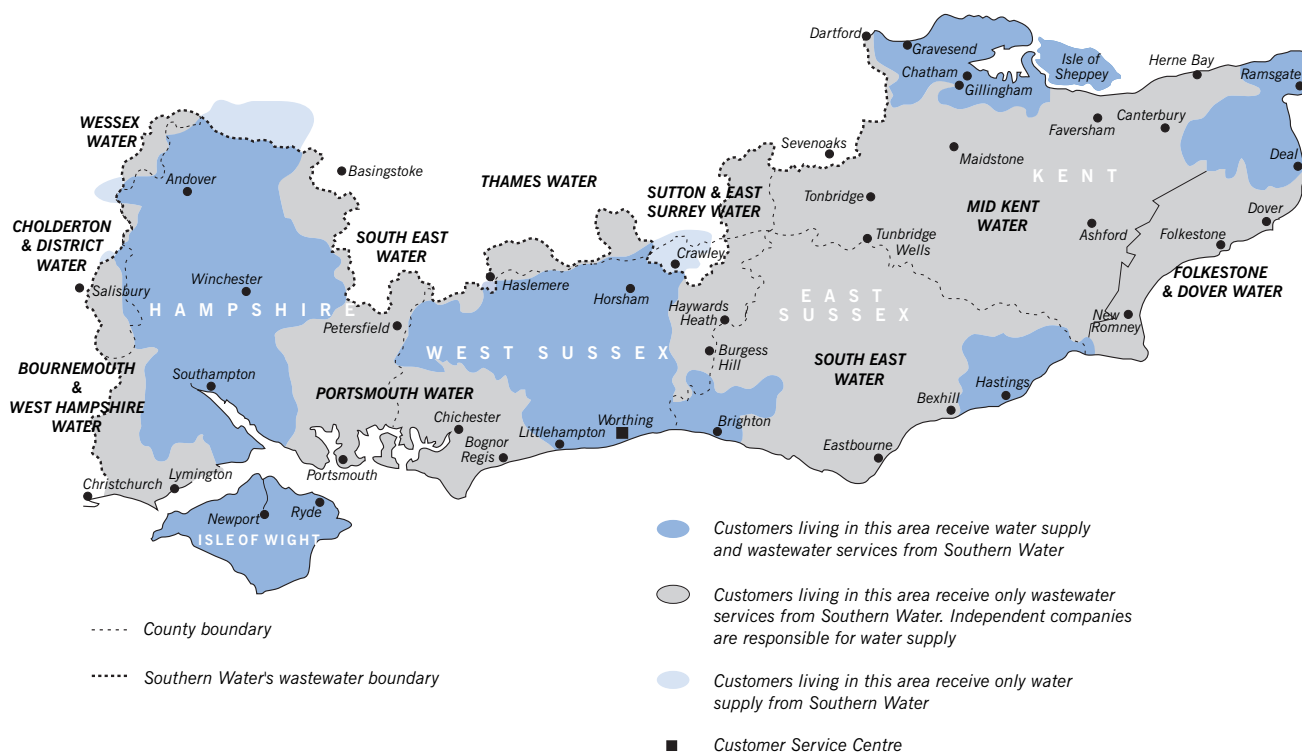


Drinking Water Quality 2007 Report



Drinking Water Quality Report 2007

Southern Water Region



Maps that give details of water supply zones can be inspected at the address given at the back of this report.

Southern Water in 2007

Volume of water supplied	552 Ml/d
Population supplied	2.3 million
Length of water main	13,568 km
Number of water supply works in use	92
Number of service reservoirs in use	206
Number of water supply zones	83

Foreword

Every day Southern Water produces on average 552MI of drinking water and delivers to its customers taps in across Kent, Sussex, Hampshire and Isle of Wight. Each drop must meet the stringent standards set by the Water Supply (Water Quality) Regulations.

In 2007, we carried out over 131,000 tests on samples of our drinking water against the standards set by the Regulations, and of these only 78 tests did not meet the requirements. That 99.94% of tests meet the standards demonstrates drinking water supplied to our customers is safe and of a high quality. Even so on each occasion that a test failed the standard immediate action was taken to investigate and confirm there were no problems. If any problems are found then action is taken swiftly to resolve them.

The results detailed in this report should give confidence to our customers that the quality of the drinking water is excellent. I would like to take this opportunity to thank everyone working at Southern Water for their professionalism and dedication in achieving the performance outlined in this report. I would also like to reaffirm Southern Water's commitment to customers that we will continue to invest in maintenance and new plant to ensure we continue to provide safe and high quality drinking water that our customers can trust – each and every time they turn on their tap.



Les Dawson
Chief Executive Officer

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Drinking Water Quality

The Water Supply (Water Quality) Regulations 2000

The Water Supply (Water Quality) Regulations are based on the 1998 European Drinking Water Directive (98/83/EC) and detail the standards to be met to ensure that drinking water is of a satisfactory quality which does not pose any significant risk to the health of the consumer.

The Water Supply (Water Quality) Regulations also contain a number of national standards and additional monitoring requirements which together with the European Directive standards ensure that the quality of drinking water is protected and public health maintained.

The permitted level for parameters are given in Schedule 1 and Schedule 2 of the Water Supply (Water Quality) Regulations (see Appendix 1).

Schedule 1 lists the Prescribed Concentrations or Values (PCV) that have been set for parameters from the European Directive, known as Directive Parameters, and for parameters from national legislation, known as National Parameters. These standards relate to water quality parameters of importance to human health and to the aesthetic quality of drinking water.

Schedule 2 lists the Specification Concentrations or Values (SCV) for a number of parameters, known as Indicator Parameters. These standards relate to those parameters which reflect the control of water treatment and the distribution of drinking water.

The Regulations also define:

- where samples have to be taken from
- how many samples have to be taken each year
- what records and information are to be collected
- what actions to take when any of the standards are not met.

In compliance with the Water Supply (Water Quality) Regulations Southern Water establishes a programme for the taking of water quality samples for bacteriological and chemical analysis from water supply works, service reservoirs and from consumers' taps.

In 2007 Southern Water carried out a total of over 631,000 tests of which 238,746 tests were for regulatory monitoring from 92 water treatment works, 206 service reservoirs and customers' taps in 83 water supply zones. Of these 131,893 tests were against the numerical standards given in the Regulations, with 99.94% meeting the standards.

Each of 78 tests (0.06%) that did not meet a standard was thoroughly investigated and corrective action taken where necessary. Details of all water quality infringements, investigations and corrective actions taken are reported monthly to the Drinking Water Inspectorate.

Southern Water also has a series of internal water quality standards which are more stringent than the regulatory standards. These company standards are applied at various stages of the water treatment processes and give the Company an early warning of any deterioration in water quality.

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Water Quality Indices

In the Drinking Water 2004 (Annual Report) the Drinking Water Inspectorate introduced the concept of a number of indices to measure the compliance of water quality at various points in the water supply and distribution system.

These indices are described below in the relevant sections.

Water Supply Works

Southern Water supplies 2,307,000 customers with, on average, 552 MI/d of water. Of this total volume, 22% is taken from river sources, 48% from underground sources (varying from iron rich greensand aquifers to simple chalk aquifers), and 30% mixed sources.

Water treatment processes

All raw water is given appropriate treatment to ensure that the water supplied to our customers is of a high and consistent quality. The degree of treatment depends on the source of the water (river, reservoir or underground aquifer) and the nature of the river basin.

Groundwaters usually contain relatively few pollutants and require only a disinfection treatment stage. However some groundwaters may contain pesticides or nitrates and require additional treatment (use of granular activated carbon or ion exchange) or blending before being disinfected and put into supply.

Water abstracted from rivers or reservoirs goes through a more complex sequence of treatment stages depending upon the quality of the water to be treated. The treatment stages can include all or a selection of processes such as screening, ozonation, coagulation/flocculation, filtration, granular activated carbon (GAC) adsorption and disinfection.

No matter what the raw water source all water supplied to consumers is disinfected to kill any pathogens that may be present in the water supply and to prevent them from re-growing in the distribution systems. Southern Water carries out disinfection by the use of chlorine (either as a gas or hypochlorite solution) or irradiation with ultra-violet light. Whichever primary disinfection is used a residual chlorine level is maintained in the water leaving the treatment works to reduce the risk of contamination on the journey from the works to the customer's house.

Phosphate dosing is also carried out at a number of locations to reduce the dissolution of lead from old lead plumbing systems. There is no natural lead in any of the water sources used by Southern Water.

Quality of treated water quality in 2007

Breaches of Water Quality Standards

Any exceedence of the water quality standards is always immediately investigated and, if required, remedial action taken. In the majority of cases the exceedences are minor and temporary in nature. All breaches must be reported to the Drinking Water Inspectorate (DWI) together with information on the findings of the investigation carried out and actions taken to prevent any recurrence. The DWI may require further actions to be taken.

In 2007 a number of compliance parameters did not achieve 100% compliance. These breaches are discussed in the relevant sections below.

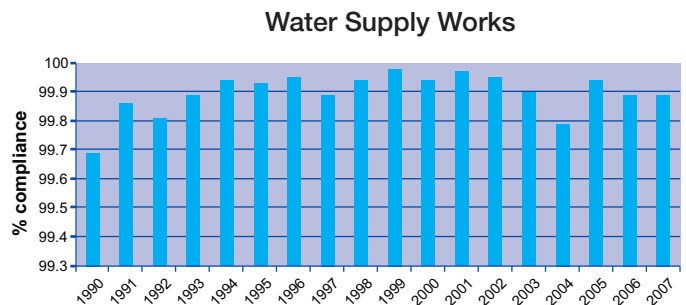
Microbiological quality

The effectiveness of the disinfection process is measured by analysing water samples for coliform bacteria. Coliforms are a group of bacteria, not normally pathogenic, which occur extensively in nature and are used as indicators of possible faecal contamination.

The method of testing is extremely sensitive and positive results can also indicate the hygienic condition of the sampling location. For each occasion bacteria are detected, re-sampling and investigations are initiated to establish any remedial action that may be needed.

Water supply works

The compliance for coliforms at water supply works is shown in the graph below (1990 to 2007).

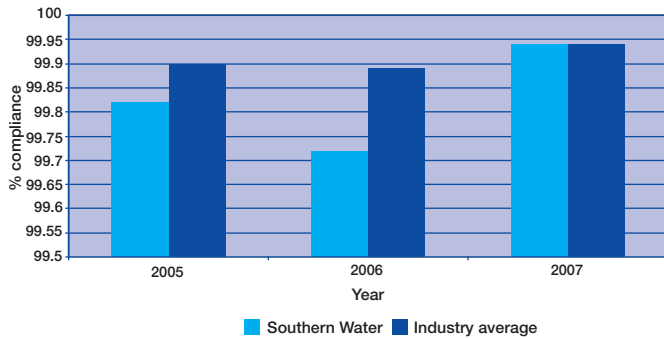


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Disinfection Control Index

This index provides a measure of compliance with 3 determinands that may indicate the effectiveness of disinfection and pathogen removal. It is based on samples collected at treatment works for turbidity, coliform bacteria and E. coli.

Graph: Disinfection Index

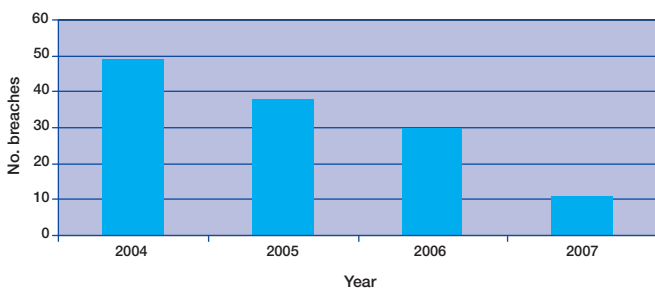


The presence of coliform bacteria was detected in samples taken at 10 water supply works and E.coli was detected in samples taken at 3 water supply works. In all cases the investigations established that there was no risk to public health.

The Index includes microbiological failures as indicated above but also breaches of the indicator turbidity parameter of 1 FTU (formazin turbidity unit). The significant improvement in the Disinfection Control Index in 2007 is largely due to the reduction in the number of tests that failed the turbidity limit at works, as shown on the graph below. Although turbidity can be an indication of poor treatment or presence of contamination it can also arise due to particles such as chalk in groundwaters or disturbance in sample lines. All turbidity breaches in 2007 were investigated but found to be transient and not indicative of deterioration in quality or treatment.

A number of turbidity breaches have been identified as being due to sample line issues. A programme of work has been carried out to improve these and the benefit of this works can be seen from the improvement in compliance shown below. The majority of the 11 failures detected in samples taken at 7 water supply works were in the first half of the year before this improvement work had been completed.

Graph: Turbidity breaches at treatment works

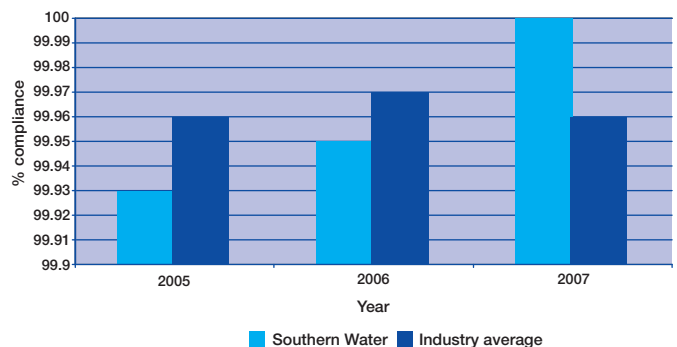


Process Control Index

This index provides a measure of compliance with 8 determinands that may be influenced by treatment performance. It is based on samples taken at customer taps for colour, pH, nitrate, nitrite, aluminium, fluoride and total THM plus samples for bromate which are collected at works.

As can be seen in the graph below, there was a significant improvement in the Process Control Index in 2007. There were no breaches of tests used in the Index.

Graph: Process Control Index



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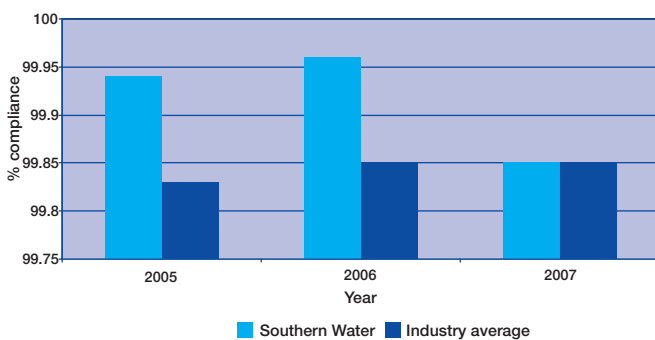
Distribution system

Once treated, the drinking water is distributed either directly into supply or to one of our 207 storage reservoirs and through a network of over 13,568 km of water mains to our 2.3 million customers within 83 water supply zones. Care is taken to maintain and operate the distribution system to ensure water arrives at the customers' property in the same condition as it leaves the water treatment works. Water entering the distribution network contains a residual amount of chlorine to ensure the quality of water is maintained throughout the system. Supplemental disinfection within the distribution network is used when necessary to maintain residual chlorine levels.

Distribution Maintenance Index

This index provides a measure of compliance with determinands that can be influenced by the age and condition of the pipes. It is based on samples taken at customer taps for turbidity, total iron and total manganese.

Graph: Distribution Maintenance Index



Breaches for iron occurred at customers' taps in six water supply zones. A breach for manganese occurred in one water supply zone and a breach for turbidity occurred in one water supply zone. These breaches are generally due to the presence of corrosion deposits in some water mains. Although this is not a health risk, the discoloured water may result in water which is aesthetically unacceptable to customers. Work is currently in progress as part of our Distribution Operation and Maintenance Strategy to identify those areas where remedial works will be required.



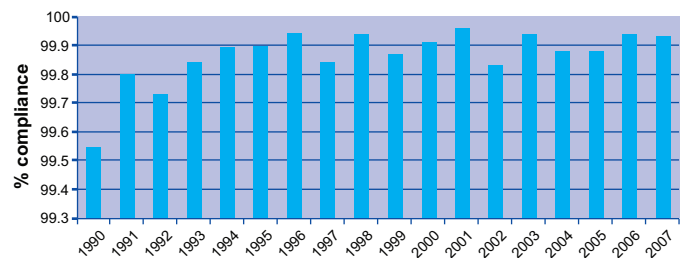
Service reservoirs

Microbiological quality

All service reservoirs are sampled weekly.

The compliance for coliforms at service reservoirs is shown in the graph below (1990 to 2007)

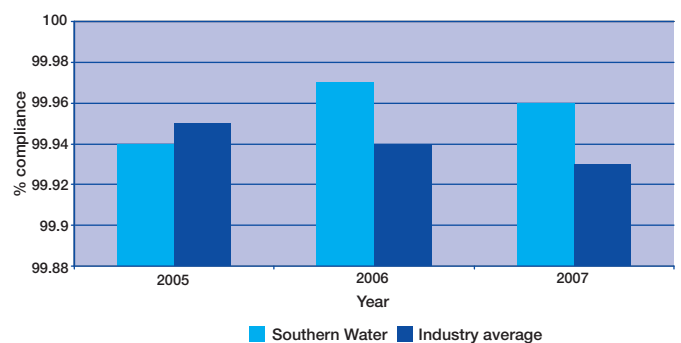
Graph: Service Reservoirs



Reservoir Integrity Index

This index provides a measure of compliance at service reservoirs against 2 determinands: coliform bacteria and E. coli

Graph: Reservoir Integrity Index



The Regulations require that no more than 5% of the samples taken at a reservoir fail coliform bacteria analysis and that there are no failures against the E.coli standard. None of the 206 service reservoirs in operation during 2007 failed the coliform bacteria standard. Full investigations were carried out for the 8 reservoirs where coliform bacteria failures were recorded. In all cases the investigations established that there was no risk to public health. E.coli was detected at one reservoir, which was taken out of service and the cause of the failure fully investigated. Minor repairs were made to the reservoir, which was then cleaned and sterilised before being put back into service.

Water supply zones

The distribution network is divided into a number of district metered areas (DMAs) which are grouped together to provide water supply zones. Each of these zones is supplied either by a single source or a group of sources that are blended within service reservoirs. Water companies are required to define their water supply zones for the coming year, before 1 January, and ensure that the correct sampling frequencies are programmed as detailed in the Regulations based upon the customer population within the zone. Water supply zone samples are taken at customers' taps from addresses selected at random from postcode listings.

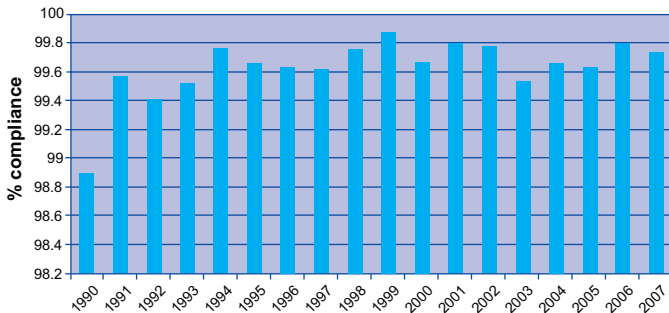
Drinking Water Quality Report 2007

Microbiological quality

Of the 6092 tests against the national indicator standard for coliform bacteria, 16 samples were positive. In all cases a full investigation into the failure was carried out. Where failures were identified as being due to the customer's plumbing appropriate advice was given for remedial actions to be carried out.

The compliance for coliforms at customer taps is shown in the graph below (1990 to 2007)

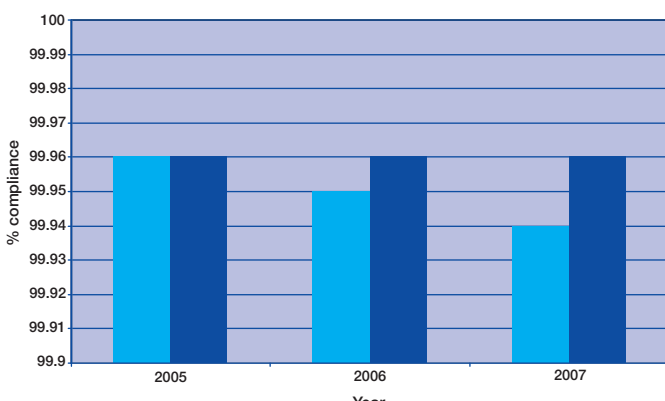
Graph: Customers' taps



Mean Zonal Compliance

This index provides an overall measure of compliance with the standards. It is based on compliance at customer taps against 40 determinands; colour, turbidity, odour, taste, pH, sodium, nitrate, nitrite, nitrite/nitrate formula, aluminium, iron, manganese, copper, fluoride, arsenic, cadmium, cyanide, chromium, mercury, nickel, lead, antimony, selenium, total pesticides, PAH, E.coli, enterococci, boron, benzo(a)pyrene, tetrachloromethane, tetrachloroethene/ trichloroethene sum, total THM, 1,2 dichloroethane, benzene, bromate, aldrin, dieldrin, heptachlor, heptachlor epoxide, and other pesticides.

Graph: Mean Zonal Compliance



Two samples from customers' taps showed breaches of the current lead standard and one sample from a customer tap showed a breach of the chromium standard. In all cases internal plumbing was identified as the problem and appropriate advice given to the customer.

The pesticides atrazine (1 sample) and carbetamide (1 sample) have been detected at levels above the regulatory standard. None of the samples exceeded the health related standards and accordingly have not presented any risk to health. A full investigation and additional sampling has been put in

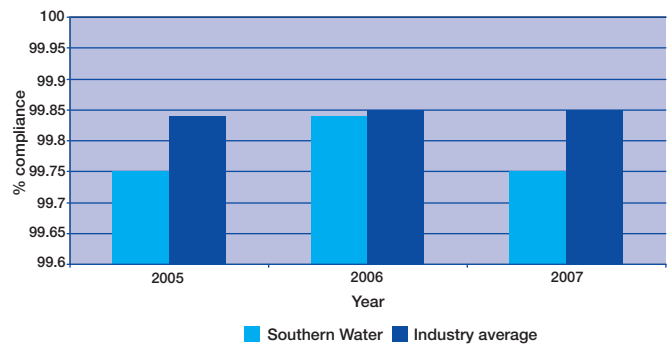
place to confirm there is no ongoing problem associated with the catchment area or at the treatment works concerned.

One sample breached the tetrachloroethene/ trichloroethene sum standard. The sample did not exceed the health related standard and accordingly did not present any risk to health. A full investigation was carried out and the problem identified as possible pollution from an industrial estate close to one of Southern Water's boreholes. Enhanced monitoring is continuing to establish whether or not the problem is transient.

Building Water Systems Index

This index provides a measure of compliance at customer taps against 7 determinands: sodium, lead, copper, nickel, coliform bacteria, E. coli and enterococci. These determinands can be influenced by the customer's own plumbing system.

Graph: Building Water System Index



The presence of coliform bacteria was detected in samples taken at 16 customers' taps; E.coli was detected in samples taken at 3 customers' taps and enterococci was detected in a samples taken at 1 customer's tap. In all cases the investigations established that there was no risk to public health. Investigations in some cases also highlighted that the breach was related to contamination associated with the tap outlet. In these cases the customer was advised accordingly.

Three samples were found to contain a concentration of nickel above the standard. Investigation identified the cause as the plumbing system in the customer's property.

Some of these breaches highlight the fact that plumbing systems and appliances can cause deterioration in water quality. A leaflet has been produced by Water UK which gives useful guidance to customers to enable them to maintain water quality within their internal plumbing system. A copy can be found by visiting the Water UK website www.water.org.uk.

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Investigations following events

The Water Undertakers (Information) Direction 2004 requires water companies to notify the Drinking Water Inspectorate of any event, which by its nature has adversely affected or is likely to adversely affect the quality or sufficiency of the water supplied.

During 2007 Southern Water made 22 notifications of events including such things as loss of supply, discolouration and aeration of supplies, breakdown of UV disinfection systems and oil contamination.

Each event was thoroughly investigated and comprehensive reports submitted to the Inspectorate.

The Inspectorate considers the severity of the event and its possible impact on public health and may consider the need to take enforcement action.

One incident related to the detection of pesticides above the limit in raw water serving Brede WSW (Hastings). The Company has put in place actions agreed with the Inspectorate to discuss catchment management measures with local landowners to minimise the potential for pesticide to enter raw water and if necessary install pesticide removal treatment at Brede WSW.

Another incident related to the detection of the chlorinated solvent tetrachloroethene in water from Fawkham WSW (Kent). Southern Water is liaising with the Environment Agency who are investigating the likely cause as being groundwater pollution at a nearby industrial estate. Plans have been put in place to be able to install temporary treatment at the works if necessary to remove solvents should levels increase and remain above the limit set by the Regulations.

Southern Water has acted on all the recommendations following the review of each incident both internally and by the Inspectorate.

Customer contacts

The quality of drinking water leaving the water treatment works is of a high standard. However there may be concerns raised by customers regarding such things as chlorinous taste and odour, or discolouration of their drinking water supplies.

Some customers may be able to identify a slight chlorinous taste or odour in their drinking water supplies because a small amount of chlorine is added to the water before it leaves the treatment works. This is to ensure that the water does not contain any harmful bacteria and remains safe on its journey to customers' taps.

A major cause of discolouration of drinking water is the deposition of corrosion products in some older pipes within the distribution network. Disturbance of these deposits can occur when work is being carried out on the distribution pipework or whenever a burst main occurs.

Information regarding water quality issues can be obtained by visiting the company website: www.southernwater.co.uk.

All customer complaints regarding water quality are dealt with by a dedicated team within our customer call centre. Most complaint calls can be dealt with immediately by offering advice to the customer but some will require that samples are taken from the customer property to verify the water quality.

Water quality issues are often found to be the result of internal plumbing problems within a customer's property either with the plumbing pipework or from the incorrect installation and/or maintenance of equipment plumbed into the domestic plumbing system. For this reason it is important that all materials and equipment used in the customer's property meets the requirements for use in contact with drinking water and is installed in compliance with the Water Supply (Water Fittings) Regulations 1999. Advice can be obtained from the Company or by visiting the following website:
http://www.wras.co.uk/Directory/Fittings_Search.asp

Each year the Drinking Water Inspectorate requires water companies to provide information on numbers of customer contacts received during the year by water supply zone. The contacts are required to be grouped according to five classifications given by the Inspectorate (appearance, taste/odour, illness, water quality concerns, enquiries) and each is further sub-divided.

For Southern Water the average for customer contacts in 2007 was 1.95 per 1000 population. This compares very favourably with the 2007 average for England of 3.74 per 1000 population.

Provision of information

General information on water quality is available by request from the Customer Service Centre (address at the back of this report). This information will be made available, free of charge, for the zone in which the customer resides. For more information call 0845 278 0845.

Information can also be obtained from our website using the postcode search function available on the "Domestic customers" page.

Drinking Water Quality Report 2007

Drinking Water Standards

<i>Parameters tested in the UK</i>	<i>What it means</i>	<i>Amount allowed (PCV)</i>
Hydrogen ion (pH)	This is the measure of the acidity or alkalinity of water.	6.5 – 10.0 pH units
Colour	This is an aesthetic requirement – water should be clear and bright, but may occasionally show a slight reddish or yellowish tint caused by iron from iron mains. This is not harmful to health. A common cause of discolouration is corrosion of iron mains.	20 mg/l Pt/Co
Turbidity	Sometimes water appears milky because of air bubbles. This is not harmful and if the water is left to stand for a few minutes it will clear from the bottom upwards. A more stringent limit is set at treatment works to ensure the process is operating effectively.	1 Formazin turbidity units (at treatment works) 4 Formazin turbidity units (at customer taps)
Dilution odour Dilution taste	These are quality control tests to measure the level of odour and taste and are carried out by specialist testing panels.	Dilution number 3 at 25°C
Conductivity	By passing an electric current through water, water companies can measure the level of mineral salts it contains.	2500 µS/cm at 20°C
Residual Free Chlorine	Chlorine is added to water to remove any bacteria and other microorganisms present in the raw water. Some remains as residual free chlorine to maintain wholesome water as it passes through the system and to the tap. We aim to keep levels at customers' taps low to minimise associated taste and odour.	Results are compared against long term average. Any significant difference is investigated.
Coliform bacteria Escherichia coli Clostridium perfringens Enterococci	These are bacteria which can be found sometimes in untreated raw water. Disinfection during treatment removes them. However, they may sometimes appear in tests in small numbers, although follow-up tests usually show that the mains water is satisfactory. Their presence in samples triggers immediate investigative work.	0/100 ml 0/100 ml 0/100 ml 0/100 ml
Colony count 2 day at 37°C Colony count 3 day at 22°C	Small amounts of harmless bacteria can be present in treated water. Water companies check the numbers of these bacteria. The information obtained helps to maintain the efficiency of the water treatment process and the cleanliness of the water mains.	Results compared against a long term average. Any significant difference is investigated.
Ammonium	Ammonium occurs naturally in water from some sources. It does not cause health problems and where it occurs, it can be controlled or removed by treatment.	0.5 mg/l
Nitrite	Both these substances are found in water running over and through agricultural land. Concentrations in the raw water above the amount allowed are reduced by treatment or blending.	0.1 Mg/l at treatment works 0.5 mg/l at customers' taps
Nitrate		50 mg/l
Chloride	Comes from the rocks through which the water passed but also comes from the use of salt to de-ice roads or from seawater intrusion into underground sources. It is not harmful to health.	250 mg/l
Fluoride	Fluoride occurs naturally at varying levels. Some companies add fluoride at the request of local health authorities. None of the water supplied by Southern Water is artificially fluoridated.	1.5 mg/l
Sulphate	This occurs naturally in water and comes from mineral deposits.	250 mg/l
Manganese	Manganese occurs naturally in water and is not harmful to health.	50 µg/l
Aluminium	Aluminium occurs naturally in water and is also used to remove impurities from water in some water treatment works. Its use in water treatment is very closely controlled and continually monitored.	200 µg/l
Acrylamide Epichlorohydrin	These can arise from use of use of water treatment chemicals. Strict control is placed on the products we use to prevent this happening.	0.01 µg/l 0.01 µg/l
Vinyl chloride	This can be found in PVC plastic pipes after manufacture. Strict control is placed on the product we use to prevent this happening.	0.50 µg/l
Total indicative dose Tritium	Measured for assessing radioactivity resulting from natural or artificial radionuclides in the environment.	0.10 mSv/year 100 Bq/l

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Drinking Water Standards – continued

<i>Parameters tested in the UK</i>	<i>What it means</i>	<i>Amount allowed (PCV)</i>
Sodium	Sodium salts occur naturally in water but can be added to drinking water by water softeners if these are not installed properly. Sodium at levels around 200mg/l will cause a 'salty' taste in the water	200 mg/l
Copper	Traces of this metal usually come from property pipework, especially when newly installed. So called "blue water" events caused by problems with copper will be avoided through good practice in plumbing installation.	2.0 mg/l
Iron	Iron is found naturally in some underground water. At sources where natural iron levels are high, treatment plants are provided to remove it. The use of iron in water treatment is closely controlled. It does not cause health problems. Iron is mostly found in samples taken from corroded iron mains and pipework.	200 µg/l
Lead	Lead was formerly used as plumbing pipe material. Lead in amounts well above the standard can be a health risk if consistently consumed over many years. Water (especially soft water) passing through lead pipes can dissolve lead (plumbosolvency). Treatment is optimised to minimise plumbosolvency.	25 µg/l
Antimony	These substances are rarely found in drinking water.	5 µg/l
Arsenic		10 µg/l
Boron		1.0 mg/l
Cadmium		5 µg/l
Chromium		50 µg/l
Cyanide		50 µg/l
Mercury		1 µg/l
Nickel		20 µg/l
Selenium		10 µg/l
Trihalomethanes	Trihalomethanes (THMs) derive from the combination of chlorine with organic matter. Treatment is carefully controlled to limit formation of trihalomethanes.	100 µg/l
Carbon Tetrachloride	These are solvents which can arise from industrial processes but can be removed during treatment. Water companies work with the industries themselves to ensure they do not reach the water supply in the first place	3 µg/l
Sum of Trichloroethene + Tetrachloroethene		10 µg/l
Benzene		1.0 µg/l
1,2 Dichloroethane		3.0 µg/l
Total Polyaromatic Hydrocarbons	PAHs are wide spread in the environment and have been detected in food, air and water. They can arise in very low levels from old coal tar or bitumen lined pipes. These are no longer used but some remain in the system.	0.10 µg/l
Benzo 3, 4 Pyrene	A PAH	0.010 µg/l
Aldrin	Water companies test for various pesticides which may be used in their areas and may be present in water. These come from their use by farmers, local authorities, gardeners etc. The traces found are no threat to health, being far lower than the limits which the Government's medical advisers say would be necessary to protect health, but water companies are nevertheless taking steps to remove even these minute traces.	0.03 µg/l
Dieldrin		0.03 µg/l
Heptachlor		0.03 µg/l
Heptachlor epoxide		0.03 µg/l
Other Individual Pesticides		0.10 µg/l
Total Pesticides		0.50 µg/l
Bromate	Bromate can be formed during water treatment where ozone is used in the process. It can also arise from the use of hypochlorite when this is used as a disinfectant treatment chemical. Strict control is placed on specification of hypochlorite used in water treatment and ozonation is carefully controlled to limit bromate in treated water.	10 µg/l
Cryptosporidium	This is a microscopic parasite that is present in the environment. We monitor water supplies where there is a risk that the organism could be found in the raw water. Low numbers are occasionally found at works but these are well below the regulatory limit.	1 oocyst/10l (measured at the treatment works)

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Appendix 1 – Prescribed concentrations or values and specification concentrations or values

Directive requirements

Enterococci	0/100ml	C.taps
E.coli	0/100ml	C.taps

Directive requirements

Acrylamide	0.10 µg/l	Prod spec
Antimony	5.0 µg/l	C.taps
Arsenic	10 µg/l	C.taps
Benzene	1.0 µg/l	C.taps
Benzo(a)pyrene	0.010 µg/l	C.taps
Boron	1.0 mg/l	C.taps
Bromate	10 µg/l	C.taps
Cadmium	5.0 µg/l	C.taps
Chromium	50 µg/l	C.taps
Copper	2.0 mg/l	C.taps
Cyanide	50 µg/l	C.taps
1, 2 dichloroethane	3.0 µg/l	C.taps
Epichlorohydrin	0.10 µg/l	Prod spec
Fluoride	1.5 mg/l	C.taps
Lead	25 µg/l	C.taps
Mercury	1.0 µg/l	C.taps
Nickel	20 µg/l	C.taps
Nitrate	50 mg/l	C.taps
Nitrite	0.50 mg/l	C.taps
Nitrite	0.10 mg/l	WSW
Pesticides		
Aldrin	0.03 µg/l	C.taps
Dieldrin		
Heptachlor		
Heptachlor epoxide		
Other pesticides	0.10 µg/l	C.taps
<i>Pesticides: Total</i>	0.50 µg/l	C.taps
PAH	0.10 µg/l	C.taps
Selenium	10 µg/l	C.taps
Tetrachloroethene	10 µg/l	C.taps
Trichloroethene		
Trihalomethanes	100 µg/l	C.taps
Vinyl chloride	0.50 µg/l	Prod spec

National requirements

Coliforms	0/100ml	WSW and SR(95%)
E.coli	0/100ml	WSW and SR
Aluminium	200 µg/l	C.taps
Colour	20 mg/l Pt/Co	C.taps
Hydrogen ion	6.5 – 10.0	C.taps
Iron	200 µg/l	C.taps
Manganese	50 µg/l	C.taps
Odour	3 at 25°C	C.taps
Sodium	200 mg/l	C.taps
Taste	3 at 25°C	C.taps
Tetrachloromethane	3 µg/l	C.taps
Turbidity	4 NTU	C.taps

Indicator parameters

Ammonium	0.50 mg/l	C.taps
Chloride	250 mg/l	supply point
Clostridium perfringens	0/100 ml	supply point
Coliforms	0/100 ml	C.taps
Colony counts	no change	C.taps, SR, WSW
Conductivity	2500 µS/cm	supply point
Sulphate	250 mg/l	supply point
Radioactivity (TID)	0.10 mSv/year	supply point
TOC	no change	supply point
Tritium	100 Bq/l	supply point
Turbidity	1 NTU	WSW

C.taps = Customers taps; SR = Service Reservoir;
WSW = Water Supply Works

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Appendix 2 – Compliance statistics

WATER TREATMENT WORKS - European Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding PCV</i>	<i>Percentage of samples exceeding PCV</i>	<i>No. of samples exceeding Authorised Departure</i>	<i>Percentage of samples exceeding Authorised Departure</i>	<i>No of works exceeding PCV</i>	<i>Percentage of works exceeding PCV</i>	<i>No. of works exceeding Authorised Departure</i>	<i>Percentage of works exceeding Authorised Departure</i>
Nitrite	635	0	0	N/A	N/A	0	0	N/A	N/A

WATER TREATMENT WORKS - National Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding PCV</i>	<i>Percentage of samples exceeding PCV</i>	<i>No. of samples exceeding Authorised Departure</i>	<i>Percentage of samples exceeding Authorised Departure</i>	<i>No of works exceeding PCV</i>	<i>Percentage of works exceeding PCV</i>	<i>No. of works exceeding Authorised Departure</i>	<i>Percentage of works exceeding Authorised Departure</i>
Cryptosporidium	2,207	0	0	N/A	N/A	0	0	N/A	N/A
Coliform bacteria	11,259	12	0.11	N/A	N/A	10	10.87	N/A	N/A
E.Coli	11,259	3	0.03	N/A	N/A	3	3.26	N/A	N/A

WATER TREATMENT WORKS - Indicator Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding specification</i>	<i>Percentage of samples exceeding specification</i>	<i>No of works exceeding specification</i>	<i>Percentage of works exceeding specification</i>
Colony counts @22°C	11,245	0	0	0	0
Colony counts @37°C	11,239	0	0	0	0
Free chlorine	11,251	0	0	0	0
Total chlorine	11,251	0	0	0	0
Turbidity	10,356	11	0.11	7	7.61

SERVICE RESERVOIRS - European Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding PCV</i>	<i>Percentage of samples exceeding PCV</i>	<i>No. of samples exceeding Authorised Departure</i>	<i>Percentage of samples exceeding Authorised Departure</i>	<i>No of reservoirs exceeding PCV</i>	<i>Percentage of reservoirs exceeding PCV</i>	<i>No. of reservoirs exceeding Authorised Departure</i>	<i>Percentage of reservoirs exceeding Authorised Departure</i>
Coliform bacteria	10,719	8	0.07	N/A	N/A	0	0	N/A	N/A
E.Coli	10,719	1	0.01	N/A	N/A	0	0	N/A	N/A

SERVICE RESERVOIRS - Indicator Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of reservoirs exceeding specification</i>	<i>Percentage of samples exceeding specification</i>	<i>No of reservoirs exceeding specification</i>	<i>Percentage of reservoirs exceeding specification</i>
Colony counts @22°C	10,712	0	0	0	0
Colony counts @37°C	10,701	0	0	0	0
Free chlorine	10,702	0	0	0	0
Total chlorine	10,702	0	0	0	0

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SUPPLY POINTS - European Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding specification</i>	<i>Percentage of samples exceeding specification</i>	<i>No of sites exceeding specification</i>	<i>Percentage of sites exceeding specification</i>
Bromate	635	0	0	0	0
Pesticides (Individual)	28,677	2	<0.01	2	2.17
Aldrin	636	0	0	0	0
Dieldrin	636	0	0	0	0
Heptachlor	636	0	0	0	0
Heptachlor epoxide	636	0	0	0	0
Pesticides (Total)	622	0	0	0	0

SUPPLY POINTS - Indicator Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding specification</i>	<i>Percentage of samples exceeding specification</i>	<i>No of sites exceeding specification</i>	<i>Percentage of sites exceeding specification</i>
Clostridium perfringens	1,150	2	0.17	2	2.17
Conductivity	1,448	0	0	0	0
Radioactivity - Gross Alpha	264	0	0	0	0
Radioactivity - Gross Beta	243	0	0	0	0
Radioactivity - Tritium	232	0	0	0	0

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WATER SUPPLY ZONES - European Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding PCV</i>	<i>Percentage of samples exceeding PCV</i>	<i>No. of samples exceeding Authorised Departure</i>	<i>Percentage of samples exceeding Authorised Departure</i>	<i>No of zones exceeding PCV</i>	<i>Percentage of zones exceeding PCV</i>	<i>No. of zones exceeding Authorised Departure</i>	<i>Percentage of zones exceeding Authorised Departure</i>
1,2 Dichloroethane	580	0	0	N/A	N/A	0	0	N/A	N/A
Antimony	584	0	0	N/A	N/A	0	0	N/A	N/A
Arsenic	584	0	0	N/A	N/A	0	0	N/A	N/A
Benzene	585	0	0	N/A	N/A	0	0	N/A	N/A
Benzo (a) pyrene	585	0	0	N/A	N/A	0	0	N/A	N/A
Boron	584	0	0	N/A	N/A	0	0	N/A	N/A
Bromate	68	0	0	N/A	N/A	0	0	N/A	N/A
Cadmium	584	0	0	N/A	N/A	0	0	N/A	N/A
Chromium	584	1	0.17	N/A	N/A	1	1.20	N/A	N/A
Copper	584	0	0	N/A	N/A	0	0	N/A	N/A
Cyanide	584	0	0	N/A	N/A	0	0	N/A	N/A
E.coli	6,092	3	0.05	N/A	N/A	3	3.61	N/A	N/A
Enterococci	584	1	0.17	N/A	N/A	1	0	N/A	N/A
Fluoride	584	0	0	N/A	N/A	0	0	N/A	N/A
Lead	584	2	0.34	N/A	N/A	2	2.41	N/A	N/A
Mercury	585	0	0	N/A	N/A	0	0	N/A	N/A
Nickel	584	3	0.51	N/A	N/A	3	3.61	N/A	N/A
Nitrate	588	0	0	N/A	N/A	0	0	N/A	N/A
Nitrite	584	0	0	N/A	N/A	0	0	N/A	N/A
Nitrate/Nitrite Formula	584	0	0	N/A	N/A	0	0	N/A	N/A
Polycyclic aromatic hydrocarbons	585	0	0	N/A	N/A	0	0	N/A	N/A
Selenium	584	0	0	N/A	N/A	0	0	N/A	N/A
Tetra/trichloroethene	584	2	0.17	N/A	N/A	1	1.20	N/A	N/A
Trihalomethanes	585	0	0	N/A	N/A	0	0	N/A	N/A

WATER SUPPLY ZONES - National Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding PCV</i>	<i>Percentage of samples exceeding PCV</i>	<i>No. of samples exceeding Authorised Departure</i>	<i>Percentage of samples exceeding Authorised Departure</i>	<i>No of zones exceeding PCV</i>	<i>Percentage of zones exceeding PCV</i>	<i>No. of zones exceeding Authorised Departure</i>	<i>Percentage of zones exceeding Authorised Departure</i>
Aluminium	1,198	0	0	N/A	N/A	0	0	N/A	N/A
Colour	1,231	0	0	N/A	N/A	0	0	N/A	N/A
Hydrogen ion (pH)	1,241	1	0.08	N/A	N/A	1	1.20	N/A	N/A
Iron	1,628	8	0.49	N/A	N/A	6	7.23	N/A	N/A
Manganese	1,127	1	0.09	N/A	N/A	1	1.20	N/A	N/A
Odour	1,302	0	0	N/A	N/A	0	0	N/A	N/A
Sodium	584	0	0	N/A	N/A	0	0	N/A	N/A
Taste	1,148	0	0	N/A	N/A	0	0	N/A	N/A
Tetrachloromethane	584	0	0	N/A	N/A	0	0	N/A	N/A
Turbidity	1,256	1	0.08	N/A	N/A	1	1.20	N/A	N/A

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WATER SUPPLY ZONES - Indicator Standards

<i>Parameter</i>	<i>No. of samples</i>	<i>No. of samples exceeding specification</i>	<i>Percentage of samples exceeding specification</i>	<i>No of zones exceeding specification</i>	<i>Percentage of zones exceeding specification</i>
Ammonia	1,137	0	0	0	0
Chloride	584	0	0	0	0
Coliform bacteria	6,092	16	0.26	14	16.87
Colony counts @22°	2,114	0	0	0	0
Colony counts @37°	2,113	0	0	0	0
Conductivity	1,125	0	0	0	0
Hydrogen ion (pH)	1,239	0	0	0	0
Free chlorine	6,092	0	0	0	0
Total chlorine	6,092	0	0	0	0
Sulphate	584	0	0	0	0
Total organic carbon	584	0	0	0	0

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