

**A review of the enforcement of the  
Water Supply (Water Fittings)  
Regulations 1999  
from  
1 April 2000 to 31 March 2001**

**A Report by the Water Regulations Advisory Committee**

April 2002

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## **Executive summary**

The remit of the Water Regulations Advisory Committee was extended in October 1997 to include the assessment of the enforcement regime administered by the water companies within the first two years following the introduction of the Water Supply (Water Fittings) Regulations 1999 in England and Wales. The study covered the period April 2000 to March 2001, which was still something of a transitional period in the implementation of the Regulations. The methodology included self-assessment and data collection by the water companies against a reporting template developed by WRAC. The Water Regulations Advisory Scheme (WRAS) and interested organisations also contributed written assessments of current enforcement. WRAC evaluated this information by data analysis, consideration of the written submissions and discussions designed to clarify the generic issues identified.

WRAC identified examples of good practice and areas where there was a need to modify current practice. Some issues should be considered by the individual water company concerned, while others were more generic and require consideration by the water industry, WRAS and DEFRA. The report identifies these separately. The recommendations recognise the importance of risk assessment as one of the main criteria for a robust and cost effective enforcement regime.

The report's recommendations are formulated around a perceived need to develop national guidelines for the water industry in the delivery of its enforcement role and the provision of Approved Contractor schemes. Recommendations 1-5 are based on the conclusions that the notification requirement needs reconsideration; Approved Contractor schemes require greater commonality of entry criteria and benefit to both operatives and clients; and that inspections of properties should reflect a common approach to risk assessment.

Recommendations 6-8 concern the provision of technical advice to guide the evolution of the Regulator's Specifications and the provision of acceptable certification routes for new and innovative products. The latter is central to achieving both water conservation and sustainable development criteria.

The role of WRAS in providing a potential focus for improvements in the enforcement regime is recognised, Recommendation 9. WRAC also recommends a continuation of its own remit in the provision of technical advice to DEFRA, Recommendation 10, including the continued monitoring of the interface between the Water Supply (Water Fittings) Regulations and the Building Regulations to ensure that the two sets of legislation remain complementary.

It was concluded that while the enforcement regime established would become satisfactory on a national level, there were areas that required attention. Joint action by the water industry, government and interested organisations, including both professional institutions and manufacturers, is recommended.

The Regulations and their enforcement are seen as evolutionary. This process is both inevitable and necessary if the long term objectives of sustainability are to be achieved. WRAC concludes its recommendations with the view that a similar assessment should be undertaken after a further two-year period when the results of the responses to these recommendations will be identifiable.

**Recommendation 1.** A best practice guidance manual should be developed by the water companies, WRAS, DEFRA and its advisors to cover all aspects of enforcement. This should recognise the differing priorities of individual water companies and be kept under review to ensure it reflects current good practice. WRAS should lead these discussions with a view to producing a guidance manual by April 2003.

**Recommendation 2.** The best practice guidance manual should include the development of model Service Level Agreements to aid water companies in formulating risk assessment and return inspection cycle protocols for either internal or outsourced resources.

**Recommendation 3.** The best practice guidance manual should include advice on database requirements, validation techniques and staff IT training. The use of such databases would be of considerable benefit to companies in the management of their enforcement activities. Where certain enforcement activities are outsourced adherence to these guidelines would be essential to ensure satisfactory transfer of data at the end of any agreement period.

**Recommendation 4.** There should be one national model for Approved Contractor schemes. The current situation of eight separate schemes with variable entrance requirements is untenable. DEFRA should lead discussions with WRAS, the water companies and other organisations operating schemes to develop a minimum entry threshold and benefit structure for implementation by April 2003.

**Recommendation 5.** There is an urgent need to review the whole notification procedure. DEFRA should lead a broad forum to assess the current notification requirement. In this area the Regulations do not currently allow any proportionality or risk assessment approach. DEFRA should be prepared to amend the Regulations if necessary. The objective should be the identification of issues and actions necessary to improve the operation of the notification procedure by December 2002.

**Recommendation 6.** The content of the Regulations, their interpretation in guidance documents and the Regulator's Specifications should be kept under review to recognise and encourage new technology and to prevent the Regulations becoming a barrier to innovation or trade. WRAC, DEFRA and WRAS should work to establish suitable evolutionary mechanisms by December 2002.

**Recommendation 7.** Uncertainty over the mechanisms for approval under the Regulator's Specifications requires further consideration of the system of self-certification allowed by the Regulations. The introduction of quality control mechanisms to ensure that test equipment meets national standards should be considered by December 2002.

**Recommendation 8.** While the Regulator's Specifications were intended to control the acceptance of water fittings installed in the UK, the lack of point of sale control allows non-compliant products to be lawfully sold but unlawfully installed. DEFRA should consider the introduction of point of sale control of water fittings.

**Recommendation 9.** WRAS should strengthen its central role in assisting the water industry to enforce the Regulations by becoming the focus for the development of the best practice guidance manual and a national Approved Contractor scheme.

**Recommendation 10.** DEFRA should extend the current WRAC membership to July 2003 and thereafter consider re-establishing the Committee with the remit:

*“To advise the Secretary of State for Environment, Food and Rural Affairs on the technical aspects and evolution of the Water Supply (Water Fittings) Regulations; to support the development of a national best practice approach to enforcement including Approved Contractor schemes and Regulator's Specifications; and to undertake a second review of enforcement commencing in 2004.”*

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## 1 Introduction

### 1.1 The Water Supply (Water Fittings) Regulations 1999

- 1.1.1 The Water Supply (Water Fittings) Regulations, referred to generally as the Regulations, were introduced in England and Wales on 1 July 1999. They replaced the 1986 Model Water Byelaws in preventing the contamination, waste, misuse, undue consumption and erroneous measurement of water. The Byelaws, which may be traced back almost 200 years to local Acts, such as the Manchester and Salford Act 1823 aimed at the prevention of *‘the wilful and negligent use of water’*, were originally set and enforced at local level by the public Water Authorities. This arrangement was not considered appropriate following the privatisation of the water industry in 1989. However, at its request the water industry retained its enforcement duty under these new Regulations to protect its supply system against contamination. The appropriate enforcement regime for the Regulations has significant implications for public health and water conservation.
- 1.1.2 In order to advise the Government on the technical content of the proposed Regulations, the Department of the Environment (DoE) set up the Water Regulations Advisory Committee (WRAC) in July 1996. This Committee has continued under DoE’s successor departments, DETR<sup>1</sup> and now DEFRA<sup>2</sup>. Its remit in 1996 was *‘to advise the Secretary of State for the Environment on the technical requirements for plumbing installations and fittings to be included in Regulations made under section 74 of the Water Industry Act 1991, the associated Guidance Document and Regulator’s Specifications’*.
- 1.1.3 During the development of the Regulations it became clear to WRAC that its remit should also include reference to the enforcement of the Regulations as its recommendations clearly had enforcement consequences. The requirement for Notification, Inspection and the introduction of the Approved Contractor schemes also raised issues for the Committee. As a result the Committee’s remit was extended on 21 October 1997 to include an assessment of the enforcement regime within two years of the full implementation of the Regulations.
- 1.1.4 While the main body of the Regulations was introduced in July 1999, detailed discussions with the UK sanitaryware industry had delayed the full implementation of those elements of the Regulations introducing dual flush WC operation and the cessation of siphon only cistern operation until 1 January 2001.
- 1.1.5 The Regulations are not generally retrospective and so do not apply to water fittings that were installed in accordance with the Byelaws before 1 July 1999. Unlike the prescriptive Water Byelaws, the Regulations are performance-based, referring to British and where possible European Standards, with the intention of encouraging new technology and innovation. The Regulations make provisions for Regulator’s Specifications, which set the requirements for certain water fittings in the absence of existing standards.
- 1.1.6 The backflow prevention specification was introduced under the Regulations from 1 May 2000. This brought the UK approach into line with, but not identical to, the European Standard EN1717. The system consists of five fluid categories, which

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<sup>1</sup> Department of the Environment, Transport and the Regions

<sup>2</sup> Department for Environment, Food and Rural Affairs

reflect the potential toxicity of the downstream fluids (see Glossary). These categories relate to the risk posed to public health should fluids contaminate drinking water. The specification then relates each fluid category to a range of suitable backflow prevention devices.

- 1.1.7 The WC suite specification came into force on 1 January 2001. This introduced significant changes to the requirements for WCs, including a mandatory reduction in maximum flush volume from 7.5 to 6 litres, rigorous testing requirements for the whole suite and the re-introduction of dual flush cisterns, with the lower partial flush not to exceed two-thirds of the full flush volume.
- 1.1.8 Attestation of conformity to the WC specification is through Factory Production Control, in line with Annex II of the Construction Products Directive. This is a quality control procedure that supports self-certification by manufacturers that their products are compliant. Along with the Regulator's Specifications, this measure was considered by WRAC as an integral part of the enforcement regime to be reported on. This approach has resulted in a number of issues that are addressed within this report.
- 1.1.9 There are also a number of test specifications that were in existence under the Water Byelaws, which have subsequently been transferred into Regulator's Specifications. These provide the test requirements for a wide range of water fittings, but do not include any reference to quality control.

## **1.2 Assessment of the enforcement regime**

- 1.2.1 Having fulfilled its initial remit to deliver the Regulations, a new WRAC was appointed in 1999 with continuity of chairmanship and some membership. This was appropriate to its enhanced remit '*to advise on the implementation and promotion of the Regulations and to monitor and report on their operation and enforcement two years from the date they come into force*'. It was agreed that the reporting period would be set from April 2000 to March 2001.
- 1.2.2 This was the first time that such an exercise had been undertaken and so WRAC's initial work was concerned with the development of a review strategy and methodology. The resultant reporting template was trialed in early 2000 by two water companies and the full assessment was undertaken from April 2000 to March 2001 inclusive, with water companies providing data and self assessment information by the end of June 2001.
- 1.2.3 The methodology used by WRAC to develop its views is described in Chapter 2, together with a critique of the comparability of the data provided. In addition to the data and self assessment provided by each water company, the views of interested organisations and the Water Regulations Advisory Scheme (WRAS) were canvassed. Following the Committee's assessment of this data a series of discussions were held with representatives of the water companies, WRAS and interested organisations to clarify WRAC's views in generic areas. The issues raised through these investigations and discussions are presented in Chapters 3 to 5.
- 1.2.4 As a result of the methodology followed WRAC was able to reach a series of conclusions, presented in Chapter 6. It was possible to identify areas of good practice across the enforcement regime, but there were also areas where consideration should be given to modifying the current regime. Recommendations for consideration, together with a timescale for action and proposed action

leadership are presented in Chapter 7. These recommendations encompass the notification and inspection regimes, the provision of Approved Contractor schemes, issues concerned with the evolution of the technical content of the Regulator's Specifications and the consideration of a Quality Management System incorporating the requirement for test facilities to possess calibrated test equipment to national standards. In addition Chapter 7 includes recommendations relating to the need for a continuing role for WRAC in line with its remit to advise on both the technical and enforcement aspects of the Regulations, as well as the need for future assessments to ensure an appropriate enforcement regime.



## **2 Methodology**

### **2.1 Establishing the reporting process**

- 2.1.1 The delivery of a report assessing the enforcement of the Water Supply (Water Fittings) Regulations via the water industry was the major element in the remit of the Water Regulations Advisory Committee for its second term, July 1999 to 2002. WRAC had discussed the necessity for such an assessment as early as 1997 and these discussions led to the enhanced remit of the Committee to produce an assessment of enforcement within 2 years of the Regulations being introduced.
- 2.1.2 Preparations for the reporting process by WRAC and the water industry began in 1999. It was agreed that 1 year's data – from 1 April 2000 to 31 March 2001 – would be taken as representative of the first 2 years of enforcement activity. This provided time for the reporting template (containing the data and commentary asked of water companies) to be finalised and for companies to settle into their enforcement activities. However, the Committee recognised that the period of the report would still cover a transitional period in moving from Byelaws to Regulations.
- 2.1.3 Throughout the process the Committee ensured fairness by, for example, recognising that different companies face different risks and therefore have priorities and activities that will vary. The Committee sought to consider companies' enforcement activities as a whole, rather than placing undue emphasis on one or two aspects of a certain approach. It undertook not to use the data submitted to compile league tables of company performance. It was seen as essential that each company's numerical data was assessed in conjunction with the supporting information and commentary.
- 2.1.4 The first step in this process involved the creation of a reporting template, which was developed in close consultation with the water industry, through the Water Regulations Advisory Scheme (WRAS). Following several revisions, the template was agreed although it was recognised that there might be differences in the way questions were interpreted and hence reported on by different companies. Accordingly, a validation exercise was arranged, with Bristol and South West Water agreeing to trial the reporting template from 3 April to 14 May 2000 and supply sample data. The results were discussed with those companies at a WRAC meeting on 1 June 2000 and a number of areas of ambiguity were highlighted. Subsequently, several refinements and clarifications were made to the template in liaison with WRAS. The final template is included as Appendix A. The formal reporting period for all companies ran from 1 April 2000 to 31 March 2001, with reports received by 30 June 2001 in line with the water companies' June Return to Ofwat.
- 2.1.5 The Committee also recognised that a wide range of other organisations were significant in promoting compliance with the Regulations. These included trade associations for contractors and manufacturers, professional bodies, training organisations, test and inspection bodies, retail outlets and others. Accordingly the Committee wrote to 102 organisations (see Appendix B) in May 2000 and again in March 2001, to explain its review of enforcement and ask for information on the organisations' own role and activities to promote compliance with the Regulations and for substantiated evidence of how water companies were carrying out their

enforcement duty. Examples of good practice were sought, in addition to any concerns. Ten submissions were received by the 31 May 2001 deadline, which proved a useful addition to the Committee's deliberations (see Chapter 5). These submissions mainly focussed on organisations' own activities rather than water companies' enforcement activities.

- 2.1.6 During the reporting year, the Committee finalised its arrangements for assessing the reports. Each member of the Committee was assigned as either first or second reader for four companies, such that the reports of each water company and WRAS were considered in detail by at least two members. An assessment template was also agreed so that each company would be considered against the same criteria. Following individual assessments, the Committee met to carry out its preliminary group assessment on 11-12 September 2001. The Committee divided into three groups of four, in which members reported back on their first and second-reader companies (see Appendix C). Consideration was given to any personal associations with water companies to ensure no conflict of interest, as well as to ensure that each group consisted of a mixture of expertise. This process enabled cross fertilisation of ideas and some moderation of views. These consolidated views on each company were then fed back to the whole Committee in order to achieve a wider moderation and to ensure that each company was considered on an equal basis. Following this exercise, the Committee wrote to four companies seeking further clarification of information contained in their reports.
- 2.1.7 In November 2001, the Committee invited representatives from a number of companies to attend discussions together on certain aspects of enforcement. It was not possible or necessary to involve every company, but the Committee chose those that would represent a variety of different approaches and experiences, as well as differences in geographical location and size. The Committee was especially keen to improve its understanding of why certain approaches had been followed and to what effect, as well as to consider how enforcement could be improved nationally. The discussions were divided into four sessions - programmed inspections, Approved Contractor schemes, notifications and the role of WRAS. Details of attendees and questions asked by the WRAC panel are contained in Appendix D. This proved to be a highly useful exercise, especially in helping the Committee formulate its conclusions and recommendations.
- 2.1.8 This process resulted in draft papers detailing the Committee's assessment of generic water industry issues and of individual companies. These company-specific assessments were sent to the companies in December 2001 as informal feedback and to ensure that the Committee's understanding of the data contained in the companies' reports was correct. The majority of companies responded to either confirm the Committee's views or to offer further clarification.

