

## Not significant and minor drinking water quality events

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Air in water	ANG (1)	West Bergholt, Essex (11,405)
	SES (1)	Reigate, Surrey (8,963)
	SEW (1)	East Grinstead, West Sussex (13,573)
	SRN (1)	Sittingbourne, Kent (11,150)
Chemical	ANG (8)	Ravensthorpe, Northampton (46,948) Wansford, Peterborough (3) Bunwell, Norfolk (3) Alderton, Suffolk (3) Dereham, Norfolk (3) Grantham, Lincolnshire (3) Bassingham, Lincoln (3) North Lopham, Norfolk (3)
	BRL (1)	Keynsham, Somerset (3)
	DWR (1)	Fairwater, Cardiff (3)
	ESK(1)	Ormesby St Margaret, Norfolk (88,672)
	IWN (2)	Oakham, Leicestershire (5) Part of south west London (6,660)
	PRT (1)	Bedhampton, Hampshire (1)
	SEW (1)	Eastbourne, East Sussex (3)
	SSE (1)	Croydon, Deptford and Greenwich (3,868)
	SST (1)	Rugeley and Cannock, Staffordshire (59,000)
	SVT (4)	Whitchurch, Shropshire (3) Diddlebury, Shropshire (5,000) Lynclys, Shropshire (3) Worcester (10)
	TMS (2)	Marlborough, Wiltshire (3) Marlborough, Wiltshire (3,300)

<b>Nature</b>	<b>Number of not significant and minor events</b>	<b>Area affected (estimate of population affected)</b>
Chemical	UUT (4)	Rivington, Lancashire (3) Skelmersdale, Lancashire (3) Tattenhall, Cheshire (3) Ormskirk, Lancashire (3)
	WSX (1)	Yeovil, Somerset (3)
	YKS (1)	Harrogate, North Yorkshire (75)
Discolouration	ANG (4)	Gainsborough, Lincolnshire (5) Milton Keynes (3) Braintree, Essex (38) March, Cambridgeshire (15)
	BRL (2)	Bedminster, Bristol (5,500) Coombe Dingle, Bristol (2,067)
	HPL (1)	Hartlepool (4,600)
	NNE (1)	Consett, Durham (35,070)
	SRN (3)	Falmer, East Sussex (375) Newport, Isle of Wight (415) Cowes, Isle of Wight (8,603)
	SST (1)	Lichfield, Staffordshire (17,000)
	SVT (2)	Castle Bromwich, West Midlands (538) Stafford (19,210)
	YKS (1)	Keighley, West Yorkshire (8,750)
Health concern	DWR (1)	Almeley, Herefordshire (3)
	SRN (1)	Crawley, West Sussex (3)
	TMS (2)	Parts of London (200,000) Bexley, Kent (3)
	WSX (1)	Edington, Somerset (3)
	YKS (2)	Keighley, West Yorkshire (3) Pickering, North Yorkshire (5)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Inadequate treatment	AFW (1)	Edgware, North London (9,500)
	TMS (1)	Swindon and surrounding area, Wiltshire (25,000)
	WSX (1)	Codford Wiltshire (3)
	YKS (1)	York and surrounding areas
Loss of supplies/ poor pressure	ANG (12)	Retford, Nottinghamshire (3) Amphill, Bedfordshire (18) Gainsborough, Lincolnshire (11,500) Ely, Norfolk (5,000) Brampton, Cambridgeshire (375) Skegness, Lincolnshire (17,500) Bury St Edmunds, Suffolk (4,500) Huntingdon, Cambridgeshire (9,500) Cromer, Norfolk (3,250) Sleaford, Lincolnshire (23,758) Lincoln (3) Norwich, Norfolk (22,200)
	CAM (1)	Warboys, Cambridgeshire (3,500)
	DVW (1)	Holt, Clwyd (8,800)
	DWR (3)	Morrison, Swansea (6,250) Mold, Flintshire (3,295) Llechryd, Ceredigion (5,500)
	NNE (1)	Rothbury, Northumberland (4,093)
	PRT (2)	Hayling Island, Hampshire (35) Catherington, Hampshire (1,803)
	SES (1)	Earlswood, Surrey (163)
	SEW (1)	Canterbury, Kent (14,000)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Loss of supplies/ poor pressure	SRN (9)	Southwater, West Sussex (1,250) Worthing, West Sussex (75) Sandown, Isle of Wight (3,228) Cowes, Isle of Wight (8,603) Storrington, West Sussex (5,195) Colden Common, Hampshire (473) Itchen Abbas, Winchester (28) Bedham and surrounding areas, west Sussex (250) Rake, West Sussex (4,500)
	SST (2)	Walsall and South Staffordshire (84,000) Penkridge, Staffordshire (8,750)
	SVT (4)	Chesterfield, Derbyshire (9,500) Bromsgrove, Worcestershire (12,500) Cheltenham, Gloucestershire (2,000) Burley, Rutland (18,000)
	TMS (8)	Parts of south west London (145,000) Kennington, south London (78,668) Finchley, north London (52,735) Hainault, Essex (12,500) Ealing and surrounding areas, west London (187,757) Lewisham, south east London (17,500) Kingston and surrounding areas, south west London (38,000) Bexley Heath, south east London (20,000)
	WSX (6)	Pewsey, Wiltshire (3,475) Brinkworth, Wiltshire (2,650) West Quantoxhead, Somerset (1,250) Dunster, Somerset (4,615) Tidworth Wiltshire (984) Beaminster Dorset (9,130)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Microbiological	ANG (21)	Grimsby, Lincolnshire (3) Godmanchester, Huntingdon (3) Swaffham, Norfolk (3) Chatteris, Cambridgeshire (3) Woburn Sands, Milton Keynes (3) Peterborough (3) Lexden, Colchester (6,878) Sleaford, Lincolnshire (3) Clophill, Bedfordshire (3) Bedford (3) Everton, Lincolnshire (36,835) Haverhill, Suffolk (50) Waltham, Lincolnshire (3) Oundle, Northants (15) Corby, Northamptonshire (18) Lincoln (5) Lincoln (8) Raunds, Northamptonshire (8) Horsey, Norfolk (8) Milton Keynes (3) Northolme, Lincolnshire (8)
	BRL (2)	Parts of Bristol (136,218) Kingswood, Bristol (3)
	DWR (1)	Merthyr Tydfil (3)
	IWN (1)	Oakham, Leicestershire (3)
	PRT (2)	Appledown and surrounding areas (571) Southsea, Portsmouth (3)
	SBW (1)	Bournemouth (10)
	SEW (1)	Downswood, Kent (3)
	SSE (1)	Deptford and Greenwich, London (450)
	SST (2)	Rowley Regis, West Midlands (3) Glascote, Staffordshire (3)
	SVT (2)	Solihull, West Midlands (3) Bishops Tachbrook, Warwickshire (2)
	SWT (1)	Brixton, Devon (3)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Microbiological	TMS (8)	Rotherhithe, south east London (3) Bellingham, south east London (3) Chipping Norton, Oxfordshire (3) Tottenham, north London (3) Willesden Green, north west London (3) Cirencester, Gloucestershire (3) West Ham, east London (3) Cleeve and the surrounding areas, Berkshire (300,000)
	WSX (2)	Langport, Somerset (3) Bridgewater, Somerset (45,200)
Other	ANG (2)	Bunwell, Norfolk (3) Milton Keynes (10)
	TMS (1)	Laboratory issues (N/A)
	SRN (1)	Gravesend, Kent (3)
	UUT (6)	Preston, Lancashire (3) Manchester (3) Oldham, Greater Manchester (3) Nelson, Lancashire (3) Fire at laboratory (N/A) Sample shortfall (N/A)
	WSX (3)	Bath (20,000) Wylye, Wiltshire (940) Chitterne, Wiltshire (378)
Public concern	ANG (15)	Rushden, Northamptonshire (3) Earls Barton, Northamptonshire (3) Newport Pagnell (100) Metton, near Cromer, Norfolk (5) Water Newton, near Peterborough (3) Bedford (15) Brandon, Norfolk (8) Rippingale, Lincolnshire (5) Sandy, Bedfordshire (3) East Harling, Norfolk (3) Grimsby, Lincolnshire (5) Ixworth, Suffolk (3) Colchester, Essex (3) Ipswich, Suffolk (2,663) Immingham, Lincolnshire (12,125)
	BRL (1)	Green Ore and surrounding areas, Somerset (650)

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Public concern	CAM (1)	Cambridge (3)
	DWR (2)	Bromyard, Herefordshire (15) Hereford (3)
	DWR (5)	Ely, Cardiff (5) Ebbw Vale (10) Aberbargoed, Caerphilly (50) Aberaeron, Ceredigion (3) Denbigh, Denbighshire (153)
	ESK (3)	Southend on Sea, Essex (3) Little Baddow, Essex (3) Chelmsford, Essex (388)
	SBW (1)	Bournemouth (30)
	SES (1)	Redhill, Surrey (31,050)
	SEW (1)	Newick, West Sussex (510)
	SRN (23)	Crawley, West Sussex (5) Hove, East Sussex (275) on two separate occasions Southampton (68) Ryde, Isle of Wight (69,338) Southampton (150) Ventnor, Isle of Wight (173) Crawley, West Sussex (75) Romsey, Hampshire (25) St Helens, Isle of Wight (48) Ryde, Isle of Wight (75) Parkhurst, Isle of Wight (5,760) Shanklin, Isle of Wight (1,100) Crawley, West Sussex (3) Crawley, West Sussex (75) Hastings, East Sussex (1,000) Broadstairs, Kent (18,170) Southampton (375) Horsham, West Sussex (6,500) Cowes, Isle of Wight (75) Crawley, West Sussex (400) Southampton (70) Old Shoreham, West Sussex (200)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Public concern	SST (3)	Stapenhill, Staffordshire (3) Tipton, West Midlands (538) Stapenhill, Staffordshire (1)
	SVT (1)	Powys (3)
	SVT (11)	Wigston, Leicestershire (3) Swithland, Leicestershire (3) Dunhampton, Worcestershire (3) Rugby, Warwickshire (3) Kidderminster, Worcestershire (3) Upton Magna, Shropshire (3) Shilton, Warwickshire (43) Willenhall, near Wolverhampton (3) Shrewsbury, Shropshire (13,591) Littledean, Gloucestershire (12,080) Harborne, West Midlands (5)
	SWT (3)	St Austell, Cornwall (5) Axminster, Devon (3) Barnstaple, Devon (3)
	TMS (10)	Kings Cross, central London (3) North Kensington, west London (3) Enfield, north London (3) Dollis Hill, north west London (3) Tottenham, north London (3) Slough, Berkshire (3) Calcot, Berkshire (3) Harwell, Oxfordshire (3) Woolwich, south east London (3) Millwall, south east London (3)
	UUT (3)	Tyldesley, Manchester (3) Wigton, Cumbria (3) Childwall, Liverpool (3)
	WSX (4)	Devizes, Wiltshire (3) Porlock, Somerset (3) Sutton Benger, Wiltshire (3) West Ashton, Wiltshire (3)
	YKS (1)	Acklam, North Yorkshire (10)



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Taste or odour	AFW (1)	Ringwould, Kent (3)
	ANG (9)	Bourne, Lincolnshire (5) Norwich, Norfolk (3) Polstead, Essex (3) Corby Glen, Lincolnshire (3) Market Rasen, Lincolnshire (3) Cheveley, Cambridgeshire (8) Scunthorpe, Lincolnshire (3) Louth, Lincolnshire (5) Potterhanworth, Lincolnshire (3)
	CAM (1)	Little Wilbraham, Cambridgeshire (5)
	DWR (1)	Caernarfon, Gwynedd (3)
	ESK (2)	Tollesbury, Essex (3) Metfield, Suffolk (3)
	HPL (1)	Hartlepool (3)
	SVT (1)	Newtown, Worcestershire (3)
	SWT (1)	Truro, Cornwall (3)
	TMS (2)	Woolhampton, West Berkshire (3) Chinnor Oxfordshire (3)
	UUT (3)	St. Helens, Merseyside (3) Northwich, Cheshire (3) Carnforth, Lancashire (3)
	WSX (1)	Bridport, Dorset (3)
	YKS (1)	Thirsk, North Yorkshire (3)
	<b>Total</b>	<b>281– AFW (2), ANG (72), BRL (6), CAM (3), DVW (1), DWR (14), ESK (6), HPL (2), IWN (3), NNE (2), PRT (5), SBW (2), SES (3), SEW (5), SRN (38), SSE (2), SST (9), SVT (25), SWT (5), TMS (34), UUT (16), WSX (19), YKS (7)</b>

## Significant, serious and major drinking water quality events

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
05 Jan 2014 For 11 days (SVT)	Sutton in Ashfield, Nottingham.	8	Do not drink notice issued.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Investigation of potential deterioration of old coal tar mains lining.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended that the company ensure that its mains valving information is reviewed and corrected as appropriate and that learning from this event is used to update the company's DOMS strategy.</li> </ul> <p>Risk classification: Significant</p>
06 Jan 2014 For 1 day (SBW)	Knapp Mill works, Ringwood, Christchurch and Bransgore.	134,000	<i>Cryptosporidium.</i>	<p><b>Semcorp Bournemouth Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Slow sand filter taken out of service due to a higher than usual outlet turbidity.</li> <li>• Sampling enhanced throughout the works.</li> <li>• Raw water contained both <i>C. ubiquitum</i>, <i>C. hominis</i> and <i>C. muris</i>.</li> <li>• No cases of human cryptosporidiosis reported to PHE in the area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate risk assessment.</li> <li>• Served a Regulation 27(5) Notice because the risk assessment did not reflect the <i>Cryptosporidium</i> risk or the actions the company were taking to mitigate the risk including plans for installation of ultraviolet (UV).</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
07 Jan 2014 For 21 days (TMS)	Bromley by Bow, London.	250	Taste and odour – hydrocarbons.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• Drained and cleaned tank until the hydrocarbons had cleared.</li> <li>• Advised managing agent to increase security of the room where the tank is housed.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
08 Jan 2014 For 0.5 hours (SWT)	College works, Falmouth and surrounding area.	20,000	Treatment failure leading to elevated turbidity.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Increased chlorine residuals at treatment works.</li> <li>• Sampled affected area.</li> <li>• Review of procedures.</li> <li>• Retrained staff.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was due to elevated turbidity at the inlet to the contact tank on restart due to power outage.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
09 Jan 2014 For 4 days (TMS)	Hambleton works, near Henley-on-Thames.	250	<i>Cryptosporidium</i> .	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Detection of oocysts found to be linked to a change in turbidity.</li> <li>• Notified health authorities.</li> <li>• Subsequently amended procedures for notifying companies receiving a bulk supply from this works.</li> <li>• Raised the borehole headworks.</li> <li>• Developed a programme to install turbidity meters on the individual borehole supplies.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Did not notify the event, which occurred during a period of severe flooding of flooding on the River Thames.</li> <li>• Highly critical that the company did not report January detections of <i>Cryptosporidium</i> as required by the Water Suppliers' Information Direction (2012).</li> <li>• Recommended that the company reviews its procedures for the identification and notification of events and ensures that all appropriate events are notified.</li> <li>• Highly critical that there were no turbidity monitors or other measures for identifying a deterioration in water quality at individual boreholes and required the company to provide a report on how it meets the recommendations in Badenoch and Bouchier reports.</li> <li>• Enforcement being progressed to address <i>Cryptosporidium</i> risks at this site.</li> </ul> <p>Risk classification: Serious</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
09 Jan 2014 For 6 hours (SWT)	Sidmouth, Devon.	3,875	Loss of supply due to planned work.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Rezoned area (brought in water from different source).</li> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Valving work at Corehill reservoir resulted in the reservoir emptying.</li> <li>• Inadequate maintenance procedures.</li> <li>• Recommended that the company satisfy itself that suitable procedures are in place for maintaining equipment.</li> </ul> <p>Suggested that the company review the suitability of equipment which can fail due to battery life.</p> <p>Risk classification: Significant</p>
10 Jan 2014 For 4 days (WSX)	Bradley Head works, Central Somerset.	4,301	<i>Cryptosporidium.</i>	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Automatic shutdown of Bradley Head treatment works after which the company detected <i>Cryptosporidium</i> in the sampling filter when tested.</li> <li>• Site is to remain out of supply until it can be abandoned. Some network reinforcement needed to enable this.</li> <li>• Improvement programme in place for this and other works relating to <i>Cryptosporidium</i> risk.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate risk assessment.</li> <li>• Sampling did not occur on shutdown as required by procedure and therefore was not timely enough.</li> <li>• Recommended the company ensures they have sufficient processes in place to mitigate the risk in the short term.</li> <li>• Recommended the company reviews its procedures and ensures sufficient investigatory samples are taken to meet the requirements of Regulation 10.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
11 Jan 2014 For 1 day (YKS)	Keldgate works Cottingham, Hull.	178,499	<i>Cryptosporidium.</i>	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Blended supply with another source.</li> <li>• Risk assessment and water safety plan updated.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
15 Jan 2014 For 20 weeks (ANG)	Ely, Cambridgeshire.	3	Odour.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampling determined organic odour was linked to plastic/rubber plumbing materials.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
17 Jan 2014 For 1 week (SEW)	Barcombe works, Turners Hill Crawley.	3	<i>Cryptosporidium.</i>	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Brought forward completion of improvements including installation of UV set out in a Notice already in place to mitigate the risk of <i>Cryptosporidium</i> at the works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Suggested the company work with the health authorities to monitor changes in reported cases of cryptosporidiosis and giardiasis in the community to demonstrate the benefit of the improvements.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
23 Jan 2014 For 48 hours (UUT)	Loveclough works, Burnley, Lancashire.	88,228	Treatment failure – pH.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired faulty monitors.</li> <li>• Reviewed the works start-up checklist.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by a fault with the dosing equipment which was compounded by the company disregarding turbidity results.</li> <li>• Recommended the company work with the manufacturer or installer to identify and apply learning to wherever similar controllers are used.</li> <li>• Critical that the works was not run to waste and treatment processes stabilised prior to restart.</li> <li>• Recommended that the company install an automatic run to waste facility or provide a detailed explanation of why this is not possible.</li> <li>• Highly critical that company was not in control of important alarm management settings, however, appropriate changes to settings were made subsequently.</li> <li>• Recommended that the company investigates how widespread incorrect alarm management settings are.</li> <li>• Recommended that all operators are retrained in the procedure for taking manual turbidity readings.</li> <li>• Critical that the Process Controller and those that joined him on site did not identify that the treatment process had been significantly compromised and escalate the event.</li> <li>• Recommended it is made clear within the works start-up checklist what to do if the works cannot be restarted.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
26 Jan 2014 For 4 days (UUT)	Denton works, Old Trafford, Manchester.	258,355	Taste or odour.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Shut down works in response to results from sampling the supply area.</li> <li>• Review of granular activated carbon (GAC) performance led to plan for more frequent regeneration (every two years).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate risk assessment and monitoring.</li> <li>• Recommended improved monitoring of occurrence of geosmin and 2-MIB in raw water.</li> <li>• A Notice was served requiring the company to implement a comprehensive plan for the management of the algal taste and odour risk.</li> </ul> <p>Risk classification: Significant</p>
27 Jan 2014 For 4 days (TMS)	Blackheath, South London.	43,360	Brown discolouration due to planned work.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The event was due to the lack of a risk assessment before opening valves to increase distribution pressure in a zone known to suffer from discolouration.</li> <li>• Recommended a review of the adequacy of risk assessments when undertaking valving activities and consequential improvement in procedures and practices.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
01 Feb 2014 For 5 hours (UUT)	St. Helens, Merseyside.	5,591	Brown discolouration due to third party mains damage.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Sampled affected area.</li> <li>• Carried out a fittings inspection at the request of a nearby food manufacturer who had been testing their sprinkler system. No contraventions found, but it was confirmed that there had been a burst on the sprinkler system on the morning of the event.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
