve. Manufacturers are being encouraged to supply the cistern with a valve and a strainer as a unit.

Reports of the death of the WC syphon – greatly exaggerated

From 1 January devices became legal which had not previously been permitted in the UK for WC flushing e.g. flap valves, drop valves and pressure flushing cisterns.

Flap and drop valves are readily adaptable to allow provision of a standing overflow (see above) in the cistern of a WC, whereas the traditional syphon could not so readily be adapted.

Following representations from WC manufacturers that the current regulations would mean the 'death of the syphon' the DETR issued a relaxation on 29 December 2000 to modify the height of the syphon spillover level to be between 20 mm and 50 mm above the operating water level. This will enable existing designs of syphon cisterns to have an internal overflow via the syphon weir.

All cisterns must still satisfy Requirement 4.2 of the Specification relating to the prevention of backflow. The relaxation will be in force for five years, until December 2005.

WC Suite Compliance

The changes in WC requirements from 1 January and the timing of the relaxation described above meant some WC manufacturers have been delayed in their certification of compliance with the new performance specification.

Manufacturers have been allowed by Government to self-certify that their products comply, but without independent evidence of the validity of their testing.

WRAS is defining a procedure which could be used for verifying self-certification. This would be of service to manufacturers, installers and specifiers as well as water suppliers' enforcement staff. It will take some months to complete these negotiations.

In the meantime, enforcement staff 'in the field' are faced with having to decide whether a particular WC suite complies with the Regulations. The Water Supply Industry considered that as a temporary measure until 31 December 2001, pending the implementation of WRAS verified self-certification or independent testing of WCs, it would be reasonable to accept

manufacturers' written assurance that specified WC suites (comprising specified cistern, inlet and flushing devices and pan) comply with the Regulators' WC Performance Specification.

In the event of installation of a WC suite which the manufacturer had claimed complied with the Regulations but which was found not to do so due to its inherent design or manufacture rather than the manner of its installation, the Water Supplier will expect the manufacturer to be responsible for remedial work or replacement.

Guidance

Non-domestic hose union taps (Guidance Table 6.1(e))

A non-domestic hose union tap is given as an example of Fluid Category 5 in Table 6.1(e) of the DETR Guidance to Schedule 2, implying it should not be supplied directly from the water supply mains.

However, Clause G15.18 refers to the need to provide backflow protection appropriate to the downstream fluid category decided by a risk assessment of the individual situation.

In some circumstances therefore the Regulations will be complied with by use of a lesser level of protection than category 5 with the agreement of the Water Supplier. It should be noted that the examples given in the Tables 6.1(a) to (e) are quoted for guidance rather than being mandatory.

Insulation of discharge pipes from

safety valves – (Guidance G19.2)

Where the discharge pipes from safety valves, which have to be laid to a self draining gradient, pass outside the thermal envelope of a building they are required to be thermally insulated against freezing, according to Clause G19.2 of Schedule 2 of the DETR Guidance.

The Water Suppliers considered that where the effects of frost are unlikely to lead to a blockage of the pipe, insulation may be deemed to be unnecessary.

Combination Tap Assemblies ('Mixer' taps)

According to the Schedule 2 (Paragraph 14(2)), domestic cold water (Fluid category 1) and domestic hot water (Fluid category 2) should not be interconnected without adequate backflow protection.

A 'mixer' tap with water mixing in the body, and which is supplied with hot and cold water having **unbalanced pressures**, requires single check valves on each of the hot and the cold supplies.

This is to prevent the possibility, under fault conditions, of the 'cold side' pressurising the 'hot side' and, under vacuum conditions, of hot water returning to the mains 'cold side'.

However, where hot and cold supplies to such a tap have reasonably balanced pressures (i.e. both supply pipes are on the mains or both are from storage), the Water Suppliers deem that the Regulation will be met without the need for these check valves.

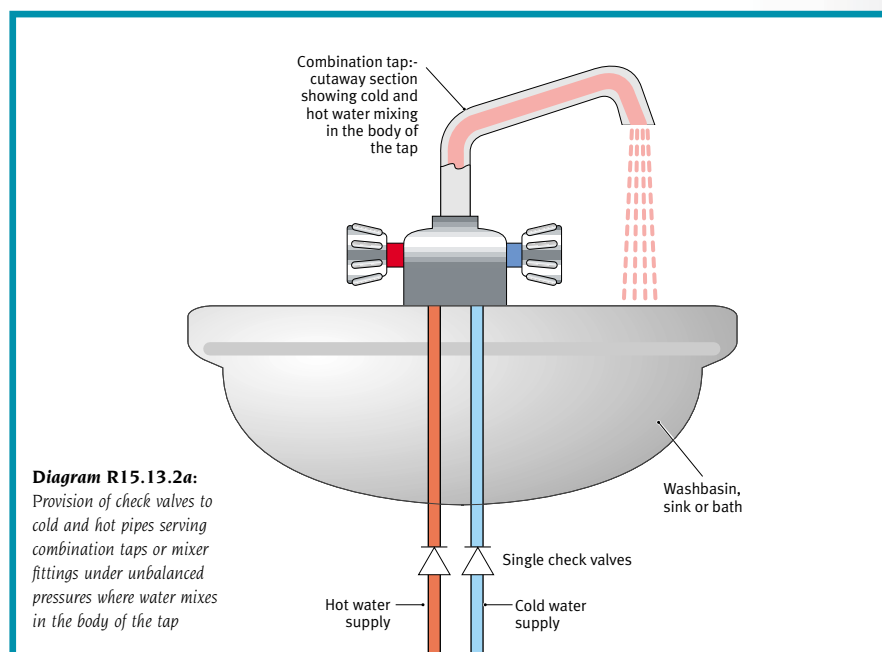


Diagram R15.13.2a:
Provision of check valves to cold and hot pipes serving combination taps or mixer fittings under unbalanced pressures where water mixes in the body of the tap

The Water Regulations Guide

As the successor to the widely read Water Supply Byelaws Guide, the new **Water Regulations Guide** will inform the designers and installers of plumbing systems and help them to understand and comply with the regulations. It will also be of great use to the water suppliers' staff who will be checking that installations meet the requirements.



Laurie Young (left) and Graham Mays at the Launch

The **Guide** includes the full wording of the Regulations and Byelaws (Scotland) as well as DETR Guidance. This is laid out section by section, with each section being accompanied by the Water Supply Industry's more detailed interpretation and its recommendations for good practice, all agreed by the DETR.

The style of the **Guide** is set by the attractive colour illustrations (see the diagram) and is also designed to be easy

to understand. It is packed with practical details covering a wide range of topics, including:

- the choice of suitable materials and fittings in contact with water
- requirements for water fittings and the design and installation of plumbing systems for hot and cold water
- the prevention of drinking water contamination due to inter-connection of water systems or backflow (a potentially very serious occurrence which can cause ill-health or even death)
- the installation of WCs, sinks and showers, water-using appliances and irrigation systems.

The **Guide** has been prepared with the approval of the Water Supply Industry by **Graham Mays**, the former Manager of the Water Suppliers' Water Regulations Advisory Scheme and **Laurie Young**, a consulting engineer specialising in water services.

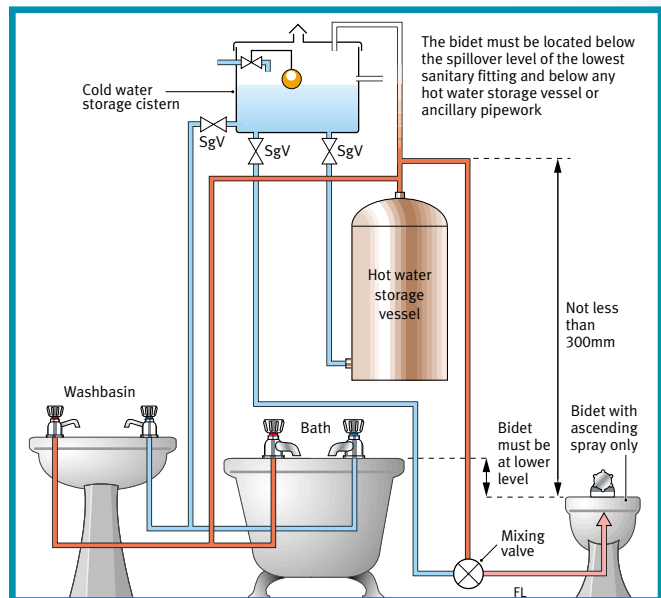
The **Guide** is aimed particularly at water fittings and appliance manufacturers, building designers and developers, property managers and maintenance staff, plumbers and water suppliers. It is in paperback form and has many colour illustrations and over

230 pages, packed with essential information for anyone who designs, specifies or installs water supply systems or water-using appliances.

The **Guide** is a worthy successor to its predecessor, the Water Supply Byelaws Guide (also edited by Graham Mays) which was the best selling technical paperback of the 1990s.

The guide can be ordered for £14.95 plus £3.50 postage and packing, with discount rates for multiple copies, from The Water Regulations Advisory Scheme, Unit 30, Fern Close, Pen-y-Fan Industrial Estate, Oakdale, Gwent NP11 3EH. Tel: 01495 248454; fax: 01495 249234; e-mail: info@wras.co.uk.

Diagram: A method of supplying cold and hot water to a bidet where the bidet is at the lowest level.



Three Valleys first off the mark

Three Valleys Water Company Staff were the first in the country to complete a new plumbers education and training course in the New Water Regulations.

Around 70 staff took part in the course that was devised by the **British Plumbing Employers Council**. Company Network Manager, Mike Webb, said that "by undertaking this training ourselves we wanted to show the plumbing industry we support them and the organisations that work towards improving the standard of plumbing in the UK".

WRAS Manager, **Steve Tuckwell** presented the first ever certificate to Network Regulation Technician, **Lynda Forth** and at the same ceremony, **Phil Chalk**, Water Industry Approved Plumbers' Scheme (WIAPS) Manager, presented the certificate to **Jeز Knowles**, the first plumber to be registered by WIAPS.



Steve Tuckwell, WRAS Manager, with Ray Brooks, chairman of the British Plumbing Employers Council, present Three Valleys Water Company's Lynda Forth with the very first BPEC National Certificate

News in brief

Contaminated land

The DETR and WRAS are both re-emphasising the Regulations Guidance which states that 'Water fittings made of plastics, or other material which are likely to be damaged by exposure to oil, petrol or similar contaminant, should not be laid in contaminated ground, or should be protected'.

This is because of the increased use of brownfield sites for development and the fact that plastic pipes can absorb oil based products which can affect both the taste and odour of the drinking water. If the laying of pipes in contaminated land is unavoidable, the use of materials other than plastics is necessary. In some locations where plastic pipes are to be used where there is a possible risk of contamination, they can be specially provided with an aluminum barrier.

WRAS is to publish an Information & Guidance Note on this.

Toilet exhibition

The Gladstone Pottery Museum in Stoke-on-Trent has secured the money plus an additional £350,000 from the European Union for what it calls a 'celebration of the toilet'.

Visitors will be reminded what life was like in the days before the much maligned but completely indispensable WC. The display,

which goes on permanent exhibition in August, will include the reconstruction of stinking Victorian latrines, including 'authentic' smells created from special chemicals.

The museum is on the site of the most complete surviving example of a typical North Staffordshire Victorian pottery factory. The money will be used to restore the Grade II listed building and provide a permanent space for more than 2,000 different exhibits.

The **Flushed with Pride** exhibition has a serious purpose. The Stoke area is still regarded as a world-leader in ceramic manufacturing and some of the world's best known toilet manufacturers are based in the area, including Twyford, Armitage Shanks and Doulton. The sanitary ware industry employs 2,500 people around Stoke-on-Trent.

Crown immunity

With effect from 1 December 2000, The Water Supply (Water Fittings) Regulations 1999 apply to the Crown and its land. This extends their application, for example, to land owned by the Ministry of Defence.

Annual Report

The WRAS Annual Report for 2000/01 is available free of charge on request from Oakdale. It summarises the Scheme's

activities during the past year and is a handy reference for the scope of the Scheme's work.

Dual flush WCs ignored

In May, Water Suppliers in different parts of England, Wales and Scotland helped WRAS to carry out a snapshot survey which showed that less than 6% of WCs in new installations were of the dual-flush type. The proportion varied in different parts of mainland UK. In Scotland, based upon a small sample, 12.5% of new loos were dual flush. In England and Wales overall, the figure was 5.7%, but half the Water Suppliers who took part reported no dual flush in their areas. From the limited results, where dual flush was installed, there was no obvious regional bias to its distribution.

Use of dual flush WCs has been legal since July 1999 in England and Wales and a maximum flushing volume of 6 litres has been required since 1 January 2001. In a straw poll, staff of one Water Supplier in the south of England found that two national firms of builders' merchants, two national house builders and one national DIY chain all knew about the requirement for 6 litre flushing, but none was aware that dual flush could be used and none of the suppliers stocked dual flush suites.

WRAS Publications

Water Fittings and Material Directory

Every product and material approved by the Water Regulations Advisory Scheme and complying with the UK Water Regulations (Byelaws in Scotland) is included in the **Water Fittings and Materials Directory**.

It is published twice each year at £25.50 for a single issue or £41.00 for an annual subscription which includes two editions.

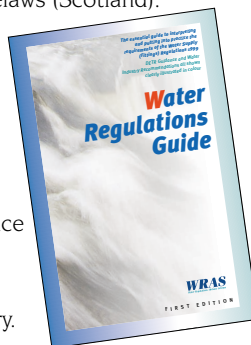
For overseas orders contact WRAS for postage costs. Discounts are available for large orders. It is also available on CD Rom.



Water Regulations Guide

The Water Supply (Water Fittings) Regulations 1999 replaced the Water Supply Byelaws in England and Wales on the 1st July 1999.

The **Water Regulations Guide** is the successor to the popular Water Supply Byelaws Guide and gives comprehensive guidance on the interpretation of the new Regulations and Byelaws (Scotland). The guide includes the Water Supply (Water Fittings) Regulations 1999 and Byelaws themselves, the official DETR guidance to the Regulations along with Water Industry commentary.



Customer Group Booklets



Information & Guidance Notes (IGNs)

WRAS Booklets and IGNs are being updated to reflect the new water regulations. Check the WRAS website for titles.



News from approved plumbers' schemes

The Regulations and Byelaws 2000 encourage the use of Approved Plumbers to counteract the 'Cowboy Plumber' problems, exemplified well by recent TV 'house of horrors' programmes. Water Suppliers and other authorised organisations can approved suitable plumbers.

Most UK Water Suppliers have asked WRAS to administer the Water Industry Approved Plumbers Scheme for them, but four Companies (see below) organise their own Schemes. This article brings an up-to-date summary of the progress of all of them.

WIAPS

WIAPS, the **Water Industry Approved Plumbers' Scheme**, is a national scheme run by WRAS on behalf of 22 water suppliers, covering 60% of water supplies to the UK population.

Launched in January 2000, the Scheme concentrated in its first year on informing and educating plumbers about the Scheme and the new Regulations, using articles and advertisements in the trade press and jointly-run seminars by the Scheme and Water Suppliers. Over 2,500 enquirers have been sent membership details and application forms and about 15% of these have resulted in applications.

Applicants must show experience and qualification in plumbing and adequate public liability insurance. Most importantly, because an Approved Plumber certifies to the person who commissioned the work that it meets the requirements of the Regulations, it is essential that the plumber passes an assessment of his knowledge of Regulations.

At first, plumbers were either unaware of the Approved Plumbers opportunities in the Regulations or were reluctant to undertake training. In 2001, the Scheme's publicity has shifted to bring to the attention of architects, builders and building managers the benefits of using an Approved Plumber. Combined with the wider availability of training options and venues, these steps mean that in the next year numbers will grow significantly.

WRAS works with the other Water Company schemes and with other approval bodies such as the Institute of Plumbing to co-ordinate the administration of Approved Plumbers, for example by developing common forms of compliance certificates and arranging for wide availability of the names of Approved Plumbers.

For further information contact the WIAPS Manager, Phil Chalk at Oakdale.

Anglian Water

Anglian Water's **Approved Plumber Scheme** was set up in the summer of 1997. It has successfully attracted several hundred qualified plumbers over the years and is the only scheme to offer full **individual** approved status.

The company is committed to retaining a small team of auditors who undertake assessments on suitably qualified applicants. Each member benefits from receiving an identity card, vehicle stickers, WRAS Regulation Guide, certification pads, regular newsletters and on line advice.

Contact: tel: 01480 323947 or 01480 326976.

Thames Water

Recruitment for the **Thames Water Scheme** started in April 2000 and to date there are 200 members. Thirty two of the members are plumbers/heating engineers while the remainder are *Third Party* members for underground supply pipes.

At present Thames Water are offering on-site training for *Third Party* members, while plumbers will have to follow the BPEC or City and Guilds routes.

For an application form or further information on the scheme please contact Ian Cotterill, Water Regulations Advisor, Rose Kiln Court, Rose Kiln Lane, Reading, RG2 OHP

Yorkshire Water

Yorkshire Water operates its own Approved Plumbers' Scheme for selected contractors working in its area. At present there are 35 members working for two firms. They submit regular reports of work they are undertaking as part of a 'fast-track' notification and certification process.

For details contact David Bowker, Regulations Manager, tel: 01274 804603.

Severn Trent

Severn Trent Water Ltd has its own Approved Contractors Scheme - **WaterMark**.

Since its launch in July 1999 over 1800 Plumbers have joined. Members of the scheme enjoy benefits such as cheaper insurance, job opportunities and regular information on the Regulations. A number of seminars are held each year with a wide range of guest speakers. The objective of the events is to increase awareness of the Water Regulations to the membership.

Watermark has its own website where you can enter your postcode and it lists approved plumbers in your locality for both domestic and commercial purposes.

For more information on the scheme please contact **Debbie Brooks on 0121 4523377** or visit the **WaterMark** web site www.stwater.co.uk/watermark.

Alert on lead solder

continued from page 1

Approved Installation Method on solders and fluxes – in accordance with the provisions of Regulation 4 for defining installation '*in a workmanlike manner*'.

The message from WRAS has gone out in The **Water Regulations Guide**, in articles in trade magazines and in presentations to trade and professional associations, contractors and plumbers. Water Suppliers, who enforce the Regulations, are alert to the problems and their inspections of premises may well include checks for lead solder and the use of flux. Where lead solder is found, the plumber may be required to replace all affected joints - which would be done at his own cost.

Plumbers are urged to act responsibly and remain within the law by avoiding the use of lead solders on plumbing for domestic purposes and by correct selection and use of flux.

The Institute of Plumbing and SNIPEF (Scottish and Northern Ireland Plumbing Employers' Federation) also operate Approved Plumbers' Schemes. Contact IoP on tel: 01708 472791 and SNIPEF on tel: 0131 2252255

WRAS.who's-who@Oakdale



SCHEME MANAGER
Dr. Steve Tuckwell

Water Industry Approved Plumbers Scheme
MANAGER
Phil Chalk

Technical Support Groups
Test and Assessment Group
Technical Officer
Roy Wigmore

Approval of Materials and Fittings
Fittings Administrator
David Jay

Standards Representation
Technical Advice
Section Leaders
Senior Inspectors

Administration and Secretarial Services
Jean Cox
Julia Stock
Nicola Ashley

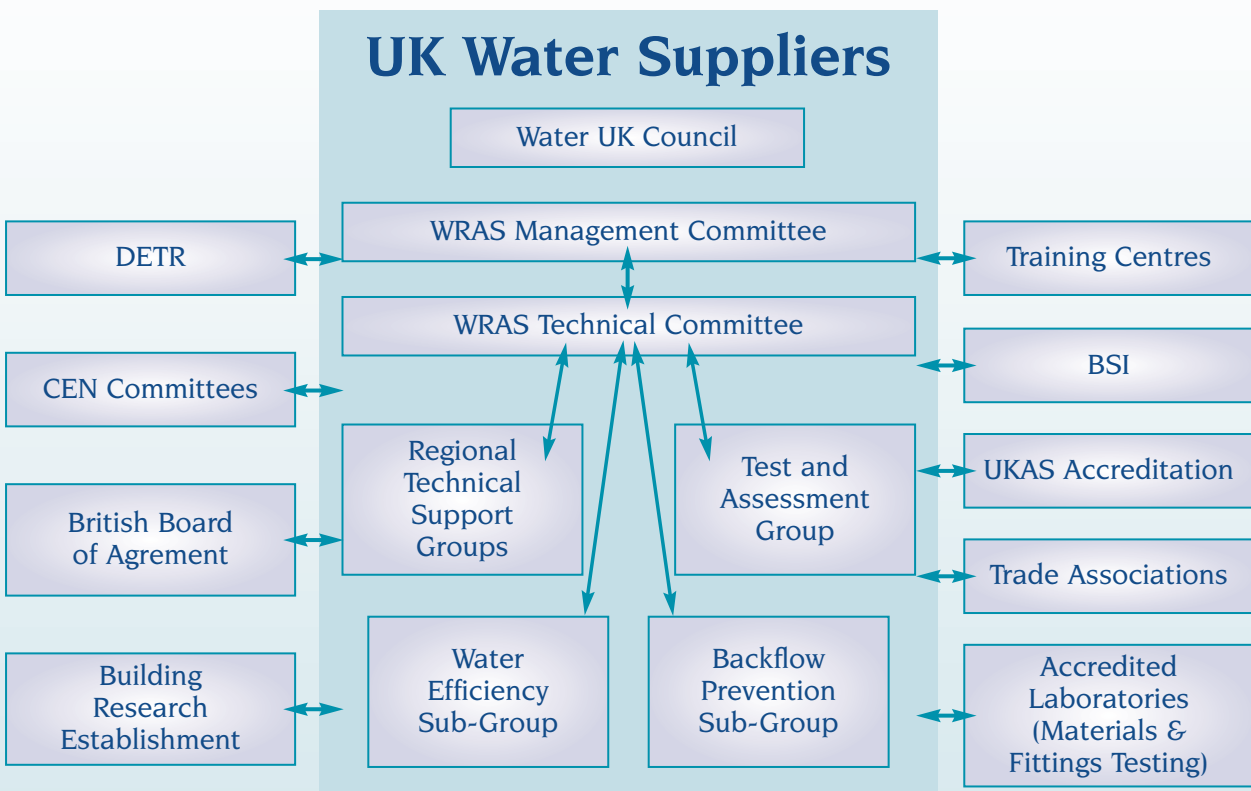
Materials Administrator
Christine Ramsey
Assistant Technical Administrator
Gareth Chiplin

There have been a number of changes at Oakdale since the last newsletter. **Dr. Steve Tuckwell** has taken over as Scheme Manager from **Graham Mays**.

Roy Wigmore has been appointed as Technical Officer to help with technical matters. **Phil Chalk** has been appointed as Manager of The Water Industry Approved Plumbers' Scheme.

To help you identify the contact in each of WRAS areas of responsibility we have produced a **Who's Who at Oakdale**. To see the bigger picture we have updated the Scheme's **Family Tree**.

Water Regulations Advisory Scheme Family Tree



Contact names

The contact names in the thirty three Water Suppliers throughout the UK, to whom matters concerning the Water Fittings Regulations may be addressed, are listed below.

WATER COMPANIES	CONTACT	TEL	FAX	E-MAIL
Anglian Water Services	Richard Unwin	01480 323936	01480 332990	runwin@AnglianWater.co.uk
Bournemouth and West Hampshire Water plc	Keith Helsby	01202 591111	01202 597031	csb@bwhwater.co.uk
Bristol Water plc	Bob Chambers	0117 934 1104	0117 934 1147	notify@bristolwater.co.uk
Cambridge Water plc	Ian Coupe	01223 403028	01223 214052	iancoupe@cambridge-water.co.uk
Cholderton and District Water Company	Barry Young	01980 629203	01980 629307	hedm759319@aol.com
Dee Valley Water plc	Keith Williams	01978 833237	01978 846888	dee_valley_water@btconnect.com
Dwr Cymru - Welsh Water	Keith Pratley	01432 361256	01432 361148	keith.pratley@hyder.com
Essex and Suffolk Water plc	Elaine Hall	01245 212890	01245 212340	elaine.hall@eswater.co.uk
Folkestone & Dover Water Services Ltd	Martin Gausden	01303 298800	01303 276712	martin.gausden@fdws.co.uk
Hartlepool Water plc	Shaun Rowden	01429 868555	01429 858000	shaun.rowden@hartlepoolwater.co.uk
Mid Kent Water plc.	Sue Cossell	01634 873205	01634 245232	scossell@midkentwater.co.uk
Northumbrian Water Ltd.	Mervyn East	0191 419 6564	0191 419 6772	mervyn.east@nwl.co.uk
NorthWest Water Ltd.	Ken Lacey	01925 428235	01925 428249	ken.lacey@uuplc.co.uk
Portsmouth Water plc	John Stein	01243 532225	01243 538518	-
Severn Trent Water Ltd	Ian Mitchell	0121 722 4779	0121 722 4565	ian.mitchell@severntrent.co.uk
South East Water plc	Mick Gregory	01444 448201	01444 413200	mgregory@southeastwater.co.uk
South Staffordshire Water plc	Dave Garrard	01922 638282	01922 618123	davegarrard@sswholdings.com
South West Water Ltd.	Paul Hamley	01752-765165	01752-765039	wateregs@south-west-water.co.uk
Southern Water	Gary Newell	01962 716158	01962 716223	gary.newell@southernwater.co.uk
Sutton and East Surrey Water plc	Alison Murphy	01737 772000	01737 766807	customer_services@waterplc.com
Tending Hundred Water Services	Chris Vinter	01206 399200	01206 399255	info@thws.co.uk
Thames Water Utilities Ltd.	David Brindley	0118 964 0526	0118 964 2775	dave.brindley@thameswater.co.uk
Three Valleys Water plc	Mike Webb	01279 775436	01279 775410	network.regs@3valleys.co.uk
Wessex Water Services Ltd.	David Hollex	0845 600 4600	01935 432750	dave.hollex@wessexwater.co.uk
Yorkshire Water Services	David Bowker	01274 804603	01274 372631	David.Bowker@yorkshirewater.co.uk

SCOTLAND & N.IRELAND

East of Scotland Water Authority	Richard Graves	0131 445 6491	0131 445 6503	richard.graves@esw.co.uk
North of Scotland Water Authority	John M Sim	01224 675000	01224 743417	john.sim@noswa.co.uk
West of Scotland Water Authority	Robert Bain	0141 355 5375	0141 355 5145	robert.bain@westscotlandwater.org.uk
Northern Ireland Water Service	Sean McAleese	02890 244711	02890 354840	-

ISLANDS

Council of the Isles of Scilly	Philip Hygate	01720 422537	01720 422202	-
Guernsey State Water Board	Andrew Redhead	01481 724552	01481 715094	-
Isle of Man Water Authority	Mr. Les Quayle	01624 695949	01624 695956	water@gov.im
Jersey New Waterworks Company Ltd	Mr M Le Brocq	01534 509999	01534 509666	-

Please advise of any changes



The Water Regulations Advisory Scheme is funded by the Water Supply Industry to provide it with an advisory service for **Water Fittings Regulations** and to encourage the consistent interpretation of the regulations throughout the UK; for the Scheme to promote knowledge of the regulations widely; to consult with government, manufacturers, installers and others; to advise the water suppliers' customers about the regulations; to approve fittings and materials against the regulations' requirements and to represent the Water Suppliers in the development of standards both nationally and internationally.

This mark may be applied by manufacturers to a WRAS approved fitting or material, which can also be listed in the **Water Fittings and Materials Directory**.



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Fittings and appliances which satisfy the necessary criteria are each given a unique number under which the product is listed in the **Water Fittings and Materials Directory**. Details on this and the **Water Regulations Guide** are available from the address below.

This Bulletin is distributed to the Scheme's Members, (the Water Suppliers), to Trade Associations, Fittings Manufacturers, WIAPS Members and others with an interest in Water Fittings Regulations.

If there are particular features or subjects that you would like to see or ideas that you have for improving future issues, please contact **Steve Tuckwell**, WRAS Manager, at Oakdale.

Mention of goods and services in the Bulletin does not necessarily imply WRAS endorsement.