## **2.2 Influence of the objectives of the Regulations on the review process**

- 2.2.1 In developing this methodology WRAC was aware of the objectives of the Regulations and the need to recognise the role of risk assessment in their enforcement.
- 2.2.2 The Water Supply (Water Fittings) Regulations 1999 (the Regulations), supported by an appropriate enforcement regime, have significant, though not always clearly perceived, implications for public health and water conservation. Their objective is

to amplify the provisions of the Water Industry Act 1991 aimed at preventing the contamination, waste and undue consumption of water.

- 2.2.3 Of these objectives the most critical for public health is the prevention of contamination and in particular, contamination of the public supply. While there are a range of possible causes of contamination, for this to occur through backflow a number of conditions must be satisfied simultaneously within a consumer's premises. There must be: a) a downstream source of contamination; b) an uninterrupted passage between that source and the potable water supply (e.g., a valve must be open); c) pressure on the normally upstream side of the source of contamination must be lower than pressure on the normally downstream side, giving rise to a reversal in the normal direction of flow, i.e. backflow; and, d) there must be an absence or failure of any appropriate backflow prevention conditions or devices.
- 2.2.4 This requirement for a fourfold combination of conditions means that although the potential *hazard* of contamination can be very great, the probability or *risk* of its occurrence is low. The purpose of the Regulations and efforts to ensure compliance with them is to ensure that the probability of a major and dangerous contamination incident remains low by ensuring as far as possible that conditions b), d) and downstream increases in pressure do not occur.
- 2.2.5 A combination of environmental and economic/commercial considerations underlie the Regulations relating to undue consumption and waste. By reducing the demand that arises from these sources, the environmental impact of increasing supply and demand on economic resources is also reduced. Important though these considerations are, it is difficult for the public to perceive them as having the same urgency as the prevention of contamination. Where appropriate waste and undue consumption are susceptible to treatment by economic rather than regulatory intervention.
- 2.2.6 Even in the case of backflow contamination it has to be recognised that the degree of hazard created by different water installations varies substantially. This variation arises both from the scale of an installation and from the nature of the potential contaminant. The variation in hazard arising from the nature of the contaminant is recognised in the Regulations and the relevant Regulator's Specification, which categorise potential contaminants by reference to the level of danger they pose and prescribe increasingly stringent backflow prevention requirements as that level rises. Variations in the level of hazard attributable to differences of scale are not susceptible to variation of treatment in the Regulations and associated documents, but have clear implications for the organisation of the efforts of enforcing agencies. To ensure the most effective deployment of resources, enforcing agencies need to take both qualitative and quantitative aspects of any particular hazard into account. They also need to be able to assess the risk of dangerous contraventions arising in relation to any particular hazard, taking account of their perception of such factors as the inherent dangers of the processes concerned, the quality of management, or the competence of installers and/or maintenance personnel.

### **2.3 Limitations of approach**

- 2.3.1 The Committee's assessment of enforcement can only be based on its understanding of information provided by the water companies, both in their reports and in discussions with WRAC. On the whole, companies had gone to considerable

lengths to produce thorough and intelligently written reports. However, in some cases the format of reports was disappointing. For example, the reporting template was designed to be completed without the addition of large appendices. Although some of the supporting information submitted was useful, repeated references to information in appendices made the Committee's task considerably more difficult.

- 2.3.2 Despite the intention of the validation exercise (described in 2.1.4) it was evident that there were a number of anomalies in the way in which data was reported. The Committee decided that it would not be appropriate to report on specific water companies' enforcement activities because of this variability and hence lack of confidence in the comparability of data submitted (see section 2.4).

## **2.4 Critique of the reporting template and water company data**

- 2.4.1 There was a wide variation in the quality of statistical information provided, which made it difficult to compare across the companies. Nonetheless, it was important for the Committee to make comparisons between water companies even though this only provided a broad indication of relative performance. To some extent such anomalies were to be expected, as this was the first time that such an exercise had been carried out. The most notable examples are outlined below and should be borne in mind when considering the data and comments in Chapter 3. These points are not intended as a criticism of companies, but are recorded as explanatory factors and as issues that would require clarification were this exercise to be repeated in future.
- 2.4.2 In terms of resources, some companies reported a number of staff spending less than 25% of their time on enforcement. This breakdown was not requested on the reporting template, although some (but not all) companies added this as an additional return where it was considered important. However, as with the other divisions of staff time, without sufficient commentary it was impossible to assess whether those staff were spending 1% or 24% of their time on enforcement.
- 2.4.3 There were a number of anomalies concerned with reporting on the notification procedure. The reporting template instructed companies to count notifications of identical properties as a single notification, which would not have revealed the total number of properties involved. Some companies usefully separated the number of notifications received and the number of properties involved, while others did not. This was potentially misleading both in terms of the number of notification returns (for example compared to new connections) as well as the inspection response, which in a number of cases was recorded as significantly higher than the number of notifications received (Table 2, Chapter 3). It was also recognised that there would be a time-lag between a notification being received and the property being inspected. Under 'normal' conditions one might expect this effect to be balanced out at each end of the reporting year, but this was unlikely to have occurred during this transitional period.
- 2.4.4 Domestic inspections. Some companies included inspections of new supply pipes as well as internal plumbing, which then registered as a very high level of domestic inspections (Table 2, Chapter 3). This was potentially misleading, especially where those inspections were carried out by a separate team to the one working on high-risk inspections.

- 2.4.5 Programmed inspections. The inclusion of re-inspections in company totals, as required by the template, gave the impression of a greater number of properties being inspected than was actually the case. Some companies recorded these separately, which was useful, but in most cases it was not possible to establish the number of properties inspected. Subsequently, when the data was used to approximate the number of properties inspected, the industry average was over 18 years to inspect all high-risk properties (Table 4, Chapter 3). This time to completion would have been even greater were the actual number of properties inspected used. It was also evident that some companies had used different approaches to assess the number of fluid category 4 and 5 properties in their areas, which would also have had a significant bearing on this figure.
- 2.4.6 In several instances, one company reported figures that were magnitudes in excess of other companies, suggesting either a misunderstanding of the template or the application of the Regulations. In one company area almost 40,000 fluid category 4 & 5 agricultural infringements were found compared to about 4,700 in all the other companies put together (Table 5, Chapter 3). Another company reported about 4000 inspections in response to just over 200 notifications, which was well in excess of any other company (Table 2, Chapter 3). Clearly, both of these instances had the effect of significantly influencing the industry averages quoted, which was borne in mind by WRAC in its considerations. More generally, the Committee did not exclude data at the extremes of ranges although it was recognised that these influenced the industry averages.
- 2.4.7 No information was requested to determine how infringements found related to inspections on certain categories of property, which would have been a useful addition to the reporting template. In addition, the template asked for the number of contamination incidents reported to the Drinking Water Inspectorate (DWI), which did not yield any data during the reporting year. With hindsight it would have been more useful to ask for the number of recorded contamination events due to sub-standard plumbing.
- 2.4.8 This report is based on data reported over a fixed time period. The Committee is aware that there have been improvements in certain aspects of enforcement in some water company areas since this period, but these are not recorded in the report.



### **3 Water industry enforcement – generic issues**

#### **3.1 Introduction of the Regulations**

- 3.1.1 The transition from Water Byelaws to Regulations was less than ideal for a number of reasons. A number of water companies commented that delays in publications and lack of information had a detrimental effect on their enforcement performance and that consequently they were not as far ahead as they would have intended. This was claimed to have had an adverse effect on companies, even extending into the reporting period, although some seemed better equipped to manage such difficulties than others.
- 3.1.2 The Regulations were made on 1 April 1999, three months before they became law. This allowed a minimal time for the water industry, designers, installers and other affected parties to digest and react to the changes from the Water Byelaws. However, the main legislative changes incorporated in the Regulations had been announced in a series of press releases from December 1996. This situation was complicated further by delays in the publication of key documents that provide clarification and recommendations on compliance with the Regulations. The DETR's official guidance document was not published until December 1999 and, partly as a result of that delay, the water industry's Water Regulations Guide was not published until December 2000. The latter is now acknowledged as an essential tool for enforcement staff and those designing and installing water systems.
- 3.1.3 These delays were perceived to have had a significant impact on the water industry's ability to promote and enforce the Regulations, resulting in a prolonged transitional period. For example, the ability to provide and undertake training in the Regulations was significantly hampered, with formal training courses not commencing until around February 2000. Several companies considered that they were unable to fully commence their enforcement activities until the Water Regulations Guide became available, although due to the disparity of responses across the water companies the actual importance of this is perhaps debatable.

#### **3.2 Overview of enforcement**

- 3.2.1 The generic issues that follow arose from WRAC's consideration of the submissions from water companies and other interested organisations, as well as the discussions held to consider certain aspects of enforcement in greater detail.
- 3.2.2 The significance of the change from local Water Byelaws to Regulations was acknowledged, strongly by some water companies, belatedly by others. From the information reported, much good practice was evident, but there was also a great deal of inconsistency between companies and room for improvement in every case. Such differences were to be expected, in part due to historical reasons, but all companies should be working towards a uniform best practice approach in their enforcement activities. The Water Regulations Advisory Scheme (WRAS) already has a role in promoting good practice and has the potential to enhance its role in this respect in the future.
- 3.2.3 There were three main strands to companies' enforcement activities – programmed inspections, the notification procedure and the format and operation of Approved Contractor schemes. These were complemented by other activities to promote

compliance, such as raising awareness of the Regulations to customers and certain sectors and organisations, and staff training. Companies placed different priorities on each of these elements, due to a combination of historical and local reasons, which has led to considerable variation in approaches to enforcement. For example, some companies have primarily sought to control new installations by rigorously pursuing notifications and/or Approved Contractors, with programmed inspections being used to reduce existing non-compliance. Other companies place the main emphasis on reducing high-risk non-compliance through programmed inspections of existing premises, with the notification procedure and Approved Contractors being used to keep a check on new installations. Effective enforcement requires an appropriate balance between these different enforcement activities with the aim of minimising the risk of contamination, both within customers' premises and to the water supply.

- 3.2.4 It was also evident that a number of water companies had a good history of Byelaws enforcement, whereas others were working to address a severe historical lack of enforcement. This background experience made a significant difference to the quality of companies' risk assessments and the overall approach to enforcement.

### **3.3 Organisation of enforcement activity**

- 3.3.1 Enforcement activities generally seemed to be well set into water companies' processes and management structures. Much good practice was evident in terms of clear policy documents and quality control procedures governing enforcement activity. Companies' policies generally seemed to be well communicated to staff responsible for enforcement, but it was less evident that information from front line staff was fed back up the line to inform future policy and management of enforcement.
- 3.3.2 Water companies' enforcement activities were, understandably, based around the risk of contamination, but the resulting activities also provided an opportunity to address waste, misuse and undue consumption infringements. Despite the good intentions of many companies, it was evident that the majority of companies were not meeting their policy aspirations in practice. This was especially evident in terms of targets to carry out programmed inspections of all high-risk premises and inspection rates in response to notifications. There was also considerable variation in these targets, which would not seem justifiable, while a number of companies did not have any explicit policy targets for inspections. It is hoped that the recognition of these shortfalls would cause companies to review their approaches and, where relevant, targets.
- 3.3.3 Similarly, there was variability in the sophistication and use of IT systems. A number of companies had invested – significantly in some cases – in IT systems (predominantly bespoke databases) to organise and prioritise their enforcement activities, as well as to record information collected to inform future risk assessment and inspection programmes. For example, were a company's inspection programme to identify an issue such as the use of lead solder, it is essential that mechanisms exist to feed this information back into that company's risk assessment in order that it could be targeted accordingly. The ability to respond in this way to new issues represented good practice. Other companies were in the process of expanding existing IT systems to contain more comprehensive information and enable better management of enforcement activities. However, some companies seemed to make

little use of IT, which is a concern. Companies with good IT systems had the capacity to store data, interpret trends and make the information available for use at operational and strategic level. The quality of data held will determine the quality of risk assessment possible, so the development of comprehensive databases should be a priority for all companies. A robust notification procedure is therefore essential to inform current and future inspection programmes and priorities. Some companies already had an integrated enforcement database with the capacity to store key drawings electronically, which represented good practice.

- 3.3.4 Some companies were very reliant on the local knowledge of experienced field staff. This will always be of great value, and so the inclusion of such detailed knowledge into databases should be an important requirement in providing for the future. It is possible that the field staff of the future will be valued as much for their ability to extract key information from a database as for their knowledge. It is therefore essential that training is available to ensure that staff are confident in using and applying appropriate IT systems.
- 3.3.5 With such large amounts of data being held, the validation of databases will become an increasingly important issue. One company estimated a 12% per year change in the ownership of premises, suggesting that large amounts of data would be quickly out of date if not routinely verified and updated. This would affect the quality of risk assessment and lead to an increased number of aborted visits. Good communication with customer facing teams, including making use of information held for commercial reasons (i.e. to identify changes in property use), was one useful way by which companies could keep a check on this data. Another company carried out an annual manual audit of its enforcement database.

#### **3.4 The notification procedure**

- 3.4.1 In advance of certain plumbing installations, Regulation 5 requires the person proposing to undertake the work to notify the water company. This notice includes the location and use of premises involved, a description of the work and in certain instances a plan and/or diagram of the installation. Work is not permitted to commence without the consent of the water company, which is deemed granted if the company does not respond within ten working days. This process enables the undertaker to withhold consent, or grant it with or without conditions, as well as to inspect the work to ensure it complies with the Regulations. The previous Water Byelaws also required the pre-notification of certain work, although enforcement of that requirement was generally considered a low priority by many concerned. The problems now associated with notifications are to some extent related to this past experience.
- 3.4.2 Water companies generally agreed that in principle notification is a useful requirement in a number of respects. It required the customer to contact the water company prior to installation with their proposals when it would be much easier and cheaper to correct problems. Companies also noted that a percentage of the notifications received detail installations that do not comply with the Regulations. This process was therefore improving the water systems that are being installed. However, in practice notification gives rise to considerable concern. Adherence to this requirement was at best patchy and at worst ignored by practitioners and water companies alike. It was an area where considerably more effort was required, both in terms of promotion and enforcement action, to achieve the notification regime

envisaged by the Regulations. It was evident from a number of water companies' returns that there was still a great deal of ignorance concerning notification among professionals and in the plumbing and building trades.

- 3.4.3 There was uncertainty as to what precisely constituted a notification. In some cases this seemed to be down to local practice. Some companies considered applications for new connections to be notifications, hence triggering the enforcement regime, while other companies treated these entirely separately. This highlighted a lack of consistent understanding and application of the Regulations, as well as in some cases insufficient internal communication between the relevant departments. There was confusion concerning the requirement to provide drawings or diagrams as part of a notification. This was not being applied equally by all companies.
- 3.4.4 The reported level of notifications received was far too low (Table 1). Although most companies acknowledged that action in this area was insufficient, there was little evidence of enforcement action where companies were aware of non-notification. The one notable exception was a successful prosecution for repeated non-notification. In some areas there was a reluctance to fully promote or enforce this requirement for fear of being overwhelmed should anywhere near full notification be achieved. However, other companies had taken, or intended to take, a range of steps to improve the situation.

**Table 1 – Industry data for level of notifications received**

<b>Industry benchmark data</b>	<b>Industry average</b>	<b>Max.</b>	<b>Min.</b>
Notifications per 1000 domestic properties	1.8	7.0	0.1
Notifications per 1000 non-domestic properties	5.5	20.4	0.4
Notifications per 1000 domestic new connections	294	1008	6
Notifications per 1000 non-domestic new connections	665	1753	54

- 3.4.5 Although greater success was evident with notifications for new connections compared to work carried out in existing premises, both were insufficient. The requirement in respect of notifiable alterations and extensions to existing premises was being virtually ignored. While this work was harder to detect, making this aspect of the notification requirement harder to 'police', there was no good reason why those seeking new connections should not be made to comply. Some companies noted that they had more control over new properties because developers needed to apply for new connections, and good progress had been made by some companies to improve the volume of notifications. A number of companies had changed their policy such that new connections were denied until the notification requirement had been complied with. Others actively engaged developers and installers in promoting the need to notify. Most companies provided information and notification forms with their new connection packs, although the sufficiency of this approach seemed to depend on whether the company then encouraged or required compliance.
- 3.4.6 In terms of work on existing premises, there was less evidence of activity to improve returns, with most companies adopting a totally reactive position and in

some cases implying that this was outside of their control. Different companies suggested that this requirement was unworkable, or that by design it criminalized virtually every plumber. However, other companies had proactively sought to identify modification work and require notification, for example through seminars and targeted information. Other companies sought to liaise with Planning Officers and/or Building Control Departments to gain information on development work taking place in existing buildings. In theory at least this was a commendable approach. In practice there were difficulties that needed to be overcome, for example some local authorities did not welcome this sort of approach. Even where information was forthcoming a lot of development work naturally does not involve water so considerable sifting was required. Other good practice to reverse the trend of non-notification included the provision of notification forms to plumbers, providing information with tear-off notification form for customers, targeted mail shots and presentations.

- 3.4.7 Most companies referred to the use of Type Approvals to improve and streamline the notification process. This involves developers registering standard house types with companies, which could then be referred to in future notifications without the need to provide identical drawings in each case. This co-operation was intended to simplify the notification procedure for developers and potentially reduce the need for companies to inspect some new developments. A number of companies already operated these schemes, with others intending to do so for domestic and even light commercial/industrial developments. Work is currently underway, through WRAS, to establish a national Type Approval scheme. However, not all companies were entirely in favour of Type Approvals, the main concern being that 'identical' houses often contained very different internal plumbing. There were numerous potential infringements that would not be included on plans and would only be evident on inspection, for example due to the individualisation of properties or deviation from the specification. As the majority of notifications received related to new developments, this was possibly evidenced by the number of infringements found on notification inspections (Table 3). Regardless of the use of Type Approvals, the responsibility for compliance with the Regulations rests with the property owner.
- 3.4.8 The issue of notifications is to some extent tied in to Approved Contractor schemes. If these schemes were working as envisaged there would be increased notification. Equally, improved enforcement of the notification requirement would be likely to encourage a greater number of plumbers to sign up for Approved Contractor schemes (see section 3.8).

### **3.5 Notification inspections**

- 3.5.1 The majority of water companies carried out a range of programmed inspections of existing premises (section 3.6) and inspections in response to notifications, as part of their duty to enforce the Regulations. In theory all of these inspections were prioritised by means of a risk assessment and so focussed on high-risk installations.
- 3.5.2 Most companies had explicit policy targets for the level of inspection in response to notifications. Typical aspirations were to inspect 100% non-domestic notifications and a proportion of domestic properties. However, considerable differences were evident both in terms of company targets and actual levels of inspection (Table 2). It was evident that most companies with targets were not meeting these in practice.

**Table 2 – Industry data for level of notification inspections**

<b>Industry benchmark data</b>	<b>Industry average</b>	<b>Max.</b>	<b>Min.</b>
Inspections per 10 domestic notifications	18.1	219.2	0.4
Inspections per 10 non-domestic notifications	15.7	107.6	0.7

3.5.3 Relatively few companies seemed to prioritise notification inspections under their overall risk assessment. This might be a consequence of how enforcement activity was organised within companies, for example with separate teams responsible for inspecting existing and new premises. Some companies seemed to focus considerable effort on new installations, as opposed to programmed inspections of existing premises, while others took the opposite approach. This emphasis on new properties tended to result in considerable numbers of domestic inspections, although Type Approval systems could reduce this workload. A number of companies may need to re-think their approach if/when notification returns increase significantly.

3.5.4 A surprising number of companies attached significant importance to inspecting new supply pipes, which was not normally notifiable work. This highlighted an area of inconsistency in companies' risk assessments (see 2.4.4). While this activity does not necessarily detract from the effort put into high-risk programmed inspections (due to different teams often carrying out the work), the importance of these inspections should be questioned. The number of infringements found on notification inspections is contained in Table 3.

**Table 3 - Infringements found on notification inspections**

<b>Industry benchmark data</b>	<b>Industry average</b>	<b>Max.</b>	<b>Min</b>
Domestic FC4&5 infringements/100 inspections	1.3	9.1	0
Other domestic infringements/100 inspections	18.8	81.8	0
Non-domestic FC4&5 infringements/100 inspections	19.5	71.1	0
Other non-domestic infringements/100 inspections	37.4	164.1	0
This data was optional on the reporting template and only reported by 11 water companies.			

### **3.6 Programmed inspections**

3.6.1 Programmed inspections were generally regarded as the most important aspect of enforcement activity, necessary to give water companies sufficient confidence that the Regulations were being adhered to. Proactive inspections enabled potential contamination, as well as waste, misuse and undue consumption contraventions to be addressed. Inspections are necessary due to either a failure to understand the relevant legislation or a decision not to follow it. While it is recognised that no two companies face exactly the same priorities regarding the level and nature of risk within their area of supply, this did not justify the current level of variability in policy and approach to programmed inspections (Table 4).

**Table 4 – Industry data for level of programmed inspections**

Industry benchmark data	Industry average	Max.	Min.
Inspections per 1000 domestic properties	2.8	17.2	0 <sup>A</sup>
Inspections per 1000 non-domestic properties	20.0	53.1	0
Years to inspect all FC4&5 premises <sup>B</sup>	18.2	94.3	1.1 <sup>C</sup>
<sup>A</sup> - 5 companies <sup>B</sup> - taking FC4&5 premises to include all commercial, industrial and agricultural properties <sup>C</sup> - excluding the 2 companies yet to undertake any programmed high-risk inspections			

- 3.6.2 Most water companies have explicit policy targets for inspecting existing premises. However, some companies have no explicit targets, or seemingly no intention of inspecting anything but the highest risk properties. At least one water company had set no policy target due to the possible consequences of not meeting it, which is of great concern. Where present, typical aspirations were to inspect high-risk properties on a 5-year cycle, medium-risk properties every 10 years and low-risk (domestic) premises either on a reactive basis or as a small percentage per year selected at random to check the quality of compliance with the Regulations. However, as with notification inspections, there were considerable differences in terms of both company targets and levels of inspection in practice.
- 3.6.3 Where policy targets were stated, it was evident that most companies were not meeting these aspirations in terms of frequency of inspections or the relative priority given to domestic/non-domestic inspections. While all companies acknowledged that industrial and agricultural properties posed a far greater contamination risk than domestic, the pattern of inspections did not always follow that logic. There was considerably more attention focussed on domestic inspections than would have been expected. These appeared to be mainly reactive inspections, which must be simpler and quicker than complex non-domestic inspections. While this may be an effective use of company time, it is questionable whether this is the most appropriate use of enforcement resources. However, it is recognised that there is value in keeping a check on domestic properties and that these inspections were generally carried out by different personnel than those carrying out high-risk inspections (see 3.9.3). Where this was the norm, care was needed to ensure that these ‘extra’ domestic inspections were not to the detriment of programmed inspections arising from the company’s risk assessment.
- 3.6.4 The majority of companies operated a rolling programme of inspections, whereby premises were inspected at a certain frequency dependent on their risk. However, it was of concern that some companies seemed to have the intention of completing the current round of high-risk inspections and then ceasing, or scaling down, programmed inspections for a time. In addition, two companies had yet to begin any programmed inspections under the Regulations. Other companies did not collect data on infringements found on inspections, so there was no way for current activities and findings to inform their future approach. This was of great concern.
- 3.6.5 In order to prioritise their inspection activities, the majority of water companies had undertaken a risk assessment of the properties within their areas of supply. Most

companies sought to identify properties using Standard Industrial Classification (SIC) codes as a starting point and in some cases other means (e.g. customer databases, Yellow Pages, local knowledge), in order to focus their inspection activity on the highest risk premises. However, it was evident that several companies seemed to have a poor grasp of the number of high-risk properties in their areas, which is a concern. In contrast, other companies had sought to further prioritise properties, for example by phone vetting, and in doing so had been able to confirm and/or adjust the number of high-risk premises on their records. Other companies had carried out samples (either inspections or paper surveys) of different property types to inform their inspection programmes. These proactive approaches enabled a more effective use and targeting of resources and represented good practice. However, most companies' risk assessments were not so proactive, although a good number (predominantly those with enforcement databases) had a mechanism for re-assessing properties after inspection in order to inform priorities for future inspection programmes.

- 3.6.6 It was evident that some companies were more rigorous than others regarding the fluid category classification of premises and infringements found on inspection. If the Regulations were being applied equally, one would expect to see a similar number of infringements across similar premises, say a spread of farms, wherever they were located. This was not always apparent from the data reported (Table 5). For example, agricultural inspections in one water company area yielded a very high number of fluid category 4 & 5 infringements due to a repeated problem, but it is doubtful whether that issue was only present in one company's area (see 2.4.6). This suggests a variation in the enforcement of the Regulations across England and Wales.
- 3.6.7 A number of different approaches were also evident in the organisation of field staff. Several water companies focussed their inspection team on properties of the same type, regardless of geographical location, to ensure consistency and to develop the expertise of field staff. One benefit of this approach was the potential to enlist the support of relevant trade associations and/or professional bodies. Alternatively, a number of companies carried out inspections on a regional basis, regardless of property types, to reduce travelling time and hence to maximise the use of field staff time. There seemed to be merits in both approaches, dependent on company size and local priorities.
- 3.6.8 Several water companies opted to outsource some of their inspection activities - mainly, but not exclusively, their high-risk inspection programmes. One company had retained the same inspection team, although this was now managed by another water company. Outsourcing could provide one route to a dedicated resource to carry out an inspection programme at a set rate and cost. A dedicated resource for high-risk inspections represented good practice. Some other companies had achieved this through their internal resources. In order to outsource inspection work, companies needed a clear idea of exactly what needed to be done. There were also a number of issues and risks that needed to be addressed, such as quality control of external contractors and communication with management and members of staff working on other aspects of the Regulations. All these issues would form elements of Service Level Agreements drawn up between the company and the outsource provider.

**Table 5 – Industry data for level of infringements found on programmed inspections**

Industry benchmark data	Industry average	Max.	Min.
FC4&5 infringements/100 domestic inspections	1	10	0 <sup>A</sup>
FC4&5 infringements/100 commercial inspections	45	212	0 <sup>B</sup>
FC4&5 infringements/100 industrial inspections	162	573	20
FC4&5 infringements/100 agricultural inspections	390	4941	19
Other infringements per 100 domestic inspections	36	214	0 <sup>C</sup>
Other infringements/100 commercial inspections	138	452	0
Other infringements/100 industrial inspections	149	970	0 <sup>D</sup>
Other infringements/100 agricultural inspections	175	1700	0 <sup>E</sup>
Infringements found/1000 connected properties	8	91	0.1
<sup>A</sup> - 10 companies. 7 companies either did no domestic inspections or did not collect data <sup>B</sup> - 3 companies <sup>C</sup> - 7 companies <sup>D</sup> - 2 companies <sup>E</sup> - 4 companies			

- 3.6.9 A number of companies expressed their concern at the amount of time required to re-inspect properties to make sure that rectification work had been carried out. Some companies were interested in charging customers whose inaction necessitated more than two inspection visits, although there were thought to be legal difficulties in doing so.
- 3.6.10 Domestic properties attracted considerably more inspection activity than was expected, both from programmed inspections and in response to notifications (Tables 2 and 4). While all companies regard housing as low risk, the variation of actual fittings installed is considerable, even in 'identical' house types. Furthermore, a large number of medium to low risk infringements, and even some fluid category 4 & 5 infringements, were found as a result of domestic inspections (Table 5). This would support the argument that some checking of domestic properties was necessary despite their low-risk status. One company expressed concern that some new housing could become high-risk due to the incompetent installation of plumbing systems.
- 3.6.11 Programmed inspections of all types of non-domestic property revealed significant numbers of infringements, with very high numbers of fluid category 4 & 5 infringements detected in some areas (Table 5). Agricultural inspections tended to yield the highest rate of fluid category 4 & 5 infringements per inspection, although a number of companies had to postpone this activity during the reporting period due to the outbreak of Foot and Mouth Disease.

### **3.7 Rectification of non-compliance**

- 3.7.1 Once non-compliance is identified, companies have a number of actions available to them. The most severe contamination risks necessitate immediate disconnection, but in the vast majority of instances the approach was to require rectification within an agreed timescale dependent on the severity of the contamination risk present. It was encouraging that most companies placed significant emphasis on working with property owners to agree sensible follow-up action. Over the reporting year there were very few cases of legal action taken against property owners and no cases requiring arbitration under Regulation 13. Several companies noted their surprise at the relatively positive reaction of property owners, even when faced with expensive rectification. However, there were some cases where legal action was necessary and taken by companies. This highlights the need to keep full records from the outset of inspection work in case legal action becomes necessary at a later date. There was some good practice in this area (also see 3.9.4).
- 3.7.2 It was evident that there were wide differences in the timescales allowed for rectification work between companies. For example, for fluid category 4 & 5 contraventions, these varied from 5 to 28 days in seemingly identical circumstances. (It should be noted that under section 75 of the Water Industry Act 1991, companies are required to act either immediately or to allow a minimum of 7 days for rectification to commence.) While it was recognised that companies needed to retain flexibility and discretion in individual cases, there would be considerable benefit in agreeing a national standard in this area. Such anomalies in application must be a source of confusion and frustration to organisations with properties in different water company areas.
- 3.7.3 Some companies seemed to focus on identifying fluid category 4 & 5 infringements to the detriment of other contraventions on the same premises. While this was understandable, one company implied that not all low risk contraventions required rectification. This was a concern. Another company stated that the first inspection round would be solely focussed on fluid category 4 & 5 risks, with other infringements left to subsequent inspection programmes. This seemed to be a more acceptable approach in terms of reducing fluid category 4 & 5 risks in the shortest time possible.

### **3.8 Approved Contractor schemes**

- 3.8.1 Under the Water Byelaws a number of voluntary schemes for plumbers were in operation, run by water companies and trade associations. Approved Contractor schemes were introduced under the Regulations to promote competent plumbers and provide added protection for consumers. They are potentially a valuable part of a water company's enforcement strategy, a view strongly acknowledged by some companies. Under the Regulations schemes may be run by water undertakers, including a third party on their behalf, or any organisation specified in writing by the Regulator (Secretary of State or National Assembly for Wales). Schemes are developing slowly and mainly where the standards of entry are the lowest. While it is recognised that new schemes will inevitably take time to generate the interest and commitment of plumbers and consumers, there are major concerns at the present provision.

- 3.8.2 There are currently eight different schemes in operation in the UK. The majority of water companies subscribe to the Water Industry Approved Plumber Scheme (WIAPS) operated on their behalf by WRAS. Water companies sign up for membership either with or without a WIAPS audit provided. The remaining four companies – Anglian, Severn Trent, Thames and Yorkshire – run their own schemes in their areas of supply. National schemes, approved by the Regulator, are also operated by the Institute of Plumbing (IoP), the Scottish and Northern Ireland Plumbing Employer's Federation (SNIPEF - although membership is based in Scotland and Northern Ireland) and, as of November 2001, the Association of Plumbing and Heating Contractors (APHC). Table 6 contains a comparison of membership and entrance criteria for the eight different schemes.
- 3.8.3 The overall picture, therefore, was one of fragmentation, with notable differences between schemes and issues of cross recognition around water company area boundaries. The number of plumbers involved was also far too low. There were too many different schemes, with particular concern being caused by the variability of entrance criteria, which in some cases was minimal. The perceived problem was evidenced by the very small number of contractor's certificates received by water companies. There was also a distinct disincentive for plumbers to join schemes while companies failed to adequately enforce the notification requirement (see 3.4.8). A low level of auditing of Approved Contractors was also apparent, although this could reasonably be expected to improve as membership increases and schemes become more established (Table 7).
- 3.8.4 The WIAPS scheme represents a good model for schemes in terms of content. It also promotes a consistent approach to Approved Contractor schemes across the country. To join WIAPS, plumbers need to hold a recognised plumbing qualification, to have demonstrated their knowledge of the Regulations by passing a test and to hold adequate liability insurance. Members would then be audited 3 times a year by WIAPS or the local water company. While enquiries about WIAPS seemed encouraging (about 2600), the actual level of uptake – 55 members – must be a cause of great concern. In contrast, there were large number of plumbers engaged with other water company schemes. This would suggest that this low uptake was either due to plumbers being unwilling or unable to satisfy the entrance criteria, which is more demanding in some cases, or a lack of active promotion and incentives from companies subscribing to WIAPS. However, it must be noted that some of the other water company schemes have been in operation for a number of years, whereas WIAPS was launched in April 2000, and so there would inevitably be a lag-time while plumbers gained the necessary qualifications and apply.

**Table 6 – Membership and entrance criteria for Approved Contractor schemes**

	Members	Recognised plumbing qualification	Recognised test in the Regulations <sup>A</sup>	Audit checks	Insurance	Continuing professional development
<b>Water company schemes</b>						
<b>Anglian</b>	454	YES	Multiple choice test	Once p/a	Public liability	-
<b>Severn Trent</b>	1810	YES	NO	On application and thereafter once p/a	Public liability	-
<b>Thames</b>	188	YES	YES – or a portfolio of work	3 times p/a	Public or Employers' liability insurance	-
<b>Yorkshire</b>	28 employees of major industrial customers	YES	YES	Once p/a	Public or Employers' liability insurance	-
<b>WIAPS</b>	55	YES	YES	3 times p/a by WIAPS or subscribing water company	Public or Employers' liability insurance	-
<b>Schemes run by organisations approved by the Regulator</b>						
<b>APHC</b>	N/A	YES	YES	On application and then 5% of members p/a	Public or Employers' liability insurance	Commitment to developing staff
<b>Institute of Plumbing</b>	9	YES	YES	-	Public liability and Plumbsure workmanship guarantee	20 hours p/a, inc. at least 5 hours related to the Regulations
<b>SNIPEF</b>	24 companies	YES	YES	On application and then 5 – 10% of members p/a	Public or Employers' liability insurance	-
<sup>A</sup> – details in Appendix E						

3.8.5 A commendable amount of effort was underway to promote the WIAPS scheme. As well as promoting the scheme to plumbers, WIAPS was also targeting larger clients (such as developers and local authorities) who would be interested in the additional services available from Approved Contractors. A number of water companies were also seeking to offer incentives for plumbers and their customers to join the scheme, for example, by offering quick connections to developers using an

Approved Contractor. One company recorded a surge in membership when its policy was changed to this effect.

**Table 7 – Industry data on numbers of Approved Contractors**

Industry benchmark data	Industry average	Max.	Min.
Approved Contractors/100,000 connected properties	4.6	57.5	0 <sup>A</sup>
Contractor’s certificates/10 Approved Contractors	7.1	82.8	0 <sup>B</sup>
Audit inspections per 10 Approved Contractors	3.8	16.6	0 <sup>C</sup>
<sup>A</sup> - 9 companies had no Approved Contractors in their areas <sup>B</sup> - 8 companies with Approved Contractors received no contractor’s certificates <sup>C</sup> - 9 companies with Approved Contractors carried out no audit checks			

- 3.8.6 Compared to WIAPS, the in-house schemes run by the water companies were numerically much more successful. The effort and investment required to engage with large numbers of plumbers is to be commended. However, in some cases the numbers involved reflected the severity of the entrance criteria and/or quality control (i.e. auditing) of members. However, it is essential that a balance is struck between robust entrance criteria and enrolment of large numbers of plumbers.
- 3.8.7 The Anglian Water Approved Plumber Scheme (AWAPS) had recruited 454 members in its first year of operation. The scheme is for individual plumbers, rather than plumbing companies. Potential members needed to have formal plumbing qualifications and pass a multiple-choice test on the Regulations. Members would then be audited once a year.
- 3.8.8 Severn Trent’s scheme, WaterMark, had 1810 members. To join the scheme, plumbers needed to have a formal plumbing qualification and undergo an initial audit of their work, as well as to certify that their work would comply with the Regulations. Members are then audited once a year. The company also provided incentives for developers to use Approved Contractors by offering early connection.
- 3.8.9 The Thames Approved Plumber Scheme (TAPS) had 188 members. The entrance criteria are essentially the same as for WIAPS. Plumbers must have a qualification in the Regulations, as well as formal plumbing qualifications or a portfolio (comprising employers’ references and/or photographic evidence of work). Thames provides a number of incentives for members such as promotion by the company, fast water connections, free membership, and future minimum cost Regulations training (for members and prospective members). The company planned to assess each member 3 times a year.
- 3.8.10 Yorkshire’s scheme is aimed at its major industrial customers and enables suitably qualified employees to self-certify notifiable work. It had 28 members. In order to qualify for the scheme, a prospective member needs to have formal plumbing qualifications and a recognised qualification in the Regulations. The intention was to audit members once a year from 2001-02.
- 3.8.11 The Institute of Plumbing’s scheme is for individual plumbers and had 9 members. In addition to being on the Institute’s Register of Plumbers, prospective members need to pass a recognised test in the Regulations and undertake 20 hours of

Continuing Professional Development (at least 5 hours of which related to the Regulations) per year. Members are also required to offer Plumbsure workmanship insurance on all work over a certain value.

- 3.8.12 The SNIPEF scheme had enlisted 24 of its Licensed Businesses as members, with a further 80 companies having met all the entrance criteria with the exception of the Scottish Byelaws qualification. Prospective companies need to satisfy SNIPEF’s Licensed Business criteria and a proportion of personnel are required to pass a recognised test in the Scottish Byelaws. Companies would have their work audited on application and thereafter at a rate of 5-10% of members per year.
- 3.8.13 The APHC scheme was not launched until after the reporting period. The entrance requirements are essentially the same as for the SNIPEF scheme. Prospective companies need to satisfy the APHC Licensing Scheme criteria and a proportion of personnel are required to pass a recognised test in the Regulations. Companies would have their work audited on application and thereafter at a rate of about 5% of members per year.

**3.9 Resources and training**

- 3.9.1 There was considerable variation in the number and allocation of enforcement staff among the different companies (Table 8). With relatively small numbers of staff involved, the data in Table 8 was very sensitive to company size, but it was notable that two companies had no staff spending over 50% of their time on enforcement. Some companies had committed sufficient numbers of staff to enforcement activity, such that they were on target to fulfil their policy aspirations and/or cover high-risk properties within a reasonable timescale. With other companies this was less certain. For example, it was evident that at the current rate of inspection, almost half of the companies would take over 10 years to inspect all fluid category 4 & 5 properties in their areas.

**Table 8 – Industry data on level of enforcement staff**

Industry benchmark data	Industry average	Max.	Min.
Staff spending > 50% time on enforcement per 100,000 connected properties	1.2	3.5	0 <sup>A</sup>
Staff spending > 50% time on enforcement per 1000 FC4&5 connections	1.3	9.0	0 <sup>A</sup>
A - 2 companies			

- 3.9.2 While it was expected that resources would be targeted in line with companies’ risk assessments, in practice it was not always evident this was achieved. This is of concern. A number of companies seemed to devote a disproportionate amount of resources to low-risk domestic properties instead of high-risk premises according to their risk assessments (see 3.5.3 and 3.6.10). There was also a frequent imbalance between the effort focussed on inspecting new properties in response to notifications, which tended to involve a high number of domestic inspections, as opposed to programmed inspections on identified high-risk properties. However, it was recognised that some complex non-domestic inspections could take a

considerable length of time to complete, so that the numbers of inspections alone did not always demonstrate the enforcement effort.

- 3.9.3 A number of companies demonstrated that these different inspection programmes need not be to the detriment of each other, for example by having a team dedicated to programmed inspections of high-risk properties and a team for low-risk properties and/or notifications. The latter were generally multi-functional staff, spending <25% of time on Regulations matters, focussed on new and reactive domestic inspections. This enabled the other team, who tended to be full-time Regulations field staff, to focus on the high-risk inspection programme (see 3.6.3). Where this system was used, companies needed to be sure that this separation of functions did not hinder the sharing of knowledge between staff.
- 3.9.4 There had been a commendable attempt by the majority of companies to train enforcement staff to the point of gaining qualifications through examination. The front line enforcement staff of most companies had gained either the BPEC-WRAS or City & Guilds Regulations qualifications (see Appendix E). There was also much good practice in terms of providing awareness training on the Regulations for staff in related work areas and/or in customer facing positions. Some companies had also been proactive in identifying additional training needs and enabling staff to gain further qualifications, which is commendable. These courses included the legal aspects of enforcement, Legionella, Reduced Pressure Zone valve testing and un-vented water systems. However, with the increased use of IT for enforcement databases, there was little, if any, evidence of companies pursuing IT training to ensure that staff could use and obtain maximum benefit from these systems, although it was often implied that staff were adequately conversant with the software.

### **3.10 Public awareness and promotion of the Regulations**

- 3.10.1 Most companies had contributed well to the considerable effort in dissemination of information and education about the Regulations, with much good and commendable practice evident. However, as with other aspects of enforcement this was not uniform across all the companies, with notable differences evident in terms of effort, audiences, methods and proactivity.
- 3.10.2 There were wide differences in defining where promotional effort should be targeted. While this might not be a bad thing, considering different local circumstances, it would seem to highlight the need for some assessment and prioritisation of this activity. On the whole, different companies had made good attempts to engage a wide range of relevant organisations including local authorities, professional bodies, developers/builders, merchants, plumbers, business and industrial users and the public, but in the majority of companies' areas at least one of these audiences was notably absent.
- 3.10.3 It was not evident that all companies adopted a proactive approach to raising awareness of the Regulations. A number of companies appeared to be mainly reactive, waiting to be approached before providing information to customers and special interest groups. This cannot be sufficient given the considerable ignorance about the Regulations that exists. Other companies, however, appear to have been more proactive, and therefore effective, in identifying and then targeting key

audiences through a variety of means, including targeted mail shots and presentations to special interest groups.

- 3.10.4 Although not always allied to the Regulations, one area where much good practice was evident was in the provision of water conservation information, both to the public (primarily through bills) and to organisations and businesses. A number of companies provided water efficiency advice (in some cases by way of an audit) as part of their programmed inspections, which were primarily focussed on contamination risks. In this way, waste infringements could be rectified, as well as efficiency savings identified as a customer service to help offset the cost of any necessary remedial work. To this end, at least one company employed a water efficiency officer specifically as part of the Regulations team.

### **3.11 Waste and misuse of water**

- 3.11.1 Every company, rightly, placed a much greater emphasis on preventing contamination than on preventing the waste, misuse and undue consumption of water. However, these aspects of the Regulations would become more important in the future as demand for and availability of water changes. In most companies waste, misuse and undue consumption were tied in with leakage policy and would benefit from a greater linkage with Regulations policy. These issues did not seem to attract a very high priority in comparison to other activities associated with the Regulations, although it is recognised that this was not the given priority in the reporting template. Any such incidents would be included in 'other infringements' (Table 5). It is anticipated that programmed inspections would have an increasingly important role in identifying these infringements in the future.
- 3.11.2 A commendable amount of work was evident in the production and dissemination of information and leaflets on water conservation and efficiency. A number of companies were also actively engaged in offering water audits to non-domestic customers as an integral part of their inspection programmes, an example of good practice (see 3.10.4).

### **3.12 Use made of the Water Regulations Advisory Scheme (WRAS)**

- 3.12.1 All water undertakers in the UK subscribe to WRAS which provides a valuable range of services and activities on their behalf (see Chapter 4). Most companies make good use of WRAS to complement and/or support their own enforcement activities. However, it was somewhat surprising to discover that this was not always the case.
- 3.12.2 There were several examples of good practice associated with WRAS. For instance, WRAS promotes the consistent interpretation and application of the Regulations and provides an informal and no cost arbitration service for customers and manufacturers in the event of a disagreement with a water company. WRAS also produced the Water Regulations Guide as well as a range of publications related to the Regulations. Its Information and Guidance Notes (IGNs) cover certain aspects of the Regulations, such as Reduced Pressure Zone valves, or are aimed at special interest groups, such as dentists or farmers. It was encouraging that a number of the companies sought to provide these to the relevant groups in their area of supply, some as an integral part of their programmed inspections by providing specific

information in advance of a round of inspections on a certain sector. This represented good practice.

- 3.12.3 WRAS established and operates WIAPS on behalf of all but 4 water undertakers in England and Wales (see section 3.8). Considerable work was undertaken by WRAS to promote WIAPS, as well as the Regulations more generally, both in support of companies' own promotional efforts and to target particular key sectors on behalf of the industry.

### **3.13 Technical issues related to the Regulations**

- 3.13.1 A number of water companies drew attention to concerns about the implications of the Regulations that had become evident as they sought to enforce the requirements. The Committee shares some of these concerns, which are outlined below:
- 3.13.2 There is a good deal of uncertainty surrounding the Regulator's Specifications. A significant concern is the absence of an established procedure for amending or updating these specifications. The lack of an evolutionary approach may restrict innovation and even existing technology from being lawfully installed. This is contrary to the intention of the Regulations. For example, the Regulations do not currently allow dual flush devices to be retrofitted into existing WCs, despite emerging evidence that this could be beneficial from a water conservation perspective.
- 3.13.3 There were also a number of concerns related to certifying compliance with the Regulations and the Regulator's Specifications. Although water companies and others make good use of the WRAS Fittings & Materials Directory, there is no single list of fittings that comply with the Regulations. One water company noted that this had caused 'a great deal of uncertainty and confusion'. DEFRA's guidance document refers to approved lists and accredited test houses, but does not specify who has to say that a product complies with a specification (see 5.6.4).
- 3.13.4 The Regulations allow manufacturers to self-certify that water fittings are compliant, but this seems to be poorly understood by all concerned and is certainly not working as envisaged. This does not seem to be a viable system without some level of quality assurance including that equipment is traceable to national standards. WRAS operates a system involving a third-party test to gain entry into the Fittings and Materials Directory, but attention was drawn to the fact that no WC suites had been submitted for testing by the end of the reporting period. Assuring compliance with the Regulator's Specification for WCs is becoming an increasingly urgent issue and will have significant implications for future water conservation and sustainable construction.
- 3.13.5 Concerns were also raised about the availability of compliant and non-compliant water fittings. There is no point of sale control for water fittings, meaning that it is legal to sell fittings even if it would be illegal to install them. This leaves a considerable gap in the current regulatory framework. Conversely, several companies recorded their concerns at the lack of availability and take-up of dual flush WCs, which would also have significant future implications.



## **4 Water industry enforcement - the Water Regulations Advisory Scheme (WRAS)**

### **4.1 Background**

4.1.1 The Water Regulations Advisory Scheme (WRAS) exists to promote knowledge of the Regulations and their consistent interpretation and application. WRAS is funded by all of the public water suppliers in the UK and fulfils a number of essential services for the water industry.

### **4.2 Promotion of consistent interpretation**

4.2.1 WRAS aims to promote the consistent interpretation of the Regulations amongst water companies through its publications, information and advice and co-ordination of companies' activities.

4.2.2 WRAS operates three regional Technical Support Groups, at which all of the UK's water undertakers are represented. These groups fulfil an important function by providing a forum for the sharing of information and the resolving of issues related to the understanding and application of the Regulations. Significant issues from these regional groups could be directed to the Technical Committee – where regional groups are represented, along with certain senior Regulations staff – for the industry to reach a national view. WRAS' Test and Assessment Group, which meets to consider the approval of fittings, is a sub-committee of the Technical Committee and also refers complex issues to it for consideration.

4.2.3 WRAS is able to take the role of unofficial arbitrator between water companies and their customers. This might be necessary, for example, where an inspection of a property by a water company had led to a disagreement in interpretation of the Regulations. This resolution procedure represented good practice.

4.2.4 WRAS has the potential to deliver considerably more in the area of national consistency of interpretation and enforcement, but its ability to do so is to a considerable degree limited by the support it receives from water companies. Although some effort has been made in this area – such as developing a model code of practice for enforcement and the production of enforcement advice notes – WRAS, as in other areas, relies on the support of the water companies for this guidance to be implemented nationally. Evidence submitted to the Committee suggested a certain disparity in the way WRAS guidance was interpreted by different water companies (see 5.4.2). This is of concern.

### **4.3 Promotion of the Regulations**

4.3.1 In its return to the Committee, WRAS expressed grave concern about the national level of ignorance of the Regulations, especially from those needing to be fully familiar and knowledgeable of their content and application. To address this situation, WRAS had undertaken a commendable amount of work to raise awareness of the requirements of the Regulations. Presentations were given to a variety of sectors and interest groups (over 40 between March 2000 and June 2001) including facilities and maintenance managers of large sites, plumbers, an NHS Trust, building surveyors and manufacturers of specific water fittings. Individual

liaison meetings were also held with about 50 manufactures, designers and installers of water systems.

- 4.3.2 WRAS also provides a free advisory service on the Regulations. During the reporting period, it received about 200 enquiries a day from designers, installers and the general public, as well as from water companies. This represents good practice.

#### **4.4 Publications**

- 4.4.1 WRAS also displays good practice in its range of publications. These were designed to improve understanding of certain aspects of the Regulations and/or to promote their consistent application.

- 4.4.2 Although its publication was delayed, WRAS produced the Water Regulations Guide, which is a commendable document. This incorporates the Statutory Instrument, DEFRA's guidance and the water industry's practical recommendations on compliance. In the first 4 months after publication some 9,500 copies were sold. Prior to this, WRAS distributed 72,000 copies of the Regulations and 27,000 copies of DEFRA's guidance document.

- 4.4.3 WRAS produced a series of Information and Guidance Notes (IGNs) to address specific issues related to the Regulations, including RPZ valves and reclaimed water systems. It has also published its first water industry Approved Installation Method (AIM) to address the illegal use of lead-based solder and aggressive fluxes. These publications were produced in consultation with the water companies and, where practicable, the sector concerned. They are promoted centrally by WRAS, as well as being used by some water companies to complement their own enforcement activities. This represented good practice.

- 4.4.4 WRAS also produces the Regulations Scheme Bulletin, which contains technical updates and other relevant information related to the Regulations. This is distributed to a wide range of organisations and currently has a circulation of about 2,000. WRAS has also contributed a number of articles, including several series on the Regulations, to a range of trade and professional journals.

- 4.4.5 With the British Plumbing Employers Council (BPEC), WRAS developed a Regulations training pack (see Appendix E). This consists of a set of self-learning manuals, a training video developed to assess candidates' knowledge of the Regulations and provides an opportunity to gain a certificate in Regulations knowledge by examination. This has become one of the benchmarks of Regulations knowledge and is one of the means of entry into most Approved Contractor schemes (see section 3.8).

- 4.4.6 WRAS administers an approval scheme, whereby its Test and Assessment Group assesses and approves fittings against the requirements of the Regulations. This process culminates in compliant products being listed in the WRAS Fittings and Materials Directory, which (although not exhaustive) is a valuable aid to enforcement. However, as mentioned in 3.13.4, current self-certification arrangements may have limited the uptake of this facility.

#### **4.5 Representation of the water industry**

- 4.5.1 WRAS provides a valuable central liaison with numerous parties on behalf of the water industry. WRAS has a reciprocal arrangement with Government, whereby

there is observer representation on WRAC and WRAS' Technical and Management Committees. Where necessary, WRAS has also played a key role in seeking relaxations to the Regulations on behalf of the water industry.

- 4.5.2 WRAS acts as a focal point for the water industry's relations with trade associations and professional bodies, as well as umbrella organisations. It also represents the interests of the water industry in the development of national and international standards, as well as in seeking to address the technical issues raised in section 3.13.

#### **4.6 The Water Industry Approved Plumber Scheme (WIAPS)**

- 4.6.1 WRAS administers and promotes WIAPS on behalf of 19 water companies in England and Wales (see 3.8.4). Although publicity resulted in over 2,600 enquiries by June 2001, take-up was very slow. Accordingly, WRAS changed its initial approach of targeting plumbers, to targeting those who employ plumbers, with some evidence of success.
- 4.6.2 WRAS promotes the co-ordination of WIAPS and the other Approved Contractor schemes. It holds twice-yearly liaison meetings with subscribing water companies as well as representatives of other water company schemes, and attends meetings related to schemes run by other organisations.



## **5 Issues raised by interested organisations**

### **5.1 Background**

- 5.1.1 While enforcement of the Regulations is a duty upon water companies, there are numerous other organisations that contribute to the operation of the Regulations. These include training providers, trade associations, manufacturers and professional bodies. As explained in 2.1.5, 102 organisations were invited by the Committee to contribute to this enforcement report (Appendix B). Ten organisations responded, which might indicate that there was not generally perceived to be a major problem with the Regulations or their enforcement. Alternatively, it might suggest considerable apathy towards the Regulations, or a lack of awareness as suggested by WRAS (see 4.3.1). Nonetheless, the submissions received provided useful information from a range of different viewpoints, which complemented that submitted by the water companies. These returns mainly focussed on those organisations' own activities to promote compliance, but also included some useful observations on water company enforcement.
- 5.1.2 Respondents generally considered there to be a much greater awareness of the need to comply with the Regulations than was the case under the Water Byelaws. The water companies were also considered to have adopted a more rigorous approach to enforcement, although this was not always the view of plumbers working on building sites.

### **5.2 Regulations awareness and promotion**

- 5.2.1 There was much commendable activity undertaken to promote compliance with the Regulations during the reporting period. Several organisations held seminars for their members and/or at industry events, specifically to promote the requirements of the Regulations. Those aimed at plumbers also sought to promote Approved Contractor schemes and Regulations training and assessment. These were estimated to have reached about 4000 plumbers.
- 5.2.2 Similar promotional activities were undertaken, both through in-house publications and articles in the trade press. Information was also provided on organisations' websites and even through direct mailings to certain sectors, for example bathroom retailers concerning the requirements of the WC specification. One organisation also sold over 300 copies of the Water Regulations Guide to its members at a discounted price.
- 5.2.3 A number of respondents considered that the water industry could do more to promote the importance of compliance with the Regulations to consumers and installers, including the penalties for contravention. One specifically noted the need for further awareness raising, including the need for improved clarity, national interpretation and enforcement of the Regulations, and an enhanced co-operation between water fittings installers and water companies.

### **5.3 Approved Contractor schemes and training**

- 5.3.1 In addition to the water companies' Approved Contractor schemes, two other organisations (the Institute of Plumbing and the Scottish and Northern Ireland Plumbing Employers' Federation - SNIPEF) had been approved by the Regulator to

run schemes by the end of the reporting period. The Association of Plumbing and Heating Contractors (APHC) was subsequently approved in November 2001. Details of the various schemes are contained in section 3.8.

- 5.3.2 Respondents indicated widespread support for the principle of Approved Contractor schemes. Unfortunately, in practice the level of uptake did not reflect the effort put into their promotion. The Institute of Plumbing held a series of 15 seminars in 2001 to promote its Approved Contractor scheme. These covered much of England and Wales and the average attendance was about 30 plumbers. The feedback received indicated that schemes did not offer plumbers sufficient incentive to justify the need to prove their knowledge of and competence in the Regulations.
- 5.3.3 Although based in Scotland and Northern Ireland (and so outside the scope of this report except for cross-border working), SNIPEF also reported that uptake of its scheme was slower than had been anticipated. Initially at least this was largely due to the unavailability of the necessary training in the Scottish Water Byelaws. Consequently SNIPEF organised a series of training and assessment days throughout Scotland, which accelerated this process.
- 5.3.4 The British Plumbing Employers Council (BPEC) had worked with WRAS to produce a joint Regulations training package (see Appendix E). As of May 2001, 42 centres in England and Wales were approved to run the assessment, 1756 packs had been sold to individuals and approved training centres and 432 individuals had been awarded the BPEC-WRAS certificate. Demand was running at about 200 packs per month. It was considered that awareness of the Regulations would be increased by Approved Contractor schemes that included a training element and that demand for training would grow with greater uptake of these schemes.
- 5.3.5 One respondent suggested that most plumbers seemed to obtain technical information on compliance with regulations and good practice from their professional/trade associations and/or suppliers of plumbing fittings. This would support the effort by a number of water companies to promote the Regulations to the trade, including the provision of information for plumbers.

#### **5.4 Water company enforcement**

- 5.4.1 It was suggested that the majority of water companies did not start to enforce the Regulations until the DETR's guidance document was published in December 1999, nearly 6 months after they came into force. It was also considered that some companies even waited until the publication of the Water Regulations Guide in December 2000 before full enforcement activity got underway.
- 5.4.2 One respondent recorded substantial differences between water companies' requirements for backflow protection in identical situations. It was noted that the additional cost of providing fluid category 5 protection, as opposed to fluid category 3, could be several thousand pounds. This situation would also frustrate organisations and designers of systems who wished to use the same plumbing systems in properties throughout the country (see 3.7.2).
- 5.4.3 Another submission raised a concern over the notification procedure in that the requirement to notify an intention to install equipment potentially discloses commercially sensitive information, not least as some water companies promote or sell certain water fittings. Although the WRAS model code of practice for

enforcement commits water companies to treat this information in strict confidence, it considered that this needed to be widely publicised to improve trust and promote compliance with this requirement.

## **5.5 Water efficiency**

- 5.5.1 While the water efficiency aspects of the Regulations were recognised to be a lower priority than minimising the risk of contamination, it was considered that if savings were to be realised it was essential that compliance was monitored and corrective action taken if necessary. While it was recognised that the primary role of the Regulations was the protection of public health, it was argued that this should not be at the expense of other areas such as water efficiency.
- 5.5.2 It was considered by one respondent that water companies currently did little to monitor compliance with the water efficiency aspects of the Regulations. For example, in their Water Efficiency Plans, submitted to Ofwat in July 2000, only three companies specifically mentioned the Regulations as a means of promoting water efficiency. Even then, this was presented as a general promotional opportunity, rather than as ensuring compliance with the Regulations. It was considered doubtful that much progress could be made in this area while compliance with the Regulations remained at point of installation rather than at point of manufacture or sale (see 3.13.5).

## **5.6 Suggested improvements**

- 5.6.1 The respondents made a number of suggestions concerning improvements to the enforcement of the Regulations.
- 5.6.2 Two respondents considered that more direct communication with the water industry would be a positive step in improving enforcement. One suggested setting up a contravention hotline, whereby incidents of non-compliance could be reported and followed up by companies. An express communication system (via email) was also requested to enable water companies to comment on a particular issue and reach quick industry-wide conclusions. It was also suggested that a website should be set up to demonstrate examples of compliance with the Regulations, including regular updates from the water industry.
- 5.6.3 It was noted that where Regulations or guidance documents specify compliance with British or European Standards, these can be very costly to buy, a situation that is a hindrance to full compliance. It was suggested that these standards should be made available free on the Internet.
- 5.6.4 Concern was also raised about uncertainty over the status and wording of DEFRA's guidance document and the Water Regulations Guide. It was suggested that this has led to considerable confusion and uncertainty, which is a hindrance to both enforcers and those seeking to follow the requirements.



## 6 Conclusions

### 6.1 Basis for WRAC conclusions

- 6.1.1 In October 1997 the remit of the Water Regulations Advisory Committee (WRAC) was widened by approving the Committee's request that following the introduction of the Regulations it would be required to undertake an assessment of the enforcement procedures within the first two years of operation. In July 1999 WRAC initiated this assessment of the enforcement of the Water Supply (Water Fittings) Regulations 1999, referred to generally as the Regulations. This responsibility was additional to the continuation of WRAC's role in providing technical advice to DEFRA in the areas covered by these Regulations. This remit therefore included all aspects of the enforcement of the Regulations, including issues such as the applicability of the Regulator's Specifications and the form and function of the various Approved Contractors schemes supported by the Water Regulations Advisory Scheme (WRAS), individual water companies, or approved by the Regulator. (Chapter 1)
- 6.1.2 This report has described the approach followed by the Committee to provide an assessment of enforcement, identifying the issues considered to be of sufficient importance to merit further consideration by DEFRA and the water companies acting as the enforcement agents.
- 6.1.3 The methodology followed included the development, by WRAC, and the trialing, by two water companies, of a reporting template to allow each company to provide both a descriptive self assessment of their approach to enforcement and data selected to provide indicators of enforcement activity and efficiency. The reporting template was completed by all water companies for the period April 2000 to March 2001. WRAC assessed each response at a two day meeting; the discussion in each case being led by a WRAC first and second reader for each water company response. This review identified both good and poor practice and a range of generic issues to be followed up through a series of discussions held with groups of representatives from many of the water companies. (Chapter 2)
- 6.1.4 In addition, the views of other interested organisations were invited concerning the efficiency of the current enforcement regime. The responses were discussed and where appropriate representatives of these organisations were included in the generic discussions with the water company representatives mentioned above. (Chapter 5)
- 6.1.5 As a result of this approach WRAC was able to identify examples of both good practice and areas where the water companies needed to consider or modify current practice. In some cases it is clear that the issues raised could be considered by the individual water company concerned, however there are other generic issues which will require joint consideration by the water companies, WRAS and DEFRA. These are identified separately below. In addition WRAC was also able to develop a series of recommendations for consideration by DEFRA.
- 6.1.6 The recommendations made recognise the importance of risk assessment as one of the main criteria for a robust and cost effective enforcement policy. This does not preclude the need to identify and promote good practice for enforcement and related activities. The Committee considers that the lessons learned from this exercise

should be shared with Scotland and Northern Ireland for a truly national enforcement response.

## **6.2 Good practice**

- 6.2.1 WRAC considered that the following represent examples of Good Practice found among individual water companies. WRAC recommends that all water companies give consideration to implementing similar approaches wherever possible and practical in the light of their particular operational profiles.
- 6.2.2 The establishment of a dedicated team focussed on programmed inspections of high-risk premises was seen as an example of good practice. It was noted that while some companies had achieved this through outsourcing, others used their internal organisation (see 3.6.8). The introduction of Service Level Agreements for certain aspects of enforcement will be returned to in Chapter 7.
- 6.2.3 The use of databases to manage enforcement programmes is widespread. This introduces a range of good practice procedures concerned with the application of IT, the validation of databases and the training of staff to ensure that both data input and retrieval are efficient. This should enable the recording and monitoring of infringements found and the use of this information to inform the company's risk assessment and future inspection programme. Particular good practice included the use of an integrated database for programmed inspections and notifications (including the storage of key drawings and plans), which enabled companies to begin building up detailed knowledge of properties and risks in their areas of supply. It was also evident that a number of companies had procedures in place to validate their databases, for example through manual auditing and actual inspections. Some companies also made use of information held for commercial reasons, i.e. billing, to identify work that should have been notified under Regulation 5. (see 3.3.3 to 3.3.5)
- 6.2.4 A number of water companies and other organisations have worked hard to engage with plumbers and promote approved contractor schemes. Some water companies have also sought ways to provide additional incentives to Approved Contractors and/or those who employ plumbers, for example by changing the company's policy to provide quick connections for Approved Contractors. While take-up has generally been disappointing, this should not detract from the recognition of some good work in this area. (see 3.8.5)
- 6.2.5 The Water Regulations Advisory Scheme, to which all the water companies subscribe, assists the companies with the responsibility for interpreting and enforcing the Regulations in a consistent manner and should be central to future improvements to the enforcement regime. WRAS also provides a basis for future development and dissemination of good practice and possibly national guidelines that could be appropriate to the disparate needs of the various water companies. However, it is essential that the water companies and WRAS work together, and with DEFRA, to fulfil this potential. For example, WRAS produces a wide range of guidance and publications but it remains the responsibility of water companies to implement these in their areas of supply to ensure national consistency. Failure by the water companies to deliver a nationally consistent approach led to several difficulties experienced in the implementation of the Regulations being brought to the attention of the Committee. (Chapter 4)

- 6.2.6 Water conservation and overall sustainability will become increasingly important to the water companies and their customers, as well as DEFRA. Government will have to address these issues. While these concerns may be regarded as ‘green’ and ‘desirable’, the economic implications of the water supply infrastructure necessary to provide the support for planned housing programmes clearly places these considerations on the national agenda. Good practice was evident in the educational and practical (i.e. in the provision of water audits) efforts of several companies and organisations. (see 3.10.4 and section 3.11)
- 6.2.7 A proactive approach to notification was evident in some water company areas, for example through the distribution of information concerning the required notification procedure and through changes in policy to provide rapid connections for notified installations. While such initiatives should be encouraged they do not detract from the overall problems identified with regard to the notification requirements in the Regulations. (see 3.4.5 and 3.4.6)
- 6.2.8 Those companies that supported their risk assessment proactively through telephone surveys and other cost effective database validation techniques are considered to have demonstrated good practice. (see 3.6.5)

### **6.3 Areas of concern to be addressed by the water companies**

- 6.3.1 There were a number of areas of concern where further thought and action is required on the part of the water companies. These included:
- 6.3.2 Individual cases were identified where water companies had no declared targets for programmed inspections of high-risk premises, or in response to notifications. In one case the explanation offered was that this approach removed the water company’s vulnerability should it fall short of its target at a time when a contamination incident might occur. This was considered to be a particularly clear example of poor practice which should be a cause for concern to that company and any others operating similar policies. (see 3.5.2 and 3.6.2)
- 6.3.3 It was expected that companies’ resources would be targeted in line with their risk assessments. In practice, however, it seemed that enforcement activity tended to be determined by water company resources, rather than the risk of contamination in the area of supply (3.9.2). However, while most companies had good intentions regarding inspections, a considerable number were not inspecting at a sufficient rate either to meet their own targets, or to complete the cycle in a reasonable timescale. While the return period for inspections needs to be locally informed, the range currently in evidence is too wide to be close to best practice in all areas. (see 3.6.2 and 3.6.3)
- 6.3.4 WRAC found that there was considerable variation in the interpretation of risk across the water companies (3.6.6). This was evident from both the self-assessment templates and the generic discussions. Similarly some companies had a poor grasp of the number of high risk properties in their area (3.6.5) and despite the recognition that change of use of premises had a relatively high frequency this was not always reflected in database validation or updating. Furthermore, it was not evident that all companies had mechanisms in place to enable their risk assessments and resulting activity to respond to new issues (3.3.3). These concerns form the basis for WRAC’s recommendations concerning the need for national guidelines and a

guidance manual. In the meantime the individual water companies should consider their procedures.

- 6.3.5 Resources were not always targeted in line with the companies' own risk assessment. This led to a considerably greater number of low-risk domestic inspections being carried out, often to the detriment of programmed inspections of high-risk properties. This was also evident in areas where the water company employed outsourcing, suggesting that there was a need to re-consider the negotiated Service Level Agreements. (see 3.6.3, 3.6.10 and 3.9.2)
- 6.3.6 A good proportion of water companies and WRAS have made a commendable effort to promote the Regulations to a wide range of organisations and sectors. However, there is a general acceptance that there is still vast ignorance of the Regulations among some professionals and organisations who should be fully aware of their responsibilities under the Regulations. This will need to be rectified. (section 3.10 and 4.3.1)
- 6.3.7 In its written submission and during the generic issue discussions WRAS made the point that the delay in issuing the official guidance document following the launch of the Regulations in July 1999 was not helpful. Although recognising the pressures DETR was under to introduce the Regulations, it must be accepted that there were difficulties and delays which should be noted in any future legislation preparation. It would be helpful in future to allow sufficient time to enable a greater understanding of the implications of the Regulations and their enforcement, as well as for dissemination and training in their application. (see section 3.1)

#### **6.4 Areas of concern requiring broader consideration by the water companies, WRAS, DEFRA and interested organisations**

- 6.4.1 WRAC identified through the self assessment template, the generic discussions and the views expressed by interested organisations, a range of issues that required action based on joint consideration by the water companies, WRAS, DEFRA and some involved organisations, particularly those approved by DEFRA to operate Approved Contractor schemes.
- 6.4.2 Approved Contractor schemes are not working as envisaged. There are currently eight different schemes in operation, which is too many. Plumbers appear to find it difficult to identify the advantages of joining such schemes. This is particularly the case as sufficient work is available without membership. It is considered that the public are generally unaware of the existence of, let alone any advantages from using, an Approved Contractor. Both these perceptions need to be addressed before the schemes envisaged by the Regulations can be considered successful. Although some schemes are more successful numerically, this is generally related to lower entrance criteria, which does not sit comfortably with other schemes. (see section 3.8)
- 6.4.3 In most, if not all, aspects of company activity there is a clear need for greater national consistency in enforcement. The Committee recognises that each water company area is unique and so a blanket standard would not be appropriate, but there is still much room for improvement. Wide ranges of practice are evident in areas including Approved Contractor schemes (section 3.8), rate of inspections and approach to risk assessment (section 3.6), rectification upon finding non-compliance (section 3.7) and use of IT (3.3.3).

6.4.4 It is evident that companies are only coping with the notification requirement because the system is not working as intended under Regulation 5. It is WRAC's opinion that water companies would be unable to cope if they received anywhere near full notification. This system is working better for new developments where companies have some control in terms of granting new connections, but water companies are only receiving a small proportion of notifications for extensions and alterations. However, it should be noted that some companies appear to have devoted sufficient resources to this area, but there are genuine problems over targeting those who should notify. Some companies have also made considerable strides in this area during the reporting year. (section 3.4)

6.4.5 Whilst it is understood that the absence of point of sale control for water fittings cannot be easily remedied, the Committee considers that this leaves a considerable gap in the overall enforcement regime. This issue was raised during the development of the Regulations in 1998 and was understood at that time to be an objective to be achieved through legislation at a later date. WRAC considers that this issue should now be addressed in order to enhance the acceptance of the Regulations and their enforcement. (see 3.13.5)

## **6.5 Technical issues requiring consideration by the water companies, WRAS, DEFRA and interested organisations**

6.5.1 WRAC's remit includes all aspects of the introduction, operation and enforcement of the Regulations. In addition the Committee retained its previous remit to advise the Secretary of State on the technical aspects of the Regulations. There are therefore a number of technical issues related to the Regulations that cause the Committee some concern. These make the water industry's task of enforcement considerably more difficult and need to be addressed and hence fall within the remit of this review of enforcement. In identifying these concerns the Committee was particularly helped by the thoughtful responses made by WRAS and some water companies, as well as by the views of the interested organisations that responded to the Committee's request for views on the effectiveness of the current enforcement regime.

6.5.2 The Regulations introduced Regulator's Specifications to be met by water fittings. At present there is no established mechanism for these Regulator's Specifications to be updated or revised. The lack of such a proactive mechanism could be seen as a potential barrier to innovative technology and the introduction of water conservation and sustainability criteria into system design, specification and usage. The current situation might also become a potential barrier to trade if no mechanism is introduced to allow the Regulator's Specifications to evolve. Both designers and system specifiers would benefit from clear performance criteria. (see 3.13.2)

6.5.3 There is general confusion over the route to be followed and authority needed to deem a product to have satisfied the Regulator's Specifications. DEFRA's guidance document refers to approved lists and accredited test houses, but does not specify by whom acceptance is confirmed. To compound this lack of clarity over the approval mechanism, there is no central register of approved fittings. DEFRA's guidance needs to be kept under review to ensure that it supports and clarifies the Regulations (see 3.13.3 and 5.6.4)

- 6.5.4 Self-certification as permitted by the Regulator's Specifications is not working as intended. Quality assurance procedures need to be put in place that include the requirement for test facilities to possess calibrated test equipment traceable to national standards. Usually when a manufacturer implements a Quality Management System (QMS) conforming with EN ISO 9001 an independent third party is engaged to certify its compliance with the specified requirements. This would include audit inspections of testing facilities to give assurance of compliance on an on going basis. It is essential that identical tests carried out on any particular fitting by various test houses yield the same outcome in each case. There is therefore a need to address the whole area of quality control and self-assessment. This should be recognised as a DEFRA responsibility in support of the Regulator's Specifications and raises the issue of impartial technical support to DEFRA that will be returned to under Recommendations. (see 3.13.4)
- 6.5.5 The Regulations do not allow dual flush devices to be retrofitted into existing WCs. Emerging trial results show that such devices can reduce water consumption in some situations, although further research would be needed to justify a change to the Regulations. This item would automatically be included in any on-going review of the Regulator's Specifications along with the ability to introduce new and innovative technology. (see 3.13.2)

## **7 Recommendations**

### **7.1 Summary of recommendations**

- 7.1.1 As a result of its review of the enforcement of the Regulations, WRAC was able to identify both good practice and areas of concern that require attention. The overall view formed was that the enforcement regime established would become satisfactory, however there are areas that require attention. The nature of the issues identified are such that rectification will require joint action by the water industry, government and interested organisations, including both professional institutions and manufacturers. The recommendations are broadly formulated around a perceived need to provide national guidelines for the water companies in the delivery of their enforcement role and the provision of Approved Contractor schemes, Recommendations 1-5. This requirement is seen to apply to the issues of inspection, risk assessment, notification and the organisation and accreditation of Approved Contractor Schemes.
- 7.1.2 In addition, recommendations are made regarding the provision of technical advice to guide the evolution of the Regulator's Specifications and the provision of acceptable certification routes for new and innovative products, the latter being central to the need to achieve both water conservation and sustainable criteria, Recommendations 6-8. The role of WRAS as potentially providing a focus for improvements to the current enforcement regime was recognised, Recommendation 9.
- 7.1.3 Finally WRAC has recommendations concerned with the provision of a continued technical advice capability both to aid DEFRA and to ensure that the interface between WRAC and the Building Regulations Advisory Committee (BRAC) is fully covered so that the two sets of regulations remain complementary, Recommendation 10.
- 7.1.4 The Regulations and their enforcement, defined in the widest sense, are seen as evolutionary. This process is both inevitable and necessary if the overall long term objectives of sustainability are to be achieved. The Committee therefore concludes its recommendations with the view that a similar assessment should be undertaken after a further two-year period when the results of the responses to these recommendations will be identifiable.
- 7.1.5 In consideration of its conclusions, WRAC makes the following recommendations, together with proposed actions. The timescale for completion of the actions identified should be as short as possible and certainly by April 2003 in all cases.

### **7.2 Detailed recommendations**

#### **Recommendation 1**

- 7.2.1 There is a need for greater consistency in the enforcement of the Regulations. It is proposed that the water companies, through and in conjunction with WRAS, and together with DEFRA and its advisors develop a best practice guidance manual to cover all aspects of enforcement. While this guidance would be comprehensive it should also recognise the identifiably different needs of individual water companies based upon the particular nature of the risk present in their region and the mix of properties and business/industrial concerns represented in each area. The guidance

would, for example, indicate the return time cycle for ranges of risk, thereby recognising local needs as well as defining criteria such as the time scale for rectification when defects are found and frequency of control/checks on Type Approvals. Water companies would have the responsibility of assessing their activities against this guidance, taking into account local priorities and concerns. This guidance would need to be kept under continual review to ensure it reflected current good practice. In line with the Regulations, these guidelines would apply to England and Wales, although WRAC would urge the acceptance of this approach in principle in Scotland and Northern Ireland.

- 7.2.2 **The action required** would be for discussions aimed at initiating such guidelines to be put in place within a reasonable period, these discussions to include the water companies, WRAS, DEFRA and WRAC in its support role to DEFRA. It is proposed that WRAS leads these discussions. The proposed guidance manual should be in place by April 2003.

### **Recommendation 2**

- 7.2.3 The generation of the guidance recommended above would aid the development of model Service Level Agreements for several elements of the enforcement regime. Guidance covering risk assessment and return inspection cycles would form an essential part of these Agreements, which could be implemented by water companies using either internal resources or external contractors.
- 7.2.4 **The action required** would be to include the development of Service Level Agreements within the guidance manual proposed in Recommendation 1.

### **Recommendation 3**

- 7.2.5 The evolution of robust IT databases to support the enforcement and implementation of the Regulations is essential. Many companies are moving towards optimising their management of enforcement through IT systems, for example by making good use of bespoke databases. However there is a need for robust procedures for validating the information held and ensuring that this informs the risk assessment and future approach to inspections. The guidance manual proposed in Recommendation 1 should include advice on database requirements, validation techniques and relevant staff training. The use of databases conforming to these guidelines should be of considerable benefit to companies in the management of their enforcement activities. Where certain enforcement activities were outsourced adherence to these guidelines would be essential in developing Service Level Agreements and ensuring the satisfactory transfer of data at the end of any agreement period.
- 7.2.6 **The action required** would be to include the consideration of database capability and validation within the development of the guidance manual proposed in Recommendation 1.

### **Recommendation 4**

- 7.2.7 As a result of the review reported, including both the self-assessment documents and the generic discussions, WRAC recommends that there should be a concerted move towards a single Approved Contractor scheme. The current situation with

eight separate schemes with variable entrance requirements is clearly untenable in the long term.

- 7.2.8 It is recognised that one solution would be the introduction of a mandatory scheme for plumbers. However, this is unlikely in the current climate given the generally perceived low-risk of water systems. The issue of DIY would also be likely to make the scope of a mandatory scheme considerably narrower than those currently in existence.
- 7.2.9 However, the Committee does not consider that the potential for voluntary schemes to succeed has been explored to the full and would like to see the current arrangements improved to this end. In particular, it is recommended that all parties currently running schemes work together to agree and commit to one national model. In undertaking this analysis it would be valuable to consider the experience gained within the rest of the UK. In particular the experience gained through the development of the Licensed Plumbing Scheme in Scotland and Northern Ireland could be helpful. There should be a minimum national standard for entrance criteria and subsequent quality checking of contractors on the scheme. If desirable, different schemes would then be at liberty to provide additional incentives for plumbers joining their scheme. This approach should also result in the introduction of one national register of Approved Contractors, and national promotion of the Approved Contractor concept to the public and those employing plumbers. The Committee would be willing to play a facilitating role if that was thought to be beneficial to achieving this objective.
- 7.2.10 In parallel to this there is a need to identify greater incentives for plumbers to join schemes, possibly by encouraging clients to give priority to Approved Contractors. Fast track notification and inspection benefits might also be considered. Linked to this recommendation is the issue of self-certification and the need to strengthen understanding of this process amongst both practitioners and public.
- 7.2.11 **The action required** would be for WRAC to initiate discussions with WRAS, the water companies and the other organisations offering schemes to develop a minimum entry threshold and benefit structure. As DEFRA is responsible for accrediting the non-water company schemes it should also have a central role in these discussions. The time scale for these discussions should be rapid with the initial work being led by the Approved Contractor sub-committee of WRAC. Modifications to existing schemes should be targeted for implementation by April 2003.

### **Recommendation 5**

- 7.2.12 There is an urgent need to review the whole notification procedure. WRAC recommends that a forum be set up to address this issue, including the Committee, WRAS, water company representatives and the Building Regulations Advisory Committee (BRAC), as well as contractors and other major client organisations. This should consider water companies' approaches to notification, as well as the requirement in the Regulations, which does not currently allow any proportionality or risk assessment to be applied. It may be that the Regulations need to be reconsidered in this respect.
- 7.2.13 **The action required** would be for DEFRA to initiate discussions through WRAC with the organisations identified above with a view to the introduction of a

streamlined scheme. A report identifying issues and proposals for improving the operation of the notification procedure should be generated by December 2002.

### **Recommendation 6**

- 7.2.14 The Regulations and their enforcement are by definition evolutionary as new water fittings aimed at achieving water conservation and sustainable construction criteria are introduced into the market. The content of the Regulations, the guidance documents and in particular the requirements of the Regulator's Specifications should be kept under review to take into account innovation and to prevent the Regulations becoming a barrier to either innovation or trade. WRAC recommends that a system be introduced to ensure that these specifications evolve.
- 7.2.15 **The action required** is that WRAC, DEFRA and WRAS give consideration to the method by which such evolutionary considerations can be handled. There are a number of options, including the establishment of specialist knowledge at DEFRA, the employment of consultants or the continuation of WRAC's remit to provide impartial technical advice to the Secretary of State. WRAC considers that this issue must be addressed by December 2002.

### **Recommendation 7**

- 7.2.16 The Regulator's Specifications detail testing to be undertaken prior to the acceptance of water fittings. It is essential that testing of particular products at different test facilities yield the same results and are based on the use of test equipment traceable to national standards.
- 7.2.17 **The action required** is for WRAC together with DEFRA, WRAS and manufacturers to consider the implementation of quality control mechanisms that would ensure repeatable testing to the Regulator's Specifications. This should also be accomplished by December 2002.

### **Recommendation 8**

- 7.2.18 The Regulator's Specifications were intended to control the acceptance of water fittings installed in the UK. It makes little sense for water fittings to be lawfully sold that would be illegal to install. The issue of DIY effectively identifies point of sale control as the only option. WRAC recommends that further consideration be given to the introduction of point of sale control of water fittings at an appropriate time. This was discussed prior to the introduction of the current Regulations.
- 7.2.19 **The action required** is that DEFRA give consideration to implementing this recommendation and the timescale within which it could be achieved.

### **Recommendation 9**

- 7.2.20 The Committee found the approach taken by WRAS to this review to be extremely helpful and supportive. WRAS has numerous notable achievements to date, but should ensure its role broadens in the future to more fully encompass the enforcement activities of the industry. In particular, WRAS has a key role in being a focal point between the water industry and other organisations/sectors, as well as between the different water companies. This unique position should be used to

actively promote more consistent good practice in enforcement and the other recommendations of this report. The extent to which this happens will depend to some extent on the support given to WRAS by the companies in implementing guidance from the centre. WRAS clearly has the opportunity to develop further educational programmes aimed at improving the acceptance of the Regulations and this role should be strongly supported by DEFRA.

7.2.21 **The action required** is for WRAS to strengthen its central role in assisting the water industry to enforce the Regulations by becoming the focus for the development of the best practice guidance manual, as well as playing a major role in developing a national Approved Contractor scheme. It may be that discussions between WRAS and WRAC in the short term, i.e. by July 2002, could be helpful in defining this role and identifying the resource implications, not least in the area of dissemination of the Regulations.

### **Recommendation 10**

7.2.22 The final recommendation concerns both the necessity to assess the development of the Regulations and their enforcement over a further two-year period and the continuation of impartial technical support to DEFRA. This technical support should be aimed at bringing the recommendations of this report to a satisfactory conclusion. While there are a range of options available to DEFRA in meeting these requirements, WRAC considers that the current arrangement of a specialist impartial committee has several advantages. Among these is the ability to recruit from a wide range of organisations in a responsive manner to the requirements of the Department. In addition the Committee considers that continued interaction between WRAC and BRAC is essential, to ensure that the two sets of regulations remain complementary. While WRAC advises on the technical requirements for water fittings, BRAC advises on the regulations governing the attached drainage networks.

7.2.23 WRAC believes that its role as an observer of, and reporter on, the enforcement regime in its widest sense has been necessary. It has led to a useful self-assessment by both the enforcement agencies and the other organisations, professional and industrial, who are inevitably involved with the Regulations and their implications for the design and specification of water fittings. This role should be continued to ensure that the Regulations evolve to accept new technology and innovation.

7.2.24 **The action required** is for DEFRA to consider the extension of the current WRAC membership to July 2003 to facilitate the implementation of these recommendations. Thereafter, DEFRA should consider the establishment of a new Committee with the remit:

*“To advise the Secretary of State for Environment, Food and Rural Affairs on the technical aspects and evolution of the Water Supply (Water Fittings) Regulations; to support the development of a national best practice approach to enforcement including Approved Contractor schemes and Regulator’s Specifications; and to undertake a second review of enforcement commencing in 2004.”*



## **8 Acknowledgements**

Members of the Committee wish to record and acknowledge the significant contribution to the introduction of the Regulations made by Dr John Hall who died during his second term as a WRAC member.

WRAC gratefully acknowledges that this review of the enforcement of the Water Supply (Water Fittings) Regulations could not have been undertaken without the full co-operation and support of all the water companies and WRAS. In addition the Committee acknowledges the participation and valuable perspective given by a range of interested organisations and in particular those concerned with the provision of Approved Contractor schemes. This support is gratefully acknowledged.

The Committee would also wish to record its thanks for the excellent support it has received from the current DEFRA and previous DETR secretariat staff without whom this report would not have been possible.



## Appendix A

### The reporting template

#### **ENFORCEMENT REPORT (Covering period 01 April 2000 to 31 March 2001)**

The Government has remitted the Water Regulations Advisory Committee to report on the first two years of implementation of the Water Fittings Regulations. As part of the assessment, each water company has agreed to provide a report to the Committee setting out its activities. Each report will consist of an explanation of the company's policy of enforcement and provide data to exemplify its activities. This template provides the structure for the report.

#### **COMPANY INFORMATION AND CONTACT DETAILS**

Name and address of company:

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Name and contact details of the person to deal with any questions about this proforma:

Name: \_\_\_\_\_ Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

For the purpose of this report, companies are requested to use:

- Ofwat's definitions for domestic premises (i.e. premises occupied by a single family unit); other types of occupied dwellings (e.g. student hall of residence) would be counted as commercial.
- For Question 3.5(i), the WRAS list of SIC codes with related fluid categories should be used to define categories of non-domestic properties i.e.
  - “Commercial”: Fluid Categories 2 and 3;
  - “Industrial”: Fluid Categories 4 and 5 (excluding Agricultural)
  - “Agricultural”: relevant SIC codes denoted Fluid Category 5.
- (Note that generally, ‘commercial’ equates to low-risk, non-domestic premises and ‘industrial’ is for high-risk, non-domestic premises).

#### **1. Company's Enforcement Policy**

This section should explain the company's underlying rationale behind its enforcement activities. This should cover the risk assessment approach which is applied to the company's area and which informs the prioritisation of resources. Unless covered elsewhere, this section should also include:

- (i) The company's approach to the promotion of the Regulations.

- (ii) The provision of advice and information regarding the Regulations.
- (iii) The operation of the 'Notification' procedure.
- (iv) The allocation of staff to inspection and other activities promoting compliance.
- (v) The basis of the company's inspection programme.
- (vi) The approach to inspecting 'Approved Plumbing Installers' work.
- (vii) The policy on dealing with non-compliance and any subsequent re-inspection.
- (viii) The company's policy towards relaxations.

**2. Base Data, using Ofwat June return figures:**

- (i) Total number of connected properties \_\_\_\_\_
- (ii) Number of domestic properties \_\_\_\_\_
- (iii) Number of non-domestic properties \_\_\_\_\_
- (iv) Number of new connections in year: \_\_\_\_\_
  - (a) Domestic \_\_\_\_\_
  - (b) Non-domestic \_\_\_\_\_

**3. Enforcement Data:**

**3.1 Staff and Training**

- (i) Number of staff involved in enforcement. This should exclude those involved in mains and service pipe leakage detection and repair, and for clarity please indicate what functions are included.
  - spending more than 75% of time \_\_\_\_\_
  - spending between 50% and 75% of time \_\_\_\_\_
  - spending between 25% and 50% of time \_\_\_\_\_
- (ii) Provide details of staff training and qualifications, together with an action plan, if appropriate. This should include staff who spend less than 25% of their time on enforcement, for example in call centres.

**3.2 Promotion of the Regulations**

- (i) Describe how company makes use of WRAS.
- (ii) Detail liaison contacts with external organisations where the company has promoted the Regulations.
- (iii) Provide details of any other activity or information not covered elsewhere which the company uses to support its enforcement of the Regulations.

**3.3 Approved Contractors**

- (i) Does the company subscribe to the Water Industry Approved Plumbers Scheme? YES/NO

If no, does the company have its own Approved Contractor Scheme within the meaning of the Regulations? YES/NO

(If yes, provide details of the company scheme and samples of its documents)

If YES to either:

- (a) number of members at 31 March 2001 \_\_\_\_\_
- (b) Pass/Fail ratio for applicants \_\_\_\_\_ % pass
  
- (ii) Total number of installations for which certificates were received \_\_\_\_\_
- (iii) Total number of audit inspections undertaken of WIAPS members (whether by WIAPS on behalf of the company or by the company itself) or members of company's own scheme \_\_\_\_\_  
  
Total number of audit inspections undertaken of members of any other Approved Contractor Scheme, including other companies' \_\_\_\_\_
- (iv) Pass/Fail ratio for audit inspections of WIAPS/company scheme members \_\_\_\_\_ % pass  
  
Pass/Fail ratio for audit inspections of other schemes' members \_\_\_\_\_ % pass

**3.4 Notifications**

Where a single notification relates to two or more premises, for the purposes of the report it should be counted as one notification if the proposed installations in all the premises are identical (e.g. a housing development, all of identical properties). Where the notification covers several designs of installation, which are considered separately for consent, it should be counted as one notification per design.

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3.4 (i) Total number of notifications received: domestic \_\_\_\_\_  
non-domestic \_\_\_\_\_

(ii) Number of inspections resulting: domestic \_\_\_\_\_  
\*Number of infringements found relating to fluid category 4 or 5 \_\_\_\_\_  
\*Number of other infringements found \_\_\_\_\_

Number of inspections resulting: non-domestic \_\_\_\_\_  
\*Number of infringements found relating to fluid category 4 or 5 \_\_\_\_\_  
\*Number of other infringements found \_\_\_\_\_

[\*These are additional questions which water suppliers are encouraged to answer if the data is available.]

(iii) Number of notifications not granted consent within 10 days due to technical, as opposed to administrative (e.g. incomplete paperwork), non-compliance. \_\_\_\_\_

It should be assumed that the first working day after the day of receipt of the notification is day 1 and the days to be counted are to be normal working days.

(iii) Provide general commentary on those not granted consent.

3.5 Inspections (other than those arising from Notification or counted as auditing visits under 3.3)

Where the initial inspection of premises requires return visits to check on remedial action, the initial and subsequent visits should each be counted in the total.

In counting the number of infringements found, the question has arisen of how to deal with an infringement which is replicated within the premises or development. For example, for reporting the detection of a non-compliant animal drinking trough, where another 299 identical units are installed in the same premises, this should be counted as 300 infringements and not as one.

Include in the commentary in part (ii) details of whether the figures reported in part (i) reflect a representative view across all inspections, or are dominated by a small number of premises in which a high number of identical infringements were recorded, as in the example above.

(i) Number of inspections:  
(a) Domestic property \_\_\_\_\_  
Number of infringements found relating to fluid category 4 or 5 \_\_\_\_\_  
Number of other infringements found \_\_\_\_\_

- (b) Commercial property \_\_\_\_\_  
Number of infringements found relating to fluid category 4 or 5 \_\_\_\_\_  
Number of other infringements found \_\_\_\_\_
- (c) Industrial property \_\_\_\_\_  
Number of infringements found relating to fluid category 4 or 5 \_\_\_\_\_  
Number of other infringements found \_\_\_\_\_
- (d) Agricultural property \_\_\_\_\_  
Number of infringements found relating to fluid category 4 or 5 \_\_\_\_\_  
Number of other infringements found \_\_\_\_\_
- (ii) Provide a commentary on issues found as a result of inspections and re-inspections and actions taken. Include any observations on water conservation/efficiency infringements, i.e. for waste and undue consumption of water.

**3.6 Enforcement actions**

- (i) Number of instances leading to enforcement action (court action, disconnection, or rectification with reclaimed costs) \_\_\_\_\_
- (ii) Provide a general description of issues leading to enforcement action arising from non-compliance with the Regulations.

**3.7 Complaints resulting in arbitration**

- (i) Number of formal disputes referred to the Department for arbitration under the Regulations \_\_\_\_\_
- (ii) Provide a description of each event, including name of arbitrator and outcome.

**3.8 General data**

- (i) Assessed number of high risk connections (i.e. Class 4 and 5 Fluid Category) \_\_\_\_\_
- (ii) Number of contamination events (due to issues covered by these Regulations) as reported to DWI \_\_\_\_\_
- (iii) Provide a description of each event and actions taken by the company.
- (iv) Supply a self-assessment on the effectiveness of the company’s enforcement policy, procedures, etc, together with any changes proposed.



## **Appendix B**

### **Organisations that submitted comments to WRAC**

1. Association of Building Engineers
2. British Plumbing Employers Council
3. British Water
4. Department of the Environment, Transport and the Regions
5. Environment Agency
6. Institute of Plumbing
7. Office of Water Services
8. Scottish and Northern Ireland Plumbing Employers Federation
9. WTI Training Group
10. Arrow Valves

### **Other organisations invited to submit comments**

11. Agricultural Engineers' Association
12. Alliance of Construction Product Suppliers
13. Architecture & Surveying Institute
14. Association of Building Component Manufacturers
15. Association of Building Hardware Manufacturers
16. Association of Catering Equipment Manufacturers and Importers
17. Association of Consultant Architects
18. Association of Consulting Engineers
19. Association of Corporate Approved Inspectors
20. Association of Manufacturers of Domestic Electrical Appliances
21. Association of Manufacturers of Domestic Unvented Supply Systems Equipment
22. Association of Plumbing and Heating Contractors
23. Association of Tank & Cistern Manufacturers
24. B&Q
25. Bathroom Manufacturers Association
26. Board for Education and Training in the water industry
27. British Automatic Sprinkler Association
28. British Board of Agrément
29. British Dental Association
30. British Institute of Architectural Technologists
31. British Institute of Facilities Management
32. British Non-Ferrous Metals Federation
33. British Plastics Federation
34. British Plumbing Fittings Manufacturers Association
35. British Retail Consortium
36. British Standards Institution
37. BSI Committee B/504/4 (CEN/TC164)
38. Building Services Research and Information Association
39. Builders Merchants Federation
40. Chartered Institute of Building
41. Chartered Institute of Building Services Engineers
42. Chartered Institute of Environmental Health
43. Chartered Institute of Purchasing & Supply
44. Chartered Institution of Water and Environmental Management
45. City & Guilds of London Institute

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46. Confederation of British Industry
47. Construction Confederation
48. Construction Industry Council
49. Construction Industry Training Board
50. Consumer Association Research & Testing Centre
51. Consumers Association
52. Council for Registered Gas Installers (CORGI)
53. Defence Estates Organisation
54. District Surveyors Association
55. Electric Electronic Telecommunications & Plumbing Union
56. Engineering Council
57. Federation of Master Builders
58. Federation of Small Businesses
59. Focus Do It All
60. Graham Group
61. Great Mills
62. Health & Safety Executive
63. Heating & Ventilating Contractors Association
64. Homebase
65. Horticultural Trades Association
66. House Builders Federation
67. Housing Association Property Mutual
68. Independent Tank Storage Association
69. Institute of Building Control
70. Institute of Domestic Heating & Environmental Engineers
71. Institute of Healthcare Engineering & Estate Management
72. Institution of Water Officers
73. Licensed Animal Slaughterers and Salvagers' Association
74. Local Authorities Coordinating Body on Food and Trading Standards
75. Local Government Association
76. Local Government Technical Advisors Group
77. Ministry of Agriculture, Fisheries and Food
78. Meat and Livestock Commission
79. National Association of Citizens Advice Bureaux
80. National Consumer Council
81. National Council of Building Material Producers
82. National Farmers Union
83. National Federation of Consumer Groups
84. National House Building Council
85. NHS Estates
86. Plumb Center
87. Plumbing and Heating Industry Alliance
88. Royal Institute of British Architects
89. Royal Institute of Chartered Surveyors
90. Sealed System Equipment Association
91. Society of British Water Industries
92. Society of Laundry Engineers & Allied Trades
93. The Worshipful Company of Plumbers
94. UK Agricultural Supply Trade Association
95. UK Irrigation Association Ltd

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96. Union of Construction Allied Trades & Technicians
97. UNISON
98. Water Centre, Building Research Establishment
99. Water UK
100. Waterheater Manufacturers Association
101. Wickes Building Supplies
102. WIMLAS
103. WRc Evaluation and Testing Centre



## Appendix C

### WRAC groupings for analysis of water company reports

Group One	First reader	Second reader
<b>John Swaffield</b>	WRAS Bournemouth & West Hants	Thames Tendring Hundred
<b>David Gibson</b>	Thames Tendring Hundred	WRAS Bournemouth & West Hants
<b>John Roy</b>	United Utilities (North West) Mid Kent	Northumbrian Bristol
<b>Linda Dulieu</b>	Northumbrian Bristol	United Utilities (North West) Mid Kent

Group Two	First reader	Second reader
<b>Roger Emmet</b>	Wessex South East	South West Dee Valley
<b>David Hodges</b>	South West Dee Valley	Wessex South East
<b>Richard Clayton</b>	Severn Trent South Staffs	Dwr Cymru (Welsh) Portsmouth
<b>Bernard Bateman</b>	Dwr Cymru (Welsh) Portsmouth	Severn Trent South Staffs

Group Three	First reader	Second reader
<b>Andrew Hutchinson</b>	Anglian <sup>3</sup> Folkestone and Dover	Essex and Suffolk Three Valleys
<b>Mike Rymill</b>	Essex and Suffolk Three Valleys <sup>4</sup>	Anglian Folkestone and Dover
<b>Geoff Marsh</b>	Yorkshire <sup>5</sup> Sutton and East Surrey	Southern Cambridge
<b>Terry Stephenson</b>	Southern Cambridge	Yorkshire Sutton and East Surrey

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<sup>3</sup> Including Hartlepool

<sup>4</sup> Including North Surrey

<sup>5</sup> Including York



## **Appendix D**

### **Water company discussions – held on 30 November 2001**

#### **Attendees and questions tabled**

#### **1. Inspections**

##### **Attendees:**

Mid Kent Water  
Severn Trent Water  
Thames Water  
Three Valleys Water  
Yorkshire Water

##### **Questions:**

1. How do you set priority targets for inspections?
2. What is the policy basis for setting those priorities?
3. How do you set the frequency for inspection cycles?
4. What are your sources of information and how do these inform policy?
5. How does your record of information (database) inform the frequency of re-inspection?
6. How do you ensure your record of information (database) is up to date?
7. What would be the optimum way to do this and what resources would be needed?
8. Many companies are not inspecting at a sufficient rate to meet their own policy targets. How would you address this and what are the constraints?
9. [Where relevant] What is your rationale for outsourcing? From your experiences, what are the advantages/disadvantages of doing so?
10. Do you consider that there is one best practice approach for inspections in all company areas? If so, how could this be worked towards?
11. Is it necessary to draw together a national performance standard for inspections to ensure consistency? (Who should be responsible for setting it?)
12. How do you inform your customers about the Regulations and the possibility of being inspected?
13. Would any of the issues we've discussed lead you towards possible future charging for inspections?
14. How important do you regard inspections, compared to other enforcement methods such as Approved Contractors or the notification procedure?

## 2. Approved Contractor schemes

### Attendees:

Anglian Water  
Bournemouth & West Hampshire Water  
Dwr Cymru  
Severn Trent Water  
Yorkshire Water  
Association of Plumbing and Heating Contractors  
Institute of Plumbing  
Water Industry Approved Plumber Scheme

### Questions:

1. How important do you regard Approved Contractors, compared to other enforcement methods such as programmed inspections or the notification procedure?
2. Why did you select different entrance criteria?
3. Most schemes have had a disappointingly low take up. Why do you consider this to be the case?
4. What steps could be taken to improve this situation?
5. How do you inform your customers about approved contractor schemes?
6. Generally, even where there are Approved Contractors, there has been a low rate of return of contractor's certificates. Why is this?
7. Does this mock the existence of Approved Contractors?
8. Collectively, what do you consider as the way forward for Approved Contractor schemes?
  - Who should be responsible for schemes?
  - Should schemes be based on one agreed qualification?
9. Do you see any benefit in having just one national scheme?

### **3. Notifications**

#### **Attendees:**

Dee Valley Water  
Northumbrian Water  
South East Water  
South West Water  
Wessex Water

#### **Questions:**

1. Do you require the notification requirement, as set out in the Regulations, practical? Is the requirement for drawings appropriate?
2. The notification procedure seems to be working considerably better for new connections than for work carried out in existing properties. Why is this the case?
3. What is the rationale for your company's approach to enforcement?
4. What do you consider the advantages/disadvantages of Type Approvals?
5. Approach to inspections in response to notifications. In spite of their risk assessments, companies generally seem to be inspecting a high proportion of domestic properties in response to notifications. Why is this?
6. If the notification procedure was working as intended, would resources be an issue of concern?
7. What processes do you have to make sure that the notification procedure is working (or not working)?
8. How does this influence the policy?
9. How do you inform your customers about the notification requirement and how it might impact on them?
10. Do you require the notification requirement, as set out in the Regulations, is necessary and relevant?

#### **4. Water Regulations Advisory Scheme (WRAS)**

**Attendees:**

WRAS

**Questions:**

1. Do you consider that the regulatory environment created by the Regulations is viable?
2. Do you consider that there is one best practice approach to enforcement that could be adopted by all companies?
3. If so, how could this become a reality?
4. Why do you consider there has been such a low take up of Approved Contractor schemes, including WIAPS?
5. How could this be improved?
6. Would one national scheme be a better way to proceed? (Who should run such a scheme?)
7. Do you consider there is anything in the Regulations that causes a barrier to effective enforcement?
  - Self-certification?
  - Updating regulator's specifications – how would you recommend this be done?
  - Lack of point of sale control?
  - Would it help to have performance-based specifications for a wider range of fittings?
8. What do you consider is the role of Government Departments in the enforcement of Regulations?
9. Would the national promotion of the Regulations benefit from WRAS taking a more central role?
10. How do you see the role and structure of WRAS evolving within the current framework?

## Appendix E

### Water Supply (Water Fittings) Regulations 1999 Training and accreditation options

#### 1. BPEC-WRAS

##### Training

Training may be undertaken at local colleges and training centres throughout the UK. The majority of training is undertaken on the basis of following a distance learning pack followed by a short duration formal training event. This can be a one and a half day event to a half day depending on the individual centre. Candidates should have the distance learning pack at least two weeks before the training/assessment.

##### Assessment

Assessment usually follows directly from the training event and is in three parts:

- |                                 |              |               |
|---------------------------------|--------------|---------------|
| • Multiple choice open book     | 30 Questions | Pass mark 80% |
| • Multiple choice closed book   | 20 Questions | Pass mark 80% |
| • Practical Test Video (slides) | 10 Questions | Pass mark 80% |

##### Candidates

All involved with installation and specification along with water industry staff. The training and assessment is amended to Water Byelaws 2000 in Scotland

#### 2. City & Guilds/WTI training group

##### Training

Training varies dependant upon the actual qualification to be taken and the existing knowledge and experience of the delegate. The duration varies between two and eight days and may be taken at any suitable venue in the UK.

##### Assessment

Three qualifications are offered, all of which are amended to Water Byelaws 2000 in Scotland:

(a) Water Regulations for Enforcement Staff.

- |                              |                      |                |
|------------------------------|----------------------|----------------|
| • Legal and Notification     | 10 Questions (18/24) | Pass Mark 75%  |
| • Fittings and Materials     | 10 Questions (19/25) | Pass Mark 76%  |
| • Hot and Cold Water Systems | 15 Questions (20/26) | Pass Mark 77%  |
| • Backflow and Contamination | 10 Questions (15/20) | Pass Mark 75%  |
| • Practical Assessment       | Contamination        | Pass Mark 100% |
|                              | Other Contraventions | Pass Mark 75%  |

(b) Water Regulations for Customer Service and Field Staff

- |                          |              |
|--------------------------|--------------|
| • Legal and Notification | 10 Questions |
|--------------------------|--------------|

- Fittings and Materials 5 Questions
  - Hot and Cold Water Systems 5 Questions
  - Backflow and Contamination 5 Questions
- 25 Questions Total (32/43) Pass Mark 75%

(c) Water Regulations for Building Services Personnel/Contractors

- General questions open book 30 Questions (24/32) Pass Mark 75%
- Backflow and Contamination 15 Questions (12/15) Pass Mark 80%

### 3. National Vocational Qualification (NVQ)

The NVQ has only been available from December 2001. The awarding body is the Certification and Assessment Board for the Water Industry (CABWI). The National Training Organisation was the Board for Education and Training in the Water Industry (BETWI), which has recently changed to the Gas and Water Industry National training Organisation (GWINTO). This is an NVQ Level three qualification. As with all NVQs there is a ten-week period between candidate registration and any application for accreditation.

#### Training and assessment

Training is not a pre-requisite of NVQs although some candidates will have undertaken formal Regulations training. Candidates attend a workshop detailing the requirements of the NVQ and an assessment plan is agreed between the candidate and assessor. The candidate then collates evidence from the workplace and presents it for assessment. The assessor checks the evidence against the standards and where necessary, observes the candidate and asks questions. When the assessor is satisfied he/she confirms the evidence.

#### The qualification

There are a total of eight units in three sections. Candidates must attain all three mandatory units and at least two units from the remaining five, one of which must be from Group A:

##### Mandatory Unit

- Ensure your own actions reduce risks to health and safety.
- Provide information to support decision making.
- Secure compliance with the Regulations.

##### Option Units Group A

- Inspect premises for compliance with the Regulations (Domestic).
- Inspect premises for compliance with the Regulations (Non-domestic).

##### Option Units Group B

- Plan and schedule inspections for compliance with the Regulations and for audit purposes.
- Develop positive working relationships with customers and colleagues.
- Present evidence for Regulations enforcement.

#### Candidates

This NVQ is for water industry staff involved in enforcing the Regulations.

## Glossary of terms

<b>Approved Contractor</b>	Defined by Regulation 1(2) as a person approved by the relevant water undertaker or an organisation specified by the Regulator.
<b>APHC</b>	Association of Plumbing and Heating Contractors
<b>Backflow</b>	Defined in Schedule 2 of the Regulations as “flow upstream, that is in a direction contrary to the intended normal direction of flow, within or from a water fitting”.  Further details of ‘backpressure’ and ‘backsiphonage’ are contained in the Water Regulations Guide.
<b>Backflow prevention device</b>	Mechanical or non-mechanical device, or arrangement of water fittings, to prevent contamination by backflow. The backflow prevention specification requires the use of certain devices according to the fluid category risk present.
<b>BRAC</b>	Building Regulations Advisory Committee
<b>Contamination</b>	Where wholesome water has had its quality impaired. This can be caused by a number of factors including backflow and the use of unsuitable materials.
<b>Contractor’s certificate</b>	Certificate issued by an Approved Contractor on completion of work to certify that work complies with the Regulations
<b>DETR</b>	Department of the Environment, Transport and the Regions (until 8 June 2001)
<b>DEFRA</b>	Department for Environment, Food and Rural Affairs (from 8 June 2001)
<b>Fluid categories</b>	Schedule 1 of the Regulations describes 5 fluid categories according to the health risk posed
<b>Fluid category 1 (FC1)</b>	Wholesome water
<b>Fluid category 2 (FC2)</b>	Wholesome water whose aesthetic quality is impaired (e.g. by temperature, taste, odour)
<b>Fluid category 3 (FC3)</b>	Fluid which represents a slight health hazard because of the concentration of substances of low toxicity
<b>Fluid category 4 (FC4)</b>	Fluid which represents a significant health hazard because of the concentration of toxic substances
<b>Fluid category 5 (FC5)</b>	Fluid which represents a serious health hazard because of the concentration of pathogenic organisms, radioactive or very toxic substances

ENFORCEMENT OF THE WATER SUPPLY (WATER FITTINGS) REGULATIONS 1999

<b>IoP</b>	Institute of Plumbing
<b>Notification</b>	Advance notice given to the water company by a person intending to install certain water fittings (as required by Regulation 5)
<b>Ofwat</b>	The Office of Water Services – the economic regulator for the water industry in England and Wales
<b>Regulator</b>	The Secretary of State (for Environment, Food and Rural Affairs) or the National Assembly for Wales
<b>Regulator’s specifications</b>	One route specified by Regulation 4(2) by which water fittings can be shown to be of appropriate standard. Specifications exist for WC suites, backflow prevention devices and a range of other water fittings.
<b>SIC code</b>	Standard Industrial Classification code – used for the identification of business types
<b>SNIPF</b>	Scottish and Northern Ireland Plumbing Employer’s Federation
<b>Type approval</b>	System in which developers register standard property types with a water company to enable these to be referenced on notifications
<b>Water fittings</b>	Equipment used in connection with the supply and use of water
<b>WIAPS</b>	Water Industry Approved Plumber Scheme
<b>WRAC</b>	Water Regulations Advisory Committee
<b>WRAS</b>	Water Regulations Advisory Scheme