05 Feb 2014 For 4 days (SVT)	Telford.	23,000	Brown discolouration due to mains burst.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate risk assessment because no mitigation in place for a known discolouration risk.</li> <li>• Required the company to review the risk assessment.</li> <li>• Suggested that this type of work is recognised in the company's DOMS management to prevent a recurrence of this type of event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
05 Feb 2014 For 3 hours (BRL)	Bristol city centre.	4,953	Brown discolouration due to planned work.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired faulty equipment.</li> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Company reviewed the modelling and identified that although correct, there was an additional pressure differential caused by the rezoning, this will be taken into account in future operations on this section of main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
05 Feb 2014 For 18 hours (SWT)	St Austell, Bugle, Penwithick.	20,000	Brown discolouration due to planned work.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Review of procedures.</li> <li>• Sampled affected area.</li> <li>• Replaced faulty equipment.</li> <li>• Company to trial handheld turbidimeters.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate contingency planning.</li> <li>• Required company to respond to repeated suggestion about providing technicians with portable turbidimeters; improved training and modelling of the network to prevent recurrence.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
06 Feb 2014 For 4 weeks (SES)	Kenley works, Croydon.	17,500	Potential loss of supply due to flooding.	<p><b>Sutton and East Surrey Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Groundwater flooding from the Caterham Bourne occurred after a period of exceptional rainfall.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• The company deployed heavy duty pumps and overland pipes and worked with others to close a major highway and use it to divert flood water from the site.</li> <li>• Sampled affected area.</li> <li>• Established an emergency control room at the site.</li> <li>• Protected the site with sandbags</li> <li>• Improved flood defences.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended actions to investigate the condition of the pump sump to remove the uncertainty surrounding its integrity.</li> <li>• Suggested a review of other sites at risk of flooding where there are areas which cannot be supplied by rezoning if the works is taken out of supply. Recommended the company prepares robust emergency contingency measures for situations where a supply is lost for an extended period.</li> <li>• Required details of, and timetable for, planned improvements identified as necessary as learning from this event.</li> </ul> <p>Risk classification: Serious</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
06 Feb 2014 For 1 day (SRN/ Eurofins)	N/A	N/A	Eurofins laboratory.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Failed to identify and act upon a metaldehyde failure prior to data submission to the Inspectorate.</li> <li>• Audit of laboratory identified LIMS limits for highlighting metaldehyde failures were not in place: corrective action taken.</li> <li>• Put in place an electronic auto labelling system.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Unacceptable delay in notifying Inspectorate due to a likely sample identification error.</li> <li>• Suggested refresher training for samplers/analysts.</li> <li>• Critical that the company did not identify the absence of a failure flag against this sample before submitting its monthly return to the Inspectorate.</li> <li>• Recommend regular review of breach levels on the LIMS to prevent a recurrence.</li> <li>• Noted that this is one of a series of events related to analytical services (See <i>Drinking water 2013 – Annex 3</i> and one minor event in 2014).</li> </ul> <p>Risk classification: Significant</p>
06 Feb 2014 For 24 hours (DWR)	Pontlloftyn in Bargoed plus surrounding areas Deri, Brithdir and New Tredegar.	1,800	Loss of supply due to mains burst.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main affected by subsidence.</li> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• The company laid an overland main as mitigation for worsening weather.</li> <li>• Samples exhibited elevated turbidity, iron, aluminium and manganese during and shortly after the event but levels returned to normal.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
07 Feb 2014 For 1 hour (CAM)	Hinxtton works, South Cambridgeshire.	27,804	Turbidity.	<p><b>Cambridge Water Company Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Works auto shutdown alarms were repeatedly overridden.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company failed to notify a treatment failure in the week preceding this event, which came to light only through a consumer complaint. During the proceeding week, the works auto shutdown alarms were overridden repeatedly.</li> <li>• Highly critical that this was not reported to the Inspectorate and the risks were not assessed before returning the site to supply resulting in a failure to collect appropriate samples.</li> <li>• Recommended the company reminds all operational staff about procedures for notification of water quality events.</li> <li>• Recommended continuous monitoring for turbidity at a point representative of water leaving the site.</li> <li>• Recommended that the company ensures that adequate safeguards are in place to prevent improperly treated water being supplied from all works at all times.</li> <li>• Required the company to update the regulatory risk assessment.</li> <li>• Suggested that the company keep records of flushing of mains, specifically the quantity of water used and the quality of water recorded by on-site checks post flushing.</li> <li>• Suggested that operators are provided with equipment to allow them to assess the risks prior to the site returning to supply.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
08 Feb 2014 For 24 hours (TMS)	Hambleton works, Henley.	26,500	Turbidity.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Responded to increased river flow and rising borehole turbidity, by removing two at risk boreholes from service.</li> <li>• Reviewed turbidity alarm thresholds and raised the UV dose at site from 20-40mJ/cm<sup>2</sup>.</li> <li>• Reviewed the <i>Cryptosporidium</i> sampling filter volumes at the site. More frequent checking is now in place.</li> <li>• Applied lessons learned to other sites.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
10 Feb 2014 For 1 day (SVT)	Frankley works, Birmingham and Coventry.	150,000	Iron.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Changed treatment regime.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Failed to act on alarms resulting in lime being overdosed.</li> <li>• Recommended process investigations be carried out in response to alarms.</li> <li>• Critical of repeat events at this works.</li> <li>• Notice in place requiring improvement to works.</li> </ul> <p>Risk classification: Significant</p>
11 Feb 2014 For 6 hours (SST)	Halesowen.	2,488	Loss of supply due to mains burst.	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• reviewed escalation procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of company for not following its own escalation procedure.</li> <li>• Required evidence of staff briefing on escalation procedure.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
13 Feb 2014 For 5 days (SVT)	Oswestry.	18,000	Loss of supply due to power outage.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Repaired and flushed mains.</li> <li>• Provided an alternative supply by tanker/bowser.</li> <li>• Issued press statement and placed a message on the phone system informing customers of the situation.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
13 Feb 2014 For 5 days (SVT)	Oswestry.	18,000	Loss of supply due to power outage.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Repaired and flushed mains.</li> <li>• Provided an alternative supply by tanker/bowser.</li> <li>• Issued press statement and placed a message on the phone system informing customers of the situation.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
14 Feb 2014 For 3 days (UUT)	Prenton works, Crosshill.	26,600	Disinfection failure.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled area.</li> <li>• Identified the cause and planned to check for similar deficiencies at other sites.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Failsafe auto shutdown did not operate when the works experienced a period of unstable power supply.</li> <li>• Recommended that the company ensures that its instrumentation is fully operable under all operating conditions. The fault has been added to the actions on Telemetry and Alarms already covered by a legally-binding programme of work.</li> </ul> <p>Risk classification: Significant</p>
18 Feb 2014 For 7 days (AFW)	Egham works, Egham, Surrey.	280,000	Potential loss of supply due to flooding.	<p><b>Affinity Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Established a flood management command structure, with clear responsibilities for different aspects of flood risk management.</li> <li>• Obtained support from the army to install sandbags to protect the sludge plant at Egham works.</li> <li>• Procured bottled water as a contingency supply.</li> <li>• Improved stocks of treatment chemicals and fuel on site.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that company contingency plans did not consider the simultaneous risk of flooding at multiple sites.</li> <li>• Recommended that the company provide a holistic flood plan that considers all sites along the River Thames and that the learning from this event is applied to all sites.</li> <li>• Critical that the risk of flooding of the sludge plant had not been identified in the regulatory risk assessment.</li> <li>• Required updating of risk assessments to include further consideration of flooding hazards.</li> </ul> <p>Risk classification: Serious</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
23 Feb 2014 For 2 days (UUT)	Kirkby, Merseyside.	300,335	Brown discolouration due to planned work.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Sampled affected area.</li> <li>• Co-ordinator to be appointed for remainder of the planned work on Dee trunk main scheme and enhanced method statements are to be produced for this scheme.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate procedures.</li> <li>• Inadequate training/competence of staff.</li> <li>• Too little information on actions and contingencies recorded on the planned work risk assessment forms.</li> <li>• No proactive turbidity monitoring on downstream trunk mains that would have picked up an issue earlier.</li> <li>• Recommended that the whole risk assessment/method statement process be reviewed and aligned for all areas of the business.</li> <li>• 'Calm Networks' training had been completed by distribution teams, but not for teams working on trunk mains or processes.</li> </ul> <p>Risk classification: Significant</p>
27 Feb 2014 For 1 week (WSX)	Salisbury, Wiltshire.	3	Enterococci.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• The company arranged for consumer taps to be replaced by the housing association's maintenance.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
01 Mar 2014 For 1 day (SVT)	Melbourne works, Leicestershire.	1,200,000	<i>E.coli.</i>	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Reduced flow and increased chlorination.</li> <li>• Inspected tanks by remote means.</li> <li>• Replaced sample line.</li> <li>• Made repairs to contact tank inlet chamber and sludge plant valves.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Enhanced monitoring showed <i>E.coli</i>.</li> <li>• Critical of slow response to deteriorating quality on the waste water return in accordance with Badenoch and Bouchier reports.</li> <li>• Recommended checks of the DAF process.</li> <li>• Recommended review and checks of the coagulant dose.</li> <li>• Required company to confirm they have re-evaluated the raw water risks for <i>Cryptosporidium</i>.</li> <li>• Recommended company carry out a self-assessment against the recommendations of Badenoch and Bouchier concerning turbidity, monitoring and treatment.</li> <li>• Notice applying to the works was amended in light of this event.</li> </ul> <p>This is linked to the event at Melbourne works on 15 December 2014.</p> <p>Risk classification: Significant</p>
05 Mar 2014 For 50 days (SRN)	Ryde, Isle Of Wight.	230	Media interest due to burst main.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• The new main is to be dug up and replaced.</li> <li>• Retrained staff.</li> <li>• Review of procedures.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to the laying of a new main which went wrong and caused flooding.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
13 Mar 2014 For 4 hours (SRN)	Singlewell Service reservoir, Gravesend, Kent.	66,878	Loss of supply due to faulty equipment.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Replaced faulty equipment.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by a faulty transducer leading to the draining of the reservoir.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
13 Mar 2014 For 6 days (TMS)	Beckenham, South London.	10	Mains burst in proximity of sewer.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a boil water notice as a precaution due to risk of contamination by surface water and proximity of the sewer.</li> <li>• Provided bottled water on request.</li> <li>• Repaired main and sewer.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
13 Mar 2014 For 2 weeks (UUT)	Didsbury near Manchester.	13	Taste or odour – petrol.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Provided bottled water on request.</li> <li>• Sampled affected area.</li> <li>• Carried out a fittings inspection.</li> <li>• Replaced company side of the pipe for boundary pipe.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
13 Mar 2014 For 3 months (WSX)	Norton Fitzwarren, Taunton.	3	Backsiphonage.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Company isolated the public supply and carried out water fittings inspection, which identified contraventions.</li> <li>• Required the fitting of double non-return valve to connection between private supply and public supply on farm.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
16 Mar 2014 For 3 days (YKS)	Huddersfield.	8	Loss of supply due to third party damage.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Company connected properties to a temporary overland supply while long-term solution was developed.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
18 Mar 2014 For 1 hour (VWP)	Chalkpit works, Tidworth.	22,500	Disinfection failure.	<p><b>Veolia Water Projects action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• This is a marginal disinfection site where treated water is blended with water from another site.</li> <li>• Faulty chlorinator changeover switch was identified after 1 hour 20 min, and repaired.</li> <li>• Run to waste capability to be provided and documented.</li> <li>• Company to re-brief staff on importance of Regulation 26 and escalation of relevant issues.</li> <li>• Chlorination system to be upgraded at site, and process loop time reduced.</li> <li>• Disinfection policy to be updated and reissued.</li> <li>• Regulation 28 risk assessment to be reviewed and updated.</li> <li>• Procedures regarding liaison to be updated.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate communication caused delay in response.</li> <li>• Inadequate procedures.</li> <li>• Inadequate training/competence of staff.</li> <li>• Inadequate risk assessment.</li> <li>• Unacceptable delay in notifying local/health authorities.</li> <li>• Delay in escalation led to undisinfecting water leaving site.</li> <li>• No run to waste on site, so operator ran site into supply.</li> <li>• Operator ran site into supply rather than escalating for advice.</li> <li>• Current disinfection policy does not include marginal chlorination.</li> <li>• Risk assessment does not fully capture risks and mitigations.</li> <li>• Delay of two days in informing local Health Protection Team.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
19 Mar 2014 For 5 days (UUT)	Buckshaw Village Lancashire.	4,000	Taste or odour due to planned work.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Provided bottled water on request.</li> <li>• Company flushed network.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate flushing of main following new main installation of welded joints.</li> <li>• Company used air bags for line stopping prior to determining if they were approved for use with drinking water. Retrospectively, the company demonstrated the product had the appropriate approval.</li> </ul> <p>Risk classification: Significant</p>
19 Mar 2014 For 3 days (DWR)	Kinmel Bay Near Rhyl, North Wales.	7,000	Loss of supply due to third party damage to mains.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Rezoned area (brought in water from different source).</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Review of procedures used for laying sewers with respect to preventing damage to water mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Main was damaged by the company's own sewerage contractors not following the risk assessment and training/competence of staff.</li> <li>• Suggested that the company ensures information given to consumers during events is accurate.</li> <li>• Recommended the company reviews the effectiveness and timeliness of its risk assessment practices for its sewer contractors working near water mains so as to ensure a risk assessment is carried out and acted upon.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
23 Mar 2014 For 3 days (YKS)	Herringthorpe, Rotherham.	3,050	Brown discolouration due to planned work.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Provided bottled water on request.</li> <li>• Replaced faulty equipment.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company had to shut off a greater length of main than was desirable, as a key valve could not be operated. On return to supply a combination of insufficient flushing and sediment disturbance on recharge led to discoloured water.</li> <li>• The network technician did not have sufficient guidance available to calculate an appropriate flushing time for a changed operational circumstance.</li> </ul> <p>Risk classification: Significant</p>
24 Mar 2014 For 24 hours (ANG)	Irby reservoir final water, Grimsby.	199,725	<i>E.coli.</i>	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at reservoir.</li> <li>• Sampled affected area.</li> <li>• No service reservoir integrity problem identified.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate had no further comment to make on the event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
25 Mar 2014 For 1 day (SVT)	Frankley service reservoir, Worcestershire.	3	Request to remove an unrepresentative sample from the compliance record.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• A new procedure relating to the operational management of reservoirs and tanks issued and includes the communications necessary to ensure unrepresentative samples are not collected.</li> <li>• Updated risk assessment to accurately describe the assets.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event only came to light when the company asked for a sample to be removed from the data return on the grounds it was unrepresentative.</li> <li>• Inadequate procedures.</li> <li>• Recommended a review of risk assessment to include the risk relating to a valve that is letting by water.</li> <li>• Recommended that the valve is repaired before the service reservoir is next removed from supply.</li> </ul> <p>Risk classification: Significant</p>
25 Mar 2014 For 5 days (SEW)	Petersfield.	4,688	Brown discolouration due to mains burst.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
26 Mar 2014 For 2 days (SVT)	Stourbridge.	16,000	Brown discolouration due to planned work.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired faulty equipment.</li> <li>• The company response was satisfactory.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
26 Mar 2014 For 24 hours (BRL)	Sherston, Wiltshire.	3,750	Media interest caused by loss of supply due to planned work.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Provided bottled water on request.</li> <li>• Replaced main.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event attracted media interest because the loss of supplies affected four district metered areas (DMAs). Inadequate risk assessment.</li> <li>• Inadequate communication caused delay in response.</li> <li>• Suggested review of the effectiveness of communication practices between network planning and field operatives and requested Inspectorate be informed of outcome.</li> <li>• Recommended that valve status checks are carried out before commencing planned work.</li> <li>• Suggested that all line valves are recorded accurately on both geographic information system (GIS) site plans during renovation operations.</li> </ul> <p>Risk classification: Significant</p>
27 Mar 2014 For 2 days (SVT)	Nedge Hill service reservoir, Telford and Much Wenlock.	84,030	Enterococci.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Review of procedures.</li> <li>• Reservoir cleaned.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company was unable to confirm when this reservoir was last inspected due to poor record keeping.</li> <li>• Recommended company review its procedures to ensure adequate and complete records are held for reservoir inspections.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
31 Mar 2014 For 2 days (UUT)	Mill Hill, Blackburn	35,191	Brown discolouration due to planned work.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Discolouration caused when area rezoned following a mains diversion.</li> <li>• Flushed mains.</li> <li>• Set up message on telephone lines for affected consumers.</li> <li>• Sampled.</li> <li>• Subsequently implemented a new risk assessment process for planned work.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Highly critical that a risk assessment was not completed for the rezoning and some consumers reported objectionable eggy odour.</li> <li>• Suggested that all planned work risk assessment forms include detailed step-by-step instructions and contingencies.</li> <li>• The same weaknesses in practice have occurred in previous events in 2011 (3), 2012, 2013, 2014 (see above).</li> <li>• Recommended the company takes robust steps to improve its planned network operations.</li> <li>• Recommended that the company forewarns consumers where there is a risk of discolouration.</li> <li>• Highly critical that the risk of flow changes causing discolouration was not considered prior to the work.</li> <li>• Recommended that network modelling is completed for all planned network operations where there is an identified risk of discolouration.</li> <li>• Concerned that during the slip lining deposits of the tuberculation would have collected in the main.</li> <li>• Critical that no proactive monitoring of turbidity downstream of flushing was carried out and suggested this is done in future similar situations.</li> <li>• Recommended that the company updates its risk assessment report for the zone in response to this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
03 Apr 2014 For 1 day (SRN)	Rochester.	123	Brown discolouration due to planned work.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Rezoned area (brought in water from different source).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by inadequate planning and inaccurate records leading to the risk of discoloured water not being identified and managed. This indicated that the company had not successfully embedded improved procedures for checking valve status ahead of planned work.</li> <li>• Recommended that for all planned works on the mains system the actual valve status is checked immediately before the work is carried out.</li> <li>• Suggested that the company takes steps to ensure that all line and cross connecting valves are recorded accurately on its geographical information system (GIS) system and site plans used for planned operations.</li> </ul> <p>Risk classification: Significant</p>
05 Apr 2014 For 48 hours (YKS)	Ewden works, Wadsley, Shire Green and Darnall parts of Sheffield.	100,000	Brown discolouration due to failure of a control valve.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Bypassed service reservoir.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Asked the company to provide an update on plans for active conditioning of the main.</li> <li>• Requested a review of all other sites with similar equipment that should be utilising flat lining alarms to check they are configured correctly.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
08 Apr 2014 For 3 hours (YKS)	Holmbridge works, East and South Huddersfield, West Yorkshire.	36,300	Treatment failure.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shut down treatment works.</li> <li>• Replaced faulty equipment.</li> <li>• Review of procedures.</li> <li>• Retrained staff.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to a wash water valve failure allowing backwash of liquid lying above a sediment to return to head of works, it was foreseeable and avoidable as it was caused by inadequate maintenance of the washwater recovery system combined with a lack of understanding of the impact of the run to waste processes on final water turbidity.</li> <li>• Suggested the company assesses the potential for streaming in its impounding reservoirs and incorporates the findings into the risk assessment.</li> <li>• SCADA data lost during key period; suggested the company duplicate the node on the SCADA system at all similar sites (similar to a subsequent event – see event at Headingley works on 16 May 2014).</li> <li>• Recommended the company actively develops enhanced capability to manage the run to waste process to prevent a recurrence.</li> <li>• Recommended the plant is modified to comply with Badenoch Report recommendation.</li> <li>• Suggested the company applies the lessons from this event to other sites where similar backwashing systems are in place.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
08 Apr 2014 For 2 hours (SWT)	Wendron works, Wendron, Cornwall.	32,919	<i>Cryptosporidium.</i>	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Retrained staff.</li> <li>• Company reminded all relevant staff of the importance of checking valve positions following routine maintenance.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company was reminded of the importance of timely notification, as notification was made the day after the result was available.</li> </ul> <p>Risk classification: Significant</p>
10 Apr 2014 For 2 days (DVW)	Chester.	120	Issue of warning advice.	<p>Dee Valley Water Plc action:</p> <ul style="list-style-type: none"> <li>• Issued a boil water notice.</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
15 Apr 2014 For 6 hours (SRN)	Saltdean Vale near Brighton	1,740	Media interest due to mains burst.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Provided bottled water on request.</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Bottled water availability was only sufficient for six hours of planned work.</li> <li>• Verbal briefing of learning points to staff but procedures not changed or updated.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Repeated attempts to recharge main after a planned repair failed due to incorrect fitting; this led to overrun of the planned works as a cut out and a wider rezoning exercise was required.</li> <li>• Critical that the company did not keep customers informed when situation changed from the information provided to them in the 48 hour warning notice of the planned work. This led to adverse publicity and loss of consumer confidence: suggested that changing the wording of the routine warning notice would enable consumers to better prepare for a cut off being extended for unforeseen reasons.</li> </ul> <p>Risk classification: Significant</p>
15 Apr 2014 For 36 hours (SWT)	Nanpusker, Hayle, West Cornwall.	14,863	Loss of supply due to mains burst.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Burst on spine main repaired.</li> <li>• Bowsers provided and tanker discharged into service reservoir to maintain supplies.</li> <li>• Mains flushed on recharge.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• One property which exhibited a high metals result was not resampled therefore the company was required to further investigate.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
16 Apr 2014 For 104 weeks (SST)	Pipe Hill works, Walsall and Barr Beacon.	527,500	Pesticide (Chlorthal).	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Works taken out of supply.</li> <li>• Investigated laboratory performance.</li> <li>• Investigated whether this pesticide was present at other sources.</li> <li>• Liaised with EA to identify catchment issues.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Required company to notify Inspectorate before bringing this works back into supply.</li> <li>• The company has implemented new automated system to flag all positive acid herbicide results.</li> </ul> <p>Risk classification: Significant</p>
24 Apr 2014 For 27 days (SEW)	Benenden, Kent.	3	Coliforms and sewage odour due to cross connection with a rainwater harvesting system.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Five days after the first visit to the property, bottled water provided and advice given not to drink the water.</li> <li>• Fittings inspection identified a cross-connection to a rainwater harvesting system and this was disconnected a week later.</li> <li>• A double check valve was installed at the boundary.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Samples not analysed for appropriate parameters.</li> <li>• Critical that despite the consumer reporting a sewage odour the first sample was collected five days later.</li> <li>• Recommended the company reviews its procedures for reporting results out of normal working hours and ensures that a robust process is in place to ensure the timely reporting of adverse water quality results at all times.</li> <li>• Recommended the company learns from this event and reminds all staff of the importance of collecting microbiological samples immediately in response to a consumer contact about sewage type odours.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
25 Apr 2014 For 48 hours (ANG)	Lincoln.	3	Boil water notice issued.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a boil water notice.</li> <li>• Provided bottled water on request.</li> <li>• Sampled affected area.</li> <li>• Procedures for boundary box installations reviewed, redrafted and re-briefed.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to a risk of ingress from company work on a boundary box. Another similar event had occurred previously in the same zone (minor event).</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
30 Apr 2014 For 15 days (UUT)	Liverpool.	72,938	Air in water (white) due to planned work.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Review of procedures and technical briefing note issued to network operations staff relating to the isolation and recharging of mains that have air valves installed.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was critical that the company did not fully recharge a main after planned work which led to air being trapped in the system.</li> <li>• Critical that the risk assessment did not consider aeration risk and the air valve was not checked for operability before work commenced.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
01 May 2014 For 3 days (TMS)	Streatley service reservoir, Reading.	3,750	Taste or odour – petrol.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Promptly identified work on a service reservoir was the cause of consumer complaints of taste/odour.</li> <li>• Issued a restriction of use notice.</li> <li>• Distributed bottled water.</li> <li>• Sampled affected area.</li> <li>• Bypassed the service reservoir.</li> <li>• Drained and cleaned service reservoir.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the EA were not informed of the discharge of water containing styrene.</li> <li>• Highly critical with the lack of contractor control.</li> <li>• Require the company to improve its management of contract staff.</li> <li>• Poor risk assessment process.</li> <li>• The contractors were not trained under the ‘Blue Card’ scheme.</li> <li>• Concerned that the reservoir was returned to service without adequate checks of water quality.</li> <li>• Consumers were confused and worried by the lack of detail over the areas affected.</li> <li>• Recommended the company reviews and improves communication to consumers during this event.</li> </ul> <p>Risk classification: Serious</p>
01 May 2014 For 1 day (BRL)	Burnham on Sea, Somerset.	42,338	Loss of supply due to mains burst.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Rezoned area (brought in water from different source).</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Provided an alternative supply by tanker/bowser.</li> <li>• Provided bottled water on request.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company’s handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
09 May 2014 For 1 day (SVT)	Winchcombe, Gloucestershire.	145	Taste and odour.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Valving operations released stagnant water into supply.</li> <li>• After 46 consumer complaints had been received 181 boil water notices were issued.</li> <li>• Flushed mains and sampled area.</li> <li>• Revised valving procedures.</li> <li>• Improved visibility of mains projects within the control centre.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Serious</p>
09 May 2014 For 6 hours (TMS)	Ashford Common works, South West London.	822,452	Disinfection failure.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at treatment works.</li> <li>• Company committed to a review of failsafe systems at this large works.</li> <li>• Detailed design on a failsafe system at Ashford Common is expected to commence in September 2015, a programme for addressing this issue at other large works is expected to be carried out over the AMP 6 period.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended additional measures to prevent or reduce the likelihood of the supply of inadequately disinfected water leaving this site.</li> </ul> <p>This is linked to the event at Kings Cross on 9 May 2014.</p> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
09 May 2014 For 1 day (IWN)	Kings Cross.	1,007	Bulk supply.	<p>Independent Water Networks action:</p> <ul style="list-style-type: none"> <li>• Event affecting a bulk supply was not separately notified to the Inspectorate.</li> <li>• Appointed new staff member to address water quality issues.</li> <li>• Changed notification procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Unacceptable delay in notifying Inspectorate due to inadequate knowledge of staff and procedures.</li> </ul> <p>This is linked to the event at Ashford Common works on 9 May 2014.</p> <p>Risk classification: Significant</p>
15 May 2014 For 5 days (WSX)	Newtown service reservoir, Seven Perches, Newtown, Westbury, Wiltshire.	3	Issue of boil water advice.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Replaced faulty equipment.</li> <li>• Company to install inline boosters to prevent recurrence.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by root ingress and soil in the single property booster chamber on inspection following a request by a consumer who was concerned about the taste of the water supply.</li> <li>• Company required to confirm when inline boosters have been installed and commissioned.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
15 May 2014 For 3 days (WSX)	Wellington, Somerset.	5	Third party damage to mains.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a boil water notice.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company was reluctant to use the Inspectorate's cascade system, when the first point of contact was not available; therefore the notification was not as timely as it should have been.</li> </ul> <p>Risk classification: Significant</p>
16 May 2014 For 50 hours (UUT)	Lymm, Cheshire.	36,800	Brown discolouration due to mains burst.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired burst mains.</li> <li>• Deployed a tanker to assist with supplies.</li> <li>• Bottled water provided.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Required company to complete update to on-site risk assessment process and this was done in July.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
16 May 2014 For 6 hours (YKS)	Headingley works, Leeds.	227,314	Treatment failure – turbidity.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Detected issues with lime batching process causing overdosing.</li> <li>• Sampled affected area.</li> <li>• Corrected treatment process.</li> <li>• Subsequently introduced new alarms.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The existing lime dosing system requires replacement and a Notice was issued requiring the company to make the necessary improvements.</li> <li>• This event featured a failure of the SCADA system. SCADA also failed in an earlier event (see event at Holmbridge works on 8 April 2014).</li> <li>• Recommended that the company reviews all of its SCADA systems to rule out a systemic issue.</li> </ul> <p>Risk classification: Significant</p>
16 May 2014 For 3 days (NNE)	Bedlington.	6,000	Discolouration due to mains burst.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Review of procedures.</li> <li>• Retrained staff.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to discoloured water being supplied following an inadequate risk assessment and a poorly executed return to service of a main following repair.</li> <li>• Recommended improvements to the risk assessment process and training of staff.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
20 May 2014 For 6 days (ANG)	Scunthorpe.	16,800	Loss of supply due to mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Rezoned area (brought in water from different source).</li> <li>• Sampled affected area.</li> <li>• Repaired main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
21 May 2014 For 9 days (UUT)	Ribble Valley and Blackburn.	79,013	Air in water (white).	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Replaced faulty equipment.</li> <li>• Responded to consumer contacts about aeration.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended that the company reviews all of its sites where air compressors are installed as part of a surge protection system and ensures that level controllers are appropriately alarmed on the SCADA system so that should a fault occur this is immediately relayed to the control centre.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
23 May 2014 For 50 hours (UUT)	Buersil reservoir, Rochdale.	24,930	Brown discolouration due to pump failure.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired faulty equipment.</li> <li>• Sampled affected area.</li> <li>• Provided an alternative supply by tanker/bowser.</li> <li>• Retrained staff.</li> <li>• Repaired the faulty programme on the booster pumps.</li> <li>• Boosted mains pressure using a tanker.</li> <li>• Company to brief staff of the need to request enhanced monitoring where appropriate.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to a pump failure that followed a power outage that disrupted the programme loop control and alarms for the site.</li> <li>• Inadequate number of samples taken.</li> <li>• Suggested company review whether other sites have a fault that causes pumps to trip out after 1,000 seconds when set in a certain configuration and updates procedures for monitoring critical level alarms when below LoLo level.</li> <li>• Suggested the company reviews the procedure for returning empty or low level storage points to service to minimise discolouration risk.</li> <li>• Recommended the company clean out this reservoir.</li> <li>• Suggested the company considers targeted flushing in response to discolouration events.</li> <li>• Reminded the company that timely sampling at the start of an event is critical to ascertain the extent of an issue.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
29 May 2014 For 1 day (TMS)	Fobney works, Reading.	206,000	Animal ingress into contact tank.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Discovered animal bones during contact tank inspection.</li> <li>• Bones identified as black-headed gulls.</li> <li>• Investigation identified open vents into tank and historic evidence that access doors had been left open for extended periods.</li> <li>• Installed temporary covers on the access points and subsequently designed and installed permanent improved protection to prevent a repeat occurrence.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Highly critical that neither the open vents nor the presence of gulls was taken into account when the company investigated previous microbiological failures (first recorded in 2008).</li> <li>• Recommended the company immediately reviews vents and hatches on all tanks to ensure all potential routes of ingress are identified, suitable protection is in place and that all vents and hatches are inspected on a regular basis.</li> <li>• This event revealed a failure by the company to learn from the Pitsford event (Anglian Water) and the Dancers End event (Thames Water).</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
01 Jun 2014 For 2 days (YKS)	Tophill Low works, East Yorkshire.	173,928	<i>Cryptosporidium</i> .	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Blended supply with another source.</li> <li>• Sampled affected area.</li> <li>• Revised abstraction procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The works was operating within normal design parameters according to on-line monitoring when oocysts were detected.</li> <li>• Requested more information about the <i>Cryptosporidium</i> risk that was based on more than seven days storage of raw water.</li> <li>• Requested information about streaming properties of bankside storage reservoirs.</li> <li>• The company confirmed that the backwash return facilities were compliant with the Badenoch recommendations.</li> </ul> <p>Risk classification: Significant</p>
05 Jun 2014 For 10 days (SVT)	Tewksbury.	3	Media interest.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Article published in Gloucestershire Echo about taste and odour in the water supply.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
05 Jun 2014 (WSX)	n/s		Failure to notify turbidity values >1NTU.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• After contact from the Inspectorate, the company at a senior level made a strategic change of direction in risk assessment and mitigation, including planning for site abandonment and upgrading of assets to ensure compliance with Regulation 26.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company was found not to have notified the Inspectorate of various occasions when turbidity exceeded 1NTU at the point where water was presented for disinfection contrary to Regulation 26. At various sites the shutdown, containment or run to waste facilities were not adequate.</li> <li>• A Notice is being put in place to require the company to address the deficiencies.</li> </ul> <p>Risk classification: Significant</p>
10 Jun 2014 For 1 day (TMS)	Goose Green tower, Hoddesdon, Hertfordshire.	39,772	<i>E.coli.</i>	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Removed water tower from supply.</li> <li>• Sampled affected area.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Replaced faulty equipment.</li> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Significant remedial works were taking place at this site including checks on the configuration of the associated mains. DWI undertook an audit of this site in July and the findings are reported in the Audit Section.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
10 Jun 2014 For 10 days (SRN)	Sandown works, Isle of Wight.	10,200	Chlorate.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shut down the works.</li> <li>• Replaced sodium hypochlorite stocks.</li> <li>• Procedures put in place following a previous failure had not been followed and staff were disciplined.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Highly critical of the delay in notifying the Inspectorate and the repetition of an avoidable event.</li> <li>• Recommended compliance with the British Standard and Information Letter 05/2011 and required evidence of how this will be done reliably in future.</li> </ul> <p>Risk classification: Significant</p>
11 Jun 2014 For 2 hours (ANG)	Glandford works, North Norfolk.	17,717	Turbidity.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Works shut down automatically.</li> <li>• Turbid water left site during restart.</li> <li>• Turbid water was contained within pumping main.</li> <li>• Flushed mains to remove turbid water.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by the disturbance of mains sediments after a flow change.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
11 Jun 2014 For 1 week (TMS)	Bedwyn works, near Marlborough, Wiltshire.	3	Turbidity.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Investigated works performance.</li> <li>• Sample examined in the laboratory contained white particles.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Unacceptable delay in notifying Inspectorate.</li> <li>• Critical that investigation did not confirm the presence of chalk.</li> <li>• Recommended future similar investigations are completed as regards evidence of cause.</li> <li>• Notice put in place to require action to address ongoing risk of turbidity by removing deposits from the pressurised contact tanks and improving borehole water quality.</li> </ul> <p>Risk classification: Significant</p>
17 Jun 2014 For 3 weeks (SVT)	Broadway service reservoir, Broadway, Worcestershire.	4,525	Enterococci.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Removed service reservoir from supply.</li> <li>• Made repairs to points of ingress.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical defects not identified and acted upon during an earlier inspection of the reservoir in 2013.</li> <li>• Recommended that sample analysis should be timelier in future.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
17 Jun 2014 For 8 days (UUT)	Liverpool.	25,220	Brown discolouration due to planned work.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that this was a planned shut down of five and half hours which went wrong causing supplies to a large zone to be lost.</li> <li>• Critical that despite ongoing customer complaints of discolouration, the company took no investigatory samples over four days and did not carry out a thorough investigation.</li> <li>• Recommended that the company ensure that sufficient investigatory sampling is done throughout the entire duration of future water quality events.</li> </ul> <p>Risk classification: Significant</p>
18 Jun 2014 For 3 days (IWN)	Corby, Northamptonshire	143	Third party damage to main.	<p>Independent Water Networks action:</p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued a boil water notice.</li> <li>• Repaired main.</li> <li>• Satisfactory response from the company.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
18 Jun 2014 For 1 hour (SRN)	Knighton works, Isle of Wight.	9,932	Turbidity due to planned work.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• The auto shutdown was overridden when the works was restarted following planned work and staff were disciplined as a consequence.</li> <li>• Review initiated for start-up protocols at all works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The risk of turbidity from the highlift pump manifold was not considered in the company's drinking water safety plan methodology.</li> <li>• Recommended review of how to better integrate risk registers to ensure site specific hazards and related control measures are better visualised in drinking water safety plans.</li> <li>• Highly critical that this water quality event was not notified to the Inspectorate in a timely manner.</li> <li>• Required the company to take steps to prevent the deposition of sediment in the downstream supply network.</li> <li>• Notice put in place requiring the company to review and resubmit its risk assessment for this works.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
19 Jun 2014 For 4 days (AFW)	Harefield.	1,150	Taste or odour due to planned work.	<p><b>Affinity Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Review of procedures for remediation of mains using ice pigging.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Very critical that the significance of consumer reports was not immediately recognised and customer agents had not been given adequate briefing nor had water quality staff been involved in the planning. This is a weakness in the company's planned work risk assessment process.</li> <li>• Recommended that all water quality calls linked to areas where planned work involving ice pigging has taken place are investigated immediately.</li> <li>• Recommended that company improves its process and procedures for advance warning of consumers of planned work.</li> </ul> <p>Risk classification: Significant</p>
23 Jun 2014 For 3 weeks (UUT)	Nelson, Lancashire.	3	Taste and odour.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Review of procedures relating to its common supply pipe disconnection procedures to identify mains with poor pressures and ensure simple quality checks on taste and odour are carried out when connecting to a main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that site plans were inaccurate causing an error in the mains connection and the supply of unwholesome water to consumers as evidenced by failures of the standards for PAHs, iron and manganese, and rejection by consumers on grounds of taste and odour.</li> <li>• Required company to demonstrate that review had resulted in changes to procedures to prevent a recurrence of events due to inaccurate sites plans.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
24 Jun 2014 For 1 week (DWR)	Newport, South Wales.	28	Brown discolouration due to a cross connection to a non-domestic supply.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Issued a do not drink notice.</li> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• Provided an alternative supply by tanker/bowser.</li> <li>• Review of procedures.</li> <li>• Replaced main.</li> <li>• Planned to review all of its industrial supplies of partially treated water.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by a cross connection made in 2006 and highlighted a serious shortcoming in the company's asset records. It was the second event in 2014 where inaccurate records were noted.</li> <li>• Company failed to update discrepancies in company records as required by the Inspectorate following an event assessment in 2008 for which the company received a caution (see <i>Drinking water 2008</i>).</li> <li>• The review of industrial supplies was not expedited in a timely fashion.</li> <li>• Recommended that the review looks at all cross connections between domestic and non-domestic supplies to ensure appropriate backflow protection is in place.</li> <li>• Recommended improved approach to asset recording and audit of same.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
25 Jun 2014 For 1 day (SEW)	Uckfield	15,000	Brown discolouration.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Company flushed the network to remove any remaining discolouration.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was a short-lived (10 minutes) disturbance of mains deposits</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
24 Jun 2014 For 2 days (WSX)	Bowden and Devizes.	18,000	Brown discolouration due to planned work.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed main.</li> <li>• Developed a new risk assessment process for planned maintenance work. The new procedure takes into account more factors including population affected (and vulnerable customers) making the risk score more meaningful.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of the company's original risk assessment process which failed to provide for forewarning of customers.</li> </ul> <p>Risk classification: Significant</p>
27 Jun 2014 For 5 days (ANG)	Acle, near Norwich.	13	<i>E.coli.</i>	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Issued a boil water notice.</li> <li>• Sampled affected area.</li> <li>• Staff disciplined and retrained.</li> <li>• Main disinfected and returned to service only after receipt of satisfactory results.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
28 Jun 2014 For 1 day (SST)	Glascote service reservoir, Tamworth.	5,214	<i>E.coli.</i>	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Removed service reservoir from supply.</li> <li>• Identified a small redundant pipe that was shown to be a route of ingress.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Previous internal inspection four months earlier failed to identify anything untoward.</li> <li>• Inspection report was minimal and raised concerns about the scope of investigation.</li> <li>• Suggested the internal inspection and defect recording process be reviewed, to ensure all findings and defects are identified, risk assessed and timescales agreed for completion of repairs.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
30 Jun 2014 For 9 days (TMS)	Earley service reservoir, Reading.	97,134	Loss of supply.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Failed to risk assess the change in how the site was operated.</li> <li>• Removed the floodwater and restored pumping.</li> <li>• Provided alternative supplies (bottled water and tankered).</li> <li>• Installed new level probe.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• During improvement works to increase reservoir capacity a bung was placed in the overflow, the level indicator failed and water overflowed into the building damaging the booster pumps and causing a loss of supply. The sump pump was not repaired promptly and the booster failed again ten days later.</li> <li>• Critical that a poor risk assessment did not identify the risk of a failed sensor.</li> <li>• Recommended that the company acts to ensure all significant changes to the setup of sites are adequately risk assessed.</li> <li>• Suggested that temporary changes are entered into the control room system to make control room staff aware of changes in the mode of operation.</li> </ul> <p>Risk classification: Significant</p>
01 Jul 2014 For 11 days (WSX)	Devizes, Wiltshire.	3	Taste or odour.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Carried out a fittings inspection.</li> <li>• Sampled affected property.</li> <li>• Flushed and replaced service pipe.</li> <li>• Issued a do not drink notice.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was due to a supply pipe to a church being in poor condition.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
02 Jul 2014 For 15 days (UUT)	Cloughbottom works, Burnley.	27,650	Taste or odour – musty/earthy.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Reduced output from works.</li> <li>• Ran works to waste.</li> <li>• Sampled affected area.</li> <li>• Installed a temporary PAC dosing rig.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company notified the works as having been taken out of service but failed to make clear that the contact tank with water containing geosmin was still in service.</li> <li>• Critical that the company did not recognise the increase in algal counts as defined in its own procedures.</li> <li>• Critical that the company did not attempt to identify the algae nor monitor for taste or odour forming compounds.</li> <li>• Critical that company failed to risk assess the potential for a wider taste and odour issue.</li> <li>• Critical that the company did not fully disclose the supply situation in the final report and reminded the company of its duty to provide all pertinent information.</li> <li>• Highly critical that the company knowingly supplied water with a significant taste to consumers during these periods and was five days late in notifying the Inspectorate.</li> <li>• A Notice has been served requiring the company to address the risks associated with objectionable taste and odour from this works.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
03 Jul 2014 For 3 hours (PRT)	Gosport.	139,203	Loss of supply due to planned work.	<p><b>Portsmouth Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired mains and PRV.</li> <li>• Sampled some but not all of the affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event of multiple bursts during a planned inspection occurred when a pressure reducing valve failed resulting in a burst main.</li> <li>• Critical that risk assessment for the planned work had no contingency for a PRV failure.</li> <li>• Recommended that the company reviews its procedures for collecting sufficient and appropriate samples.</li> <li>• Suggested that the company reviews its policy for risk assessments of planned work and makes improvements to ensure learning from this event.</li> </ul> <p>Risk classification: Significant</p>
03 Jul 2014 For 2 days (DVW)	Boughton Tower, Chester.	102,000	Coliforms.	<p><b>Dee Valley Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Carried out investigatory sampling.</li> <li>• Isolated tower from supply.</li> <li>• Considering abandonment of tower.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Poor turnover in the tower contributed to the failure; despite extensive investigation and a previous enforcement, uncertainty remains over the integrity of the tower roof and it remains isolated from the supply network.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
05 Jul 2014 For 3 months (TMS)	Henley-on-Thames.	10	Odour – hydrocarbons.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued do not drink (DND) notice to householders experiencing an oil like taste/odour.</li> <li>• Provided bottled water.</li> <li>• Sampled affected area.</li> <li>• Obtained health advice on hydrocarbons found.</li> <li>• Changed procedure for issuing DND notices.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that DND notices were not given to three properties where nobody answered the door.</li> <li>• Recommended that the company delivers a written notice to all affected properties rather than rely on door knocking.</li> <li>• Critical that the company rescinded some notices without reference to sample results and had to reinstate them.</li> <li>• Recommended that where consumers have contacted the water company with a taste or odour complaint that samples are analysed as soon as possible.</li> <li>• Suggested putting in place procedures to enable prompt fittings inspections and effective consumer support for situations where service pipe replacement is the permanent remedy to an event.</li> </ul> <p>Risk classification: Significant</p>
08 Jul 2014 For 3 days (WSX)	Bishops Hull, Somerset.	15	Third party damage to mains.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a boil water notice.</li> <li>• Flushed mains.</li> <li>• Sampled affected area.</li> <li>• Cleaned and disinfected domestic distribution.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
09 Jul 2014 For 3 days (SST)	Hednesford Hills service reservoir, Staffordshire.	13,200	<i>E.coli.</i>	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Removed reservoir compartments from supply for inspection.</li> <li>• Made repairs before returning to supply.</li> <li>• Increased chlorine residuals.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Event revealed deficiencies in quality of structural repairs carried out within the last two years.</li> <li>• Suggested next inspection of reservoir is within two years.</li> <li>• Recommended reservoir Inspections are aligned with Technical Guidance Note No. 9 of the Principles of Water Supply Hygiene.</li> </ul> <p>Risk classification: Significant</p>
11 Jul 2014 For 35 days (ANG)	Necton, Norfolk.	3	Petrol taste or odour due to a cross connection.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Replaced main.</li> <li>• Provided bottled water on request.</li> <li>• Issued a do not drink notice.</li> <li>• Company ensured that the cross connection was removed and supply pipe replaced with a barrier material pipe.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
12 Jul 2014 For 4 days (NNE)	Boulby.	68	Boil water notice issued due to mains burst.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Boil water notice while repairs were ongoing.</li> <li>• Flushed main on return to service.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
12 Jul 2014 For 2 weeks (UUT)	Ashton Under Lyne.	5	Blue colour.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Provided bottled water on request.</li> <li>• Fittings inspection carried out and landlord required to carry out remedial actions.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by back flow from a poorly plumbed toilet cistern where 'loo blue' was used.</li> <li>• communications with health professionals about the advice given to consumers was poor.</li> </ul> <p>Risk classification: Significant</p>
14 Jul 2014 For 5 days (ESK)	Lound works, Suffolk.	44,580	Coliform bacteria.	<p><b>Essex &amp; Suffolk Water action:</b></p> <ul style="list-style-type: none"> <li>• Investigated works and sampled affected area.</li> <li>• Changed residual from chloramine to free chlorine.</li> <li>• Provided additional weather protection for structures.</li> <li>• Carried out structural repairs.</li> <li>• Placed warning notice on website.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Reservoir inspections undertaken a few weeks prior to the failure did not identify ingress.</li> <li>• Subsequent inspection following failure identified ingress at several points.</li> <li>• Poor condition of slow sand filter filtration wells was noted.</li> <li>• Recommended company makes permanent repairs to the filtration well.</li> <li>• Recommended company issues its revised flood testing procedure.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
17 Jul 2014 For 10 hours (SEW)	Sevenoaks, Kent.	1,750	Media interest due to discolouration caused by planned work.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Warning notices were supplied to consumers ahead of this planned work to install new valves on supply to a new development.</li> <li>• Flushed mains.</li> <li>• Sampled affected area.</li> <li>• Issued a press statement.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Flushing in preparation for planned work caused discolouration and this was reported in the local newspaper.</li> <li>• Recommended that the company put in place arrangements to ensure that risks are appropriately identified and mitigated in advance of planned work, through the use of network models where appropriate.</li> </ul> <p>Risk classification: Significant</p>
18 Jul 2014 For 1 day (SWT)	Holcombe near Teignmouth.	75	Issue of boil water advice.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Increased chlorine residuals in the distribution system.</li> <li>• Issued a boil water notice.</li> <li>• Provided an alternative supply by tanker/bowser.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was related to a burst sewer and the need to safeguard the water supply.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
18 Jul 2014 For 96 hours (DWR)	Abergele, North Wales.	6,805	Brown discolouration due to flow control valve failure.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Sampled affected area.</li> <li>• Repaired faulty equipment.</li> <li>• Conducted a root cause analysis and concluded that the manually set flow control valves failed to operate properly allowing a scouring flow from the treatment works into the reservoir.</li> <li>• Subsequently revised the alarm settings at the inlet valves and assigned a priority to these alarms to require a site attendance.</li> <li>• Reassessed Regulation 29 risk assessment report to include the poor condition of the upstream eight inch main supplying the reservoir.</li> <li>• A replacement inlet control valves is to be installed.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Concluded that this event could recur therefore a Notice was served requiring the eight inch main to be renovated.</li> <li>• The company inspected and cleaned the service reservoir in Oct 2014 following Inspectorate's suggestion.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
19 Jul 2014 For 4 days (SVT)	Warwick, Warwickshire.	15	Issue of a do not drink notice.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Issued a do not drink notice.</li> <li>• Provided bottled water on request.</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company took appropriate actions to mitigate risk of ingress of surface water in mains repair trench, but the action was not timely (2 days after event), consumers were not kept informed and sampling was inadequate because of inaccurate geographical information system (GIS) records and this led to late issuing of do not drink notices.</li> <li>• Recommended company ensures that GIS maps and other sources of information are available to those staff and contractors operating on the distribution system and that they are sufficiently trained in their use to enable the company to protect all affected consumers.</li> <li>• Recommended company review its notification procedures for customers during future events with regard to the issuing of notices in a timely and structured manner and required this review to be submitted to the Inspectorate.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
19 Jul 2014 For 1 day (SVT)	Gloucester.	4,600	Brown discolouration due to mains burst.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Provided bottled water on request.</li> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Mains cleaning of the DMA completed in November 2014 with washouts installed on each side of the keep-shut valve.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
19 Jul 2014 For 2 weeks (SBW)	Bournemouth.	24	Taste and odour and <i>E.coli</i> .	<p><b>Sembcorp Bournemouth Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Samples taken after hotel owner complained of taste/odour to the water.</li> <li>• A boil water notice was issued following detection of <i>E.coli</i>.</li> <li>• Belatedly supplied bottled water.</li> <li>• Decaying pigeon discovered in cold water storage tank.</li> <li>• Fittings Inspection carried out.</li> <li>• Remediation plan put in place with building owner including replacement of cold water storage tanks.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate had to remind the company of its duty of care to provide alternative supplies to residents.</li> <li>• Failed to follow the notification requirements outlined in Information Letter 1/2012.</li> <li>• Recommended company ensures all staff follow the correct procedure.</li> <li>• Critical that following the laboratory report of <i>E.coli</i> in a sample from a public building, the company did not follow its own procedure for issuing a Section 75 Notice.</li> <li>• Recommended company complies with Section 75 requirements.</li> <li>• Recommended that the company complies more fully with the requirements of Regulations 17 and 18 of the Water Supply (Water Quality) Regulations 2000 because the taste and odour failure was not fully covered in the response.</li> <li>• Critical that only one set of samples were collected from the hotel following completion of the remedial work, in order to lift the boil water notice, this is contrary to the company's own policy of collecting two sample sets.</li> <li>• Recommended the company follows industry good practice and enhance their internal procedure for confirming the quality of satisfactory work.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
21 Jul 2014 For 4 months (SRN)	Isle of Wight.	10	Advice to boil water.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Investigated the previously unknown concessionary supply from a spring by reviewing land registry records.</li> <li>• Issued boil water notices.</li> <li>• Provided bottled water.</li> <li>• Sampled the supply.</li> <li>• Erected temporary fencing to protect the source.</li> <li>• Connected the properties to the public water supply system.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event came about as a result of the discovery of a hitherto unknown concessionary supply.</li> <li>• Critical that boil water notice was not issued in a timely manner.</li> <li>• Recommended that boil water notices are issued jointly with the local authority where there is uncertainty over a given water supply arrangement as regards its status as a public or private water supply.</li> <li>• Commended the company for their pro-bono connections to the water supply system as the means of providing a permanent remedy.</li> </ul> <p>Risk classification: Significant</p>
21 Jul 2014 For 8 weeks (AFW)	Bagshot, Surrey.	150	Coliforms following the repair of a burst main.	<p><b>Affinity Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Investigational sampling and flushing of main.</li> <li>• Fittings inspection at a hotel fed by the main.</li> <li>• Wider sampling, chlorination and advice given to the hotel.</li> <li>• Staff involved in the event were given advice.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of how the flushing operations were carried out, company confirmed that staff had been retrained.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
21 Jul 2014 For 4 hours (DWR)	Bont Goch works, Aberystwyth.	19,000	Turbidity.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Repaired faulty equipment.</li> <li>• Sampled affected area.</li> <li>• Conducted a root cause analysis of the event and concluded the cause was the coagulant controller breaking at a time when raw water quality was poor.</li> <li>• Reviewed Regulation 29 risk assessment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Samples not analysed for appropriate parameters and were not timely.</li> <li>• Critical that a manual colour test was not conducted earlier when works performance began to deteriorate which may have prevented water with turbidity &gt;1NTU being presented for disinfection.</li> <li>• Recommended that the operating manual be amended to prevent a recurrence.</li> <li>• Recommended introduction of measures to retain and then remove or run to waste inadequately disinfected water.</li> <li>• Recommended that when a works performance is compromised the appropriate number and type of samples are collected as required by Regulation 17.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
22 Jul 2014 For 6 minutes (SRN)	Flemings works, Deal, Kent.		Disinfection failure.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Following a UV tube failure the company found that a borehole was still running for six minutes after the alarm and before the site shutdown.</li> <li>• No undisinfected water left site and any that passed through the process was flushed away from the contact main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Commended the company for its precautionary response to the event.</li> <li>• Suggested shutdown tests are carried out more frequently than annually.</li> <li>• Suggested telemetry scan times are reviewed and set at the same frequency for all boreholes.</li> <li>• Recommended the company investigate the cause of air in the monitors on start-up and apply remedial action to ensure that false high turbidity readings no longer occur.</li> <li>• Recommended the company carries out a review of other works to ensure that similar false high turbidity readings do not occur.</li> <li>• Recommended that the company review and update the regulatory risk assessments in light of this event learning.</li> </ul> <p>Risk classification: Significant</p>
22 Jul 2014 For 2 days (ANG)	Tiptree, Essex.	125	Mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a boil water notice to 50 properties.</li> <li>• Sampled affected area.</li> <li>• Disinfected main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company failed to notify that three properties were affected until the following day due to inaccurate records.</li> <li>• Inspectorate was satisfied with the company's handling of this event otherwise.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
22 Jul 2014 For 2 weeks (WSX)	Nether Stowey, Bridgwater, Somerset.	19,006	Detection of coliform bacteria.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Removed service reservoir from supply.</li> <li>• Carried out a thorough investigation into the cause of coliforms in the network.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>.Risk classification: Significant</p>
28 Jul 2014 For 2 weeks (SSE/ALS Wakefield)	N/A	N/A	ALS Wakefield – anomalous results for 2,3,6-TBA analysis.	<p><b>SSE Water action:</b></p> <ul style="list-style-type: none"> <li>• Laboratory method for 2,3,6- trichlorobenzoic acid produced anomalous results and was amended to prevent reoccurrence.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
28 Jul 2014 For 2 days (YKS)	Holmbridge Works and Newsome reservoir, South Huddersfield.	36,000	Turbidity at works and coliforms at reservoir.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Removed service reservoir from supply.</li> <li>• Replaced faulty equipment.</li> <li>• Sampled affected area.</li> <li>• Shut down treatment works.</li> <li>• Ingress points found and repaired.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
30 Jul 2014 For 2 weeks (SRN)	Weir Wood works, Crawley, West Sussex.	33,750	Chlorate.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Drained sodium hypochlorite and replenished stocks.</li> <li>• Revised procedure to drain stock immediately prior to delivery.</li> <li>• Audited supplier and found deficiencies in traceability and non-compliance with the requirements of the British Standard Method for chlorate analysis in sodium hypochlorite.</li> <li>• Reintroduced cooling on the storage tanks.</li> <li>• Liaised with neighbouring company about bulk supply.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Repeat of an event that occurred on 26 Jul 2012 (see <i>Drinking water 2012 – Annex 3</i>).</li> <li>• Following an event in 2012 the company had taken steps to reduce stock holding on site and increase turnover of sodium hypochlorite combined with an enhanced monitoring strategy for chlorate.</li> <li>• Critical that cooling equipment on the bulk storage tanks had not been maintained.</li> <li>• Notice put in place to address risks from chlorate at all of the company's sites.</li> </ul> <p>Risk classification: Serious</p>
30 Jul 2014 For 2 weeks (BRL)	Weston Super Mare.	60	Taste or odour – hydrocarbons.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Provided bottled water on request.</li> <li>• Sampled affected area.</li> <li>• Company isolated the three incoming mains supplies to the building until barrier pipe installed and clear results obtained.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• A power company when digging up a car park identified hydrocarbons in the soil around water supply pipes.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
31 Jul 2014 For 21 other (SVT)	Mythe works, Cheltenham and Gloucester.	1,000,000	pH and turbidity.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Operator switched to automatic caustic dosing in error and did not escalate the matter appropriately: briefing in correct procedures given.</li> <li>• Plan to share dosing pump issues with the wider industry.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Failed to notify and investigate promptly.</li> <li>• Recommended company look to install telemetered monitoring to provide information on the quality of the water in storage tank.</li> <li>• Highly critical of problem regarding escalation of alarms as this appears to be a wider systemic problem.</li> <li>• Recommended the company take steps to ensure that all appropriate staff are trained and competent in the alarm escalation procedure.</li> <li>• Required the company to provide an update on its investigation of sample failures as it had failed to take appropriate resamples.</li> </ul> <p>Risk classification: Significant</p>
31 Jul 2014 For 6 hours (SVT)	Leicester.	1,915	Loss of supply due to burst mains.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Provided bottled water on request.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Sampled affected area.</li> <li>• Company to monitor iron levels within the DMA and update DOMS and risk assessment as appropriate.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
01 Aug 2014 For 3 days (YKS)	Pickering, North Yorkshire.	30,000	Boil water notice for a temporary event.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Carried out fittings inspection and provided advice to the premises owner and local authority.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to the detection of coliforms in samples at a temporary event at Pickering Showground.</li> <li>• The local authority issued a precautionary boil water notice.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
03 Aug 2014 For 10 days (HPL)	Hartlepool.	10	Boil water notice issued.	<p><b>Hartlepool Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Burst on a service pipe led to a flooded excavation therefore boil water notice issued.</li> <li>• Sampled affected area.</li> <li>• Informed health authorities.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the company removed the boil water notice before clear samples had been obtained.</li> <li>• Suggested the company reviews procedures to ensure all sample results are available and clear prior to removing a boil water notice.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
03 Aug 2014 For 3 days (BRL)	Purton works, Lydney, Gloucestershire.	917,500	Bromate.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Investigation identified bromide in raw water at a works where ozone is used in treatment.</li> <li>• Reduced ozone dose.</li> <li>• Instigated bromide sampling upstream of works intake.</li> <li>• Root cause identified as a change in the management of the two upstream raw water sources (river and canal).</li> <li>• Improved the turnaround time for bromide analysis and lowered reporting trigger levels.</li> <li>• On-line raw water conductivity trigger levels reduced.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Despite changes to the frequency of bromide analysis this still may not be sufficient to prevent a recurrence.</li> <li>• Recommended the company put in place improved communications with the Canals and Rivers Trust so that significant increases in pumping are notified in a timely fashion to enable a risk assessment and prompt sampling or actions when appropriate.</li> </ul> <p>Risk classification: Significant</p>
04 Aug 2014 For 1 week (TMS)	Islip, Oxfordshire.	37,500	Coliforms.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residual in the zone.</li> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Managed storage levels in supplying service reservoir.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Multiple coliform failures in one village which ceased when chlorine residual was increased.</li> <li>• Critical that a long-term strategy for managing chlorine residuals in this supply area was not developed.</li> <li>• Recommended that the company develop a permanent remedy and provide details to the Inspectorate.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
05 Aug 2014 For 1 day (BRL)	Bromley Heath, Bristol.	39,931	Loss of supply due to mains burst.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Rezoned area (brought in water from different source).</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
06 Aug 2014 For 1 day (SST)	Overpark service reservoir, Uttoxeter.	500	<i>E.coli.</i>	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Removed service reservoir from supply and inspected.</li> <li>• Made structural repairs and cleaned before returning to supply.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Suggestion made relating to application of National Water Hygiene scheme.</li> </ul> <p>Risk classification: Significant</p>
07 Aug 2014 For 4 months (SVT)	Laboratory.	None	Taste or odour.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• An increase in positive taste and odour results across the company area was notified to the Inspectorate.</li> <li>• Review of sampling and analytical processes was inconclusive, but a change to using glass bottles rather than plastic appeared to have addressed the matter.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of the large number of positive results before action was taken.</li> <li>• Suggested company carefully monitors any future changes to procedures relating to the collection and analysis of samples taken for taste and odour parameters.</li> <li>• Suggested company revise their criteria for notification of such events to the Inspectorate.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
07 Aug 2014 For 4 days (ANG)	Ravensthorpe works, Northants.	18,779	Turbidity.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shut down treatment works.</li> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Required company to review mitigation to prevent a recurrence and provide details to the Inspectorate.</li> </ul> <p>Risk classification: Significant</p>
07 Aug 2014 For 85 days (TMS)	Kensal Town, West London.	3	Coliforms.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a boil water notice.</li> <li>• Carried out a water fittings inspection.</li> <li>• Issued a Section 75 Enforcement Notice on the garage owner.</li> <li>• Subsequently verified that the owner of the garage had remedied the faults (backflow protection and removal of redundant pipework).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Sampling was not timely enough.</li> <li>• Suggested that the company takes steps to lift boil notices as soon as practicable.</li> </ul> <p>Risk classification: Significant</p>
08 Aug 2014 For 5 days (SVT)	Tuttle Hill reservoir, North Nuneaton.	75,945	Enterococci.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Removed service reservoir from supply.</li> <li>• Inspection revealed ingress which was repaired.</li> <li>• Carried out enhanced frequency monitoring.</li> <li>• Identified opportunities to improve turnover.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
09 Aug 2014 For 24 hours (SBW)	North Fordingbridge.	26,900	Loss of supply due to mains burst.	<p><b>Sembcorp Bournemouth Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Rezoned area (brought in water from different source).</li> <li>• Repaired main.</li> <li>• Flushed mains.</li> <li>• Provided bottled water on request.</li> <li>• Sampled affected area.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended testing for additional parameters during future similar events.</li> </ul> <p>Risk classification: Significant</p>
09 Aug 2014 For 24 hours (BRL)	Barrow works, Long Ashton, Bristol.	299,054	<i>Cryptosporidium.</i>	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• High turbidity detected at works due to excessive coagulant dose.</li> <li>• Review of procedures.</li> <li>• Frequency of investigative sampling to be increased.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that at times when monitoring information (algal, turbidity and aluminium levels) conflicts frequency of assessment of raw water was not increased.</li> <li>• Recommended the company review its raw water monitoring with particular reference to algae and <i>Cryptosporidium</i> frequency, at times of poor raw water quality.</li> <li>• A Notice is in place to address issues relating to <i>Cryptosporidium</i> at this works.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
13 Aug 2014 For 14 days (SEW)	Maidenbower, Sussex.	12,752	Notification of chlorate issue affecting bulk supply from Southern Water.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Liaised with Southern Water.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended bulk supply agreement in place between both companies is improved.</li> </ul> <p>Risk classification: Significant</p>
14 Aug 2014 For 4 weeks (UUT)	Keswick, Cumbria.	10	Blue colour.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Precautionary do not drink notice issued to bed and breakfast property.</li> <li>• Bottled water offered but declined.</li> <li>• Fittings inspection carried out and backflow from a toilet cistern identified and owner required to make repairs.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> <li>• Company updated its procedures to ensure an audit trail of enforcement of remedial action as required for public buildings.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
15 Aug 2014 For 12 hours (SES)	Elmer works, Leatherhead, Surrey.	170,000	Disinfection failure.	<p><b>Sutton and East Surrey Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• The company reduced output from the site and continued supply with water that was disinfected using the other functional UV reactor on site.</li> <li>• Identified and rectified a software fault.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• A fault on the UV disinfection system failed to initiate alarms or failsafe shutdown and the works continued to supply for over 11 hours before action was taken.</li> <li>• Failed to carry out appropriate investigative sampling.</li> <li>• Recommended that the company carries out appropriate investigations ensuring the appropriate number and type of samples are taken to demonstrate the extent and nature of any water quality impact.</li> </ul> <p>Risk classification: Significant</p>
15 Aug 2014 For 1 week (SWT)	Woolfardisworthy , North Devon.	163	Cross connection between private boreholes and public water supply.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Disconnected private supply from mains supply.</li> <li>• Non-return valve installed and local distribution network was trickle flushed.</li> <li>• Sampled affected area.</li> <li>• Served a Section 75 Notice on farm owner in relation to fittings regulations infringements.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to a cross connection to a private supply via a storage tank on a dairy farm.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
16 Aug 2014 For 1 day (AFW)	Kings Walden works, Offley, Kimpton.	6,400	Treatment failure – nitrate.	<p><b>Affinity Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Made changes to software settings controlling blending so they cannot be altered.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
19 Aug 2014 For 3 days (UUT)	Winsford, Cheshire.	46,271	Brown discolouration due to mains burst.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed local area.</li> <li>• Retrained staff.</li> <li>• Revised risk assessment to assess longer term discolouration risks in this zone.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Highly critical that during the repair to the main there was insufficient pumping capacity to remove contaminated water from the excavation.</li> <li>• Recommended that the training and supervision of staff is reviewed to ensure capacity of equipment used is appropriate and problems are promptly escalated.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
19 Aug 2014 For 18 hours (BRL)	Corston, Keynsham and Saltford.	8,844	Brown discolouration due to planned work.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Reviewed procedures for responding to customer discoloured water contacts.</li> <li>• Awareness sessions were delivered to operational managers focusing on improving responses and communications around operational programmes to reduce the risk of discolouration.</li> <li>• Updated the risk assessment process.</li> <li>• Amended procedure for under pressure saddle connections.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate procedures.</li> <li>• Inadequate risk assessment.</li> <li>• Critical that the company took longer than two hours to send out flushing inspectors given this situation could have been anticipated.</li> <li>• Recommended review of procedures for responding to discoloured water contacts.</li> <li>• Use of an alternative mains supply to two DMA's was ruled out due to the risk of discolouration as the valve is normally kept shut.</li> <li>• Suggested the company review their valve operating procedures to ensure that valves can be used in future without causing a discolouration risk.</li> </ul> <p>Risk classification: Significant</p>
21 Aug 2014 For 30 days (SRN)	Isle of Wight.	1,000	Break-in at works.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Removed works from supply following break-in and carried out sampling.</li> <li>• The company are upgrading the site security which was scheduled to be completed by March 2015 but has been delayed by three months (see <i>Annex 4.1</i>).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Enforcement initiated to protect raw water source.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
21 Aug 2014 For 2 weeks (AFW)	Ringwould, Kent.	3	Taste or odour – petrol.	<p><b>Affinity Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Retrained staff.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Queried the company’s record keeping in relation to valve operations. The Inspectorate was subsequently satisfied with the company’s actions.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
24 Aug 2014 For 24 hours (TMS)	Kangley Bridge works, Beckenham and Bromley.	100,000	Coliforms.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Removed works from supply.</li> <li>• Reviewed treatment process.</li> <li>• Identified ingress into the balance tank and made repairs.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• A Notice was already in place requiring the company to address ingress problems and filter performance following a microbiological failure in 2012.</li> <li>• Critical that appropriate management systems were not in place to ensure that the remediation in 2012 was fit for purpose.</li> <li>• Recommended a review of contractor control procedures and required details of how future remedial work is to be verified as fit for purpose.</li> <li>• Inspections of the chemical dosing chamber, as required by a previous audit, were found not to have been carried out and the wrong buffer had been used on chlorine monitors.</li> <li>• Hypochlorite dosing pump was not working (due to missing rubbers and rollers); and the pH meters had not been serviced or calibrated since January 2014.</li> <li>• Recommended the company demonstrate that these maintenance issues had no impact on disinfection.</li> <li>• Orthophosphate dosing was not operational for a month leading up to the event in contravention of a company-wide Notice in place for treatment to address the risk from lead.</li> <li>• Recommended the company demonstrates that the lack of phosphate dosing had not had any adverse impact on lead compliance.</li> <li>• Notice was amended to require the company to address the failings revealed by this event.</li> </ul> <p>Risk classification: Serious</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
27 Aug 2014 For 5 hours (NNE)	Peterlee works, Easington, Peterlee.	42,500	Treatment failure – turbidity.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Works auto-shut down.</li> <li>• Sampled affected area.</li> <li>• Review of procedures to permit initial run to waste and flushing of meters on start-up until turbidity dropped below a set level.</li> <li>• Learning shared within the company.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Following a power outage works shut down and turbidity was caused on restart.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
29 Aug 2014 For 24 hours (SEW)	Farnham, Surrey.	7,500	Brown discolouration due to planned work.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Modelled the cause post event but unable to test findings because of lack of highways access.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by a lack of knowledge about the network configuration resulting in increased velocity and scouring of the main lifting deposits.</li> <li>• Recommended that the planning of planned flushing operations involve steps to mitigate the risk of changing mains velocities and accurate information given to those carrying out the work.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
29 Aug 2014 For 24 hours (SEW)	Halling, Kent.	10,000	Brown discolouration due to mains burst.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Flushed mains.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
02 Sep 2014 For 12 hours (WSX)	Alton Pancras works, Dorset.	7,611	Treatment failure: turbidity >1NTU.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shutdown the treatment works but this was too late to contain all the turbid water.</li> <li>• Removed site from supply.</li> <li>• Flushed distribution system.</li> <li>• Increased chlorine residual set point as a precaution.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to a partial collapse of a borehole where a lack of data and inability to divert turbid water both contributed to this event.</li> <li>• Highly critical that elevated turbidity, which occurred on several occasions prior to the eventual shutdown, were not acted upon.</li> <li>• Recommended a review of the process monitoring data available to staff and where this is insufficient additional sampling and investigation is carried out to prevent turbid water reaching the disinfection treatment stage.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
05 Sep 2014 For 1 week (TMS)	Chingford, London.	3	Do not drink notice – cross connection to rainwater harvesting system.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Following a complaint of an unusual ‘eggy’ odour carried out a fittings inspection and identified a cross connection to a rainwater harvesting system.</li> <li>• Issued a do not drink notice.</li> <li>• Advised consumer to consult a plumber to rectify cross connection issues.</li> <li>• Boil notice lifted after plumbing work complete.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company’s handling of this event.</li> </ul> <p>Risk classification: Significant</p>
09 Sep 2014 For 10 days (ANG)	Buckingham.	3	<i>E.coli.</i>	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued a boil water notice.</li> <li>• Provided bottled water on request.</li> <li>• Provided hygiene advice and carried out fittings inspection which noted that the sampling conditions were not ideal due to dogs, cats, goats, sheep and parrots moving freely around the kitchen.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company’s handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
09 Sep 2014 For 5 weeks (UUT)	Liverpool.	3	Do not drink advice.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Fittings inspection identified a poor plumbing installation including no external pipework protection allowing algal and fungal growth, the owner was required to remedy faults.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of the delay in taking samples.</li> <li>• Recommended the company amend their investigation procedures such that immediate steps are taken to identify the cause and extent of failures and the potential for a wider event.</li> <li>• Highly critical that the results of the original sample, which identified the presence of algae, were not reported and escalated in a timely manner.</li> <li>• Critical of the delay between the water fittings inspection and the issue of a do not drink notice (6 days).</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
10 Sep 2014 For 1.5 hours (UUT)	Lostock works, Greater Manchester.	800,000	Treatment failure – pH.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Carried out investigatory sampling.</li> <li>• Repaired equipment.</li> <li>• Sump flooded because sump pump had been unplugged.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company failed to act on low pH risk following lime dosing shutdown and this was a repetition of a previous event (see <i>Drinking water 2013 – Annex 3</i>) and the failure of interlocks on dosing indicated a lack of equipment maintenance and the learning from the previous event not being applied.</li> <li>• Highly critical that the interlock was wired incorrectly so when the enable button was activated, the interlock was actually disabled.</li> <li>• Recommended that the company reviews all sites and processes where similar interlocks exist and carries out sufficient checks of their operation to ensure that no similar failing exists.</li> <li>• Recommended that the procedures for reviewing the outputs from Internal Condition Survey Reports are reviewed to ensure any issues that are identified are acted upon in a timely manner.</li> <li>• Recommended that the pH monitor is moved to a more suitable location to ensure that it measures the quality of the final water leaving the works.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
11 Sep 2014 For 1 day (HPL)	Throston works, Hartlepool.	26,000	Turbidity.	<p><b>Hartlepool Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Investigation (not contemporaneous) identified a flow surge on works restart had lifted iron, manganese and dolomite mains deposits.</li> <li>• Use of the main to Throston as a contact main has been abandoned following improvements at Dalton Piercy works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Planned work to improve disinfection system caused increased flow to the works disturbing iron, manganese and dolomite sediments from the mains: all seven boreholes operated when normally only three boreholes are on line.</li> <li>• Critical that this was not notified in a timely manner.</li> <li>• Critical that works was restarted after a turbidity shutdown without investigation.</li> <li>• Recommended sampler training procedures are reviewed and amended.</li> <li>• Critical that the laboratory did not report the failure in a timely manner.</li> <li>• Recommended the company produce escalation procedures for all parameters relevant to public health, (current procedure only addresses microbiological parameters).</li> <li>• Recommended that investigation procedures/criteria are documented.</li> <li>• Suggested that an appropriate monitoring regime of the main is put in place to demonstrate that there is no ongoing turbidity risk.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
11 Sep 2014 For 1 day (HPL)	Throston works, Hartlepool.	26,000	Turbidity.	<p><b>Hartlepool Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Investigation (not contemporaneous) identified a flow surge on works restart had lifted iron, manganese and dolomite mains deposits.</li> <li>• Use of the main to Throston as a contact main has been abandoned following improvements at Dalton Piercy works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Planned work to improve disinfection system caused increased flow to the works disturbing iron, manganese and dolomite sediments from the mains: all seven boreholes operated when normally only three boreholes are on line.</li> <li>• Critical that this was not notified in a timely manner.</li> <li>• Critical that works was restarted after a turbidity shutdown without investigation.</li> <li>• Recommended sampler training procedures are reviewed and amended.</li> <li>• Critical that the laboratory did not report the failure in a timely manner.</li> <li>• Recommended the company produce escalation procedures for all parameters relevant to public health, (current procedure only addresses microbiological parameters).</li> <li>• Recommended that investigation procedures/criteria are documented.</li> <li>• Suggested that an appropriate monitoring regime of the main is put in place to demonstrate that there is no ongoing turbidity risk.</li> </ul> <p>Risk classification: Significant</p>
12 Sep 2014 For 8 weeks (SEW)	Godmersham service reservoir, Ashford, Kent.	32,000	<i>E.coli.</i>	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Removed reservoir from supply.</li> <li>• Sampled affected area.</li> <li>• Changed combined inlet/outlet arrangement to improve turnover.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
17 Sep 2014 For 9 days (ANG)	Upper Boddington, Daventry.	448	Back siphonage risk.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired burst mains.</li> <li>• Issued precautionary boil water notice.</li> <li>• Sampled affected area.</li> <li>• Disinfected mains and belatedly provided bottled water.</li> <li>• Notified consumers via letter drop.</li> <li>• Booster pumps will be replaced.</li> <li>• Brought forward a mains replacement scheme.</li> <li>• Chloramination dosing to be installed upstream.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Local media/social media interest.</li> <li>• Complaint made by resident to their MP and the Inspectorate.</li> <li>• Critical of company for giving incorrect information to customer and for not actioning the complaint until the Inspectorate became involved.</li> <li>• Suggested that the company keeps the customer database up to date to ensure all relevant persons are notified.</li> </ul> <p>Risk classification: Serious</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
18 Sep 2014 For 6 days (SVT)	Hollies works, Stafford, Staffordshire.	45,000	Arsenic.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Removed works from supply.</li> <li>• Set up incident team.</li> <li>• Installed 1 micron filters which were later changed to 5 micron filters.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Required the company to confirm and define any failsafe measures that have been put in place to detect particulate breakthrough.</li> <li>• Suggested company reviews the frequency of its' operational monitoring for arsenic in the raw and treated water both on-site and in distribution.</li> <li>• Recommended company review the SEMD and provide the Inspectorate with a copy of its current and any amended procedure following this review.</li> <li>• Suggested risk assessment is reviewed and updated.</li> </ul> <p>Risk classification: Significant</p>
19 Sep 2014 For 2 weeks (ANG)	Wisbech, Norfolk.	2,565	Brown discolouration due to mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company failed to establish the extent of the discolouration.</li> <li>• Suggested company takes post remedial work samples from properties where pre-flushed samples were originally taken.</li> <li>• Reminded the company of the requirements of Regulations 10, 17 and 18 about sufficient sampling and adequate investigations.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
19 Sep 2014 For 1 week (PRT)	Bosham, Chichester.	5	Polycyclic aromatic hydrocarbons.	<p><b>Portsmouth Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Identified a section of old coal tar lined main.</li> <li>• Scheduled replacement of main in 2015 and put in place regular flushing as an interim precautionary measure.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to deterioration of a section of coal tar lined main.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
19 Sep 2014 For 2 days (UUT)	Greater Manchester.	10,683	Brown discolouration.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Sampled affected area.</li> <li>• Flow data showed a period of increased demand that was likely to have disturbed historic mains deposits.</li> <li>• Checked valves to ensure network is configured as shown on plans.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
19 Sep 2014 For 1 day (BRL)	Hallen, S Gloucestershire.	633	<i>E.coli</i> and Enterococci detected following valve repair.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• All samples satisfactory.</li> <li>• Investigations indicate that the cause was likely to be standpipe or hydrant chamber.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to a microbiological failure after network repairs.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
21 Sep 2014 For 1 day (BRL)	Frampton Cotterell.	38	Coliform bacteria.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled after a mains repair sample was positive for coliforms.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event but noted that the company did not explain why the original failure occurred and therefore no lessons were learnt.</li> </ul> <p>Risk classification: Significant</p>
22 Sep 2014 For 3 days (VWP)	Tidworth works, Tidworth.	8,000	Loss of supply due to disinfection failure.	<p><b>Veolia Water Projects action:</b></p> <ul style="list-style-type: none"> <li>• Reviewed standby and handover procedures.</li> <li>• Committed to a review of alarms to ensure these are better understood and response is improved.</li> <li>• Planned scheme to improve chlorine dosing and monitoring by the end of 2014.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Failed to act upon alarms at treatment works and service reservoir to prevent supplies running out.</li> <li>• Did not notify local/health authorities.</li> <li>• Inadequate training/competence of staff.</li> <li>• The Inspectorate was critical that the company failed to follow its own procedures.</li> <li>• The company has since committed to a number of actions to prevent a recurrence, including a review of resilience and contingency measures.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
23 Sep 2014 For 4 days (DWR)	Eyton, Leominster.	33	Hydrocarbons.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Replaced main.</li> <li>• Sampled affected area.</li> <li>• Temporary main laid to ensure sufficiency of supply until land contamination remediation works completed by EA and the petrochemical company after which a barrier main will be laid.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
23 Sep 2014 For 4 days (TMS)	Oxford.	125	Media interest due to mains burst.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Isolated and repaired main.</li> <li>• Sampled affected area.</li> <li>• Communicated about the cause of the flooding.</li> <li>• Plans in place to replace 2km of main to prevent a recurrence.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
24 Sep 2014 For 24 hours (SRN)	Wootton Bridge, Isle of Wight.	88	Illness linked to Pseudomonas.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Following a notification of illness by local environmental health, carried out a fittings inspection at the holiday park and identified a number of issues including a new ring main installed to cabins without an appropriate disinfection certificate.</li> <li>• Served a Section 75 Notice to the owner who then made the necessary improvements.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
25 Sep 2014 For 4 hours (BRL)	Kingswood, Mangotsfield, Bristol.	121, 442	Loss of supply due to mains burst.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Burst main affecting large number of consumers.</li> <li>• Worked with other organisations to plan for the provision of alternate supplies through the provision of emergency water tanks, water carriers and bottles supplies at several locations.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This significant burst was managed satisfactorily so that supplies to most consumers were maintained; however, incorrect information was provided by the company to the Inspectorate regarding the scale of the event and this resulted in the Inspectorate being unable to fulfil its own obligations under such circumstances.</li> <li>• Issued a provisional Enforcement Order, followed by a final Order, to prevent any further non-compliance with the Information Direction.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
26 Sep 2014 For 3 months (DWR)	Glaslyn laboratory.		Laboratory analysis – volatile organic compounds method.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Internal laboratory investigation identified inappropriate manipulation of initial performance data by laboratory staff for one method.</li> <li>• The findings were correctly reported to UKAS who withdrew accreditation for one method and four others by association pending further investigation.</li> <li>• Subcontracted analysis for the affected parameters to another laboratory.</li> <li>• Carried out additional validation work and regained accreditation for the methods from UKAS.</li> <li>• Staff member involved resigned.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate is satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
26 Sep 2014 For 3 months (DWR)	Glaslyn laboratory.		Laboratory analysis – volatile organic compounds method.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Internal laboratory investigation identified inappropriate manipulation of initial performance data by laboratory staff for one method.</li> <li>• The findings were correctly reported to UKAS who withdrew accreditation for one method and four others by association pending further investigation.</li> <li>• Subcontracted analysis for the affected parameters to another laboratory.</li> <li>• Carried out additional validation work and regained accreditation for the methods from UKAS.</li> <li>• Staff member involved resigned.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate is satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
29 Sep 2014 For 1 day (ANG)	Walshall-le-Willows, Ipswich.	3	Lead failure in public building.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Provided bottled water on request.</li> <li>• Carried out a water fittings inspection.</li> <li>• The service pipe was completely replaced after first fittings inspection by the company, however, lead still present in samples. A second visit found lead solder and these joints were also replaced.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event started as a consequence of a complaint from a public house about glassware not being clean after washing. The Investigation found failures for lead, iron and turbidity.</li> <li>• Required a copy of all inspection reports.</li> <li>• A Section 75 Notice was not issued because advice given brought about the desired response; however, in such circumstances companies must ensure they have an audit trail to demonstrate that a permanent remedy was achieved to enable compliance with Drinking Water Directive to be demonstrated.</li> </ul> <p>Risk classification: Significant</p>
30 Sep 2014 For 1 day (TMS)	Walton works, Greater London.	97,000	Bromate.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Ozone dosing shut down until full review of procedures completed.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate procedures relating to the management of ozone dosing.</li> <li>• Recommended that procedures are put in place regarding the calibration and maintenance of equipment as this is a repetition of ozone dosing problems at this works.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
02 Oct 2014 For 2 days (UUT)	Crawshawbooth, Rossendale, Lancashire.	9,468	Brown discolouration due to mains burst.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Burst main occurred after testing of new pumps.</li> <li>• Carried out valving operations to rezone supplies.</li> <li>• Repaired main.</li> <li>• Message placed on incoming telephone lines and website.</li> <li>• Dealt with media queries.</li> <li>• Pumped discoloured water from network into works contact tank.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate follow-up sampling.</li> <li>• Highly critical that the company failed to collect timely samples from a consumer complaining of green water.</li> <li>• Highly critical that the company did not carry out a risk assessment for the commissioning of the new pumps.</li> <li>• Recommended that the company review its procedures for conducting risk assessments.</li> <li>• Critical of policy to operate the contact tank as part of an 'open' system, whereby distributed water can flow back into the treatment process due to the 'push pull' nature of the contact tank.</li> <li>• Recommended re-assessment of the Site Specific Disinfection Policy and the hydraulic operation of the contact tank.</li> <li>• Notice will be served requiring the company to demonstrate compliance with Regulation 26 at this site and all others with similar contact tank arrangements.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
06 Oct 2014 For 1 hour (WSX)	Compton Durville works, South Petherton, Ilminster, Somerset.	5,506	Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Short lived turbidity spikes after filter washes did not trigger works shutdown.</li> <li>• Manually shut down treatment works.</li> <li>• Company identified improvements to prevent a recurrence that have been implemented.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• On returning the site to supply, the company disabled the filter back-washing process, which subsequently led to a minor deterioration in filtrate quality; as a consequence the company was not operating the works in accordance with its design.</li> <li>• Recommended a shorter time interval on data capture from site instrumentation to better demonstrate compliance with the Regulations.</li> </ul> <p>Risk classification: Significant</p>
06 Oct 2014 For 11 hours (WSX)	Deans Farm works, Salisbury, Wiltshire.		Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Works shutdown automatically in response to high turbidity.</li> <li>• Plan developed to contain water in compartment of downstream service reservoir failed therefore water was back flushed to waste through a hydrant at the works.</li> <li>• Dedicated washouts to be installed on each borehole.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company failed to adequately demonstrate it has addressed the risk from elevated turbidity, however, the company has since changed its policy.</li> <li>• A Notice is to be put in place to require the turbidity risk to disinfection to be addressed.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
07 Oct 2014 For 5 days (NNE)	Penshaw, Tyne and Wear.	75	Boil notice issued due to planned work.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• The company identified a split main while carrying out planned pipe replacement and repairs led to the discovery of a collapsed sewer below.</li> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Issued a boil water notice.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
08 Oct 2014 For 4 days (YKS)	Wilsden near Bradford.	10	Blue colour.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Carried out a fittings inspection and identified back-flow due to faulty toilet cistern plumbing, required owner to remedy fault.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
08 Oct 2014 For 2 days (SWT)	Roche service reservoir, near St Austell, Cornwall.	875	Coliform bacteria.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Bypassed service reservoir.</li> <li>• Removed each compartment of service reservoir from supply for inspection and repair.</li> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Ingress to both reservoir cells was identified.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
09 Oct 2014 For 18 hours (SVT)	Ogston works, Chesterfield.	235,488	Iron and turbidity.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Water from washwater lagoon back flowed into the contact tank so the works was taken out of supply.</li> <li>• Cleaned contaminated compartments.</li> <li>• Drained lagoon and opened drain valve to nearby watercourse.</li> <li>• Subsequently introduced a run to waste protocol on works start-up after a power failure.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate carried out a site visit to independently verify the circumstances of this event.</li> <li>• Identified a link for water from emergency lagoon to bypass the treatment process and flow into the contact tank.</li> <li>• Highly critical that the high iron alarms were not appropriately investigated.</li> <li>• Recommended the company introduces a suitable alarm management system.</li> <li>• Critical that the company failed to follow its own start up procedures.</li> <li>• Critical that the company were unable to establish the maximum concentration of iron that left the works due to the monitor being inappropriately scaled.</li> <li>• Recommended that the company appropriately rescales its water quality monitors.</li> <li>• Recommended that all operators are appropriately and demonstrably trained and signed off as competent in carrying out the site specific procedures associated with works operation, water quality monitoring and escalation procedures.</li> <li>• Recommended that a stepped sign-off procedure is developed and used for site start up.</li> <li>• Recommended that all microbiological analysis is accompanied by contemporaneous measurements of residual chlorine.</li> </ul> <p style="text-align: right;">(Continued)</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
				<ul style="list-style-type: none"> <li>• Notice put in place following the audit requiring the company to takes steps to address risks associated with <i>Cryptosporidium</i> and inadequate disinfection.</li> </ul> <p>Risk classification: Serious</p>
13 Oct 2014 For 4 days (ANG)	Poringland, Norfolk.	5	Mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a boil water notice.</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Satisfactory company response.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
13 Oct 2014 For 1 day (TMS)	Bishops Green works, Newbury.	101,875	Coliforms.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Investigation found water pooling on contact tank roof due to leaf litter blocking drains and risk of ingress of surface water into borehole.</li> <li>• The company removed the leaf litter and cleared the drains.</li> <li>• One half of the contact tank was drained for inspection and was repaired and cleaned after several points of ingress were identified.</li> <li>• Plans in place to inspect the second compartment as soon as is practicable.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Similar ingress risks noted at this site in 2011 and 2012 and critical of the company for not learning from previous events e.g. Dancers End.</li> <li>• Recommended that the company assess the growth of flora around the contact tank and improve maintenance to minimise the risk of ingress to the structure.</li> <li>• Suggested that the company carries out a review of all its contact tanks and for risk of overgrown flora.</li> <li>• Suggested the company instigates a programme of audits to improve site operator training and performance in relation to water supply hygiene activities.</li> <li>• Recommended the company reviews its policy and adopts a risk-based approach to inspections as opposed to a generic 10-yearly inspection regime.</li> <li>• Suggested the company completes all outstanding inspections at the earliest opportunity.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
14 Oct 2014 For 8 days (ANG)	Peterborough, Cambridgeshire.	3	<i>E.coli.</i>	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a boil water notice.</li> <li>• Provided bottled water on request.</li> <li>• Sampled affected area.</li> <li>• The service pipe was chlorinated and flushed.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to an <i>E.coli</i> failure in a sample taken following removal of a lead communication pipe.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
15 Oct 2014 For 1 day (SWT)	Crownhill works, Plymouth.	170,000	<i>Cryptosporidium.</i>	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Works shutdown after lime dosing fault.</li> <li>• On restart the works performance was unstable and <i>Cryptosporidium</i> oocysts were present.</li> <li>• Citric acid washing of lime dosing lines to be implemented.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was a repetition of a similar event in 2010 and was preventable by sufficient effective maintenance of lime dosing plant.</li> <li>• Suggested enhanced monitoring of the lime dosing system and required an update of the risk assessment.</li> <li>• A Notice is in place requiring improvements to this works to address <i>Cryptosporidium</i>, microbiological parameters, disinfection by-products, pesticides and taste and odour. In the long-term the works is to be replaced by a new treatment works by the end of 2019.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
17 Oct 2014 For 3 weeks (ESK)	Mendlesham, Suffolk.	13	Hydrocarbons.	<p>Essex &amp; Suffolk Water action:</p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Provided bottled water on request.</li> <li>• Sampled affected area.</li> <li>• Barrier pipe installed.</li> <li>• Liaised with local authority regarding ground contamination.</li> <li>• Revised sampling procedure and sampler training.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was hydrocarbon spillage, although the source was not identified.</li> <li>• Critical of sampling and sampler training issues and required evidence of the revised training and procedure.</li> </ul> <p>Risk classification: Significant</p>
17 Oct 2014 For 25 days (UUT)	Northwich, Cheshire.	3	Taste or odour.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink (DND) notice.</li> <li>• Sampled the property.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the DND notice was not issued when the complaint was first received, thus consumer protection advice was only given after 23 days when test results were available.</li> <li>• Reminded the company of its duties to safeguard public health and promptly investigate failures.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
18 Oct 2014 For 4 hours (YKS)	Leeds.	300	Taste or odour.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• Liaised with the building management company and contractors to ensure that remedial works were carried out appropriately.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event related to a third party fuel spillage which entered an underground storage tank.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
18 Oct 2014 For 10 minutes (WSX)	Stubhampton works, Stubhampton, Dorset.	4,000	Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Turbidity spike associated with borehole start-up.</li> <li>• Sampled affected area.</li> <li>• Relocated the sample tapping points.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Air entrapment occurred following start-up of a borehole.</li> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
18 Oct 2014 For 1 day (SWT)	Windmill service reservoir, Launceston, Cornwall.	12,000	Coliforms.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Bypassed service reservoir.</li> <li>• Sampled affected area.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Company subsequently removed service reservoir from supply for repair, inspection and cleaning.</li> <li>• Flushed mains.</li> <li>• Improved sampling arrangement for reservoir inlet.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
19 Oct 2014 For 1 day (WSX)	Codford works, Codford, Wiltshire.		Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Works auto-shutdown causing turbid water in boreholes.</li> <li>• Turbid water contained and flushed to waste.</li> <li>• Company are installing filtration to prevent a recurrence.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company failed to adequately demonstrate it had addressed the turbidity risk to disinfection, however, the company has since changed its policy.</li> <li>• A Notice is to be put in place to address the turbidity risk to disinfection.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
20 Oct 2014 For 6 hours (YKS)	Skellow, north Doncaster.	6,250	Discolouration due to planned work.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Trunk main burst due to removal of a thrust block, by a third party.</li> <li>• Isolated the burst trunk main to restore supplies.</li> <li>• Provided bottled water on request.</li> <li>• Company reinstated historical mains configuration.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was related to discolouration after a burst on a trunk main.</li> <li>• Suggested company updates its records to reflect the current status of the network distribution.</li> </ul> <p>Risk classification: Significant</p>
20 Oct 2014 For 1 day (WSX)	Corscombe works, Near Yeovil, Somerset.	800	<i>Cryptosporidium.</i>	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• <i>Cryptosporidium</i> detected after heavy rainfall, species indicative of wildlife rather than human or farm animals.</li> <li>• Shut down works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> <li>• A Notice is in place requiring improvements to be made to address <i>Cryptosporidium</i> risk at this site.</li> </ul> <p>Risk classification: Significant</p>
20 Oct 2014 For 1 hour (WSX)	Holt works, Trowbridge, Wiltshire.	20,000	Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Turbidity at time of works start up.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
21 Oct 2014 For 1 week (YKS)	Rivelin works, Sheffield, South Yorkshire.	575,000	<i>Cryptosporidium.</i>	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Detailed site investigation of magnetite process and leak identified on magnetite regeneration system.</li> <li>• Remedial work carried out on wash water pipework; the re-pulp tank; and the acid dosing line.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was associated with a lack of maintenance as evidenced by turbidity spikes.</li> <li>• Recommended that the company review and incorporate any maintenance requirements for the treatment works in the Asset Care Plan and demonstrate this action has been completed.</li> <li>• A Notice is in place requiring treatment improvements at this site and provide a robust arrangement of mitigating the risk of <i>Cryptosporidium</i>.</li> </ul> <p>This is linked to the event at Rivelin works on 8 December 2013.</p> <p>Risk classification: Significant</p>
21 Oct 2014 For 4 hours (BRL)	Fishponds, Bristol.	37,500	Brown discolouration.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area but not for appropriate parameters.</li> <li>• Review of procedures.</li> <li>• Hydrants flushed overnight to remove discoloured water.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Valves were shut to address what was thought to be a leak on a main below a busy road whereupon the leak was found to be located on a smaller pipe running close by. When the valve operations were reversed discolouration occurred.</li> <li>• Suggested company improves risk assessment of planned work, to include checks of valve status and to record changes in status accurately.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
22 Oct 2014 For 11 days (SWT)	College works, Falmouth, Cornwall.	32,000	Brown discolouration.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Limited sampling.</li> <li>• Rezoned supplies to other sources.</li> <li>• Works removed from supply.</li> <li>• Lime dosing introduced.</li> <li>• Introduced failsafe shutdowns.</li> <li>• Re-briefed staff.</li> <li>• Company wrote to consumers to apologise and offered to discuss concerns.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event occurred as a result of an increase in manganese levels across the works.</li> <li>• Critical that the company were initially slow to react and notification was not timely as a consequence.</li> <li>• Suggested company installs an on-line manganese monitor to prevent a recurrence.</li> </ul> <p>Risk classification: Significant</p>
23 Oct 2014 For 3 days (TMS)	Deptford works, Deptford, London.	135,000	Treatment failure – turbidity.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Removed works from supply.</li> <li>• Drained contact tanks and removed significant amounts of sediment.</li> <li>• Installed post contact tank turbidimeter.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the cause of the sediment disturbance was not investigated and identified.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
27 Oct 2014 For 4 days (WSX)	Bothenhampton service reservoir, near Bridport, Dorset.	11,341	<i>E.coli.</i>	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Performance of supplying works investigated.</li> <li>• Increased monitoring.</li> <li>• Inspected reservoir.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Position of valve chamber restricted roof drainage.</li> <li>• Critical that inundation tests were not carried out on previous inspections.</li> <li>• Suggested the company always carries out inundation tests in accordance with the 'Principles of Water Supply Hygiene'.</li> </ul> <p>Risk classification: Significant</p>
30 Oct 2014 For 36 hours (ANG)	Earls Barton, Northamptonshire .	6,250	Mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Rezoned area (brought in water from different source).</li> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Area was modelled in order to judge area affected.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate number of samples taken and samples not analysed for appropriate parameters, for example, six samples were taken during the event and no chemical parameters were tested for even though one of the bursts was on an 11" cast iron main.</li> <li>• Required company to submit information about how the sampling errors will be prevented in future as this deficiency is a repetition of failings in another event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
02 Nov 2014 For 1 hour (WSX)	Arn Hill works, Warminster, Wiltshire.	11,868	Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Site shutdown in response to high turbidity.</li> <li>• Undisinfected water flushed to waste.</li> <li>• Borehole survey conducted.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate considered the company failed to adequately demonstrate it has addressed the turbidity risk to disinfection, however, the company has since changed its policy.</li> <li>• A Notice is being put in place to address the turbidity risks to disinfection.</li> </ul> <p>Risk classification: Significant</p>
05 Nov 2014 For 16 hours (WSX)	Dewlish works, Dewlish, Dorset.	8,345	Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• The works shutdown on high turbidity.</li> <li>• The company contained the water on-site and flushed to waste.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
07 Nov 2014 For 18 hours (SES)	South Redhill, Surrey.	5,833	Loss of supply due to planned work.	<p><b>Sutton and East Surrey Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• When planned work to remove 200m of main caused a number of bursts the company proactively contacted a hospital in the affected area to ensure supplies were maintained.</li> <li>• Supplied bottled water on request.</li> <li>• Procedures changed to specify a resample from the same property following a failure.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Although sampling was carried out, it did not include resampling from the original property where a high iron result had been reported.</li> <li>• Recommended company takes steps to ensure property-specific issues are not overlooked when responding to distribution-related events.</li> </ul> <p>Risk classification: Significant</p>
08 Nov 2014 For 4 days (ANG)	Norwich, Norfolk.	5	Enterococci.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued a boil water notice.</li> <li>• Provided bottled water on request.</li> <li>• Fittings inspection carried out and nothing untoward found.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
10 Nov 2014 For 4 days (SEW)	Bracknell, Berks.	27,500	Air in water (white) due to mains burst.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Flushed mains.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate number of samples taken and company will be reviewing procedures so that post event sampling is improved.</li> </ul> <p>Risk classification: Significant</p>
10 Nov 2014 For 3 days (UUT)	Hatters service reservoir, Manchester.	41,063	Loss of supply.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Disciplinary action taken.</li> <li>• Carried out a review of discolouration risk.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• A pump repair request was not escalated and so a service reservoir emptied.</li> <li>• Critical the company failed to follow its own procedures.</li> </ul> <p>Risk classification: Significant</p>
11 Nov 2014 For 24 hours (SRN)	Mile Oak works, Portslade, nr Brighton, West Sussex.	25,267	Treatment failure – turbidity.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shut down treatment works.</li> <li>• Sampled affected area.</li> <li>• Removed works from supply until raw water quality returned to normal.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
11 Nov 2014 For 8 weeks (NNE)	Howdon laboratory.		Laboratory quality control.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Discovered manipulated AQC data during internal audit.</li> <li>• Disciplinary action taken.</li> <li>• Assessed validity of data and annotated findings on database.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the data review was limited to 2014.</li> <li>• Recommended the performance monitoring and supervisory processes be reviewed to improve their effectiveness.</li> </ul> <p>Risk classification: Significant</p>
12 Nov 2014 For 18 hours (SST)	Oldbury near West Bromwich.	3,750	Mains burst.	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Flushed mains.</li> <li>• Company to review notification procedures to ensure they are in line with the Information Direction.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Did not notify local/health authorities.</li> <li>• Reminded the company of its duties under the Information Direction.</li> </ul> <p>Risk classification: Significant</p>
12 Nov 2014 For 3 days (TMS)	Cold Ash service reservoir, Thatcham, Newbury.	17,500	Loss of supply due to mains burst.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Supplied bottled water.</li> <li>• Burst occurred on inlet to reservoir so the booster was bypassed and supply was increased from another works to partially restore supplies.</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
12 Nov 2014 For 4 days (UUT)	Bolton, Greater Manchester.	21,212	Brown discolouration due to third party damage to main.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• The investigation of an associated sample failure identified water fittings infringements at a hotel.</li> <li>• Identified remedial works at the hotel via fittings inspection and issued Notice.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Access to the hotel to investigate the correction of the fittings infringements was delayed by a third party.</li> <li>• The Inspectorate was otherwise satisfied with the company's response.</li> </ul> <p>Risk classification: Significant</p>
13 Nov 2014 For 3 weeks (IWN)	Oakham, near Market Harborough.	3	Nickel.	<p><b>Independent Water Networks action:</b></p> <ul style="list-style-type: none"> <li>• Sampled and investigated.</li> <li>• Nickel found to be leaching from a show room tap.</li> <li>• Confirmed taps were WRAS approved.</li> <li>• Taps replaced.</li> <li>• Revised risk assessment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
15 Nov 2014 For 1 week (UUT)	Bolton, Greater Manchester.	1	Blue water.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Blue colouration was due to copper corrosion.</li> <li>• Remedial works carried out (pipework and temperature control valve replaced, earth bonding checked).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
17 Nov 2014 For 3 days (SVT)	Solihull, West Midlands.	15,000	Brown discolouration due to mains burst.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• Rezoned area (brought in water from different source).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company undertook a flushing and sampling programme of the affected DMAs but took no samples pre-flushing.</li> <li>• Recommended pre-flush samples be included in future to ascertain if flushing is successful.</li> </ul> <p>Risk classification: Significant</p>
17 Nov 2014 For 5 days (ANG)	Dersingham, near Sandringham, Norfolk.	125	Media interest due to flooding associated with mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Flushed mains.</li> <li>• Resamples taken in response to iron failures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
17 Nov 2014 For 3 days (ANG)	Belstead near Ipswich, Suffolk.	785	Brown discolouration due to mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This zone has seen five previous discolouration events since 2010 and one was significant (see <i>Drinking water 2011</i>).</li> </ul> <p>This was assessed along with the event in Ipswich on 14 December 2014.</p> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
18 Nov 2014 For 1 day (WSX)	Compton works, Netheravon near Devizes, Wiltshire.	8,725	Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled area.</li> <li>• Turbid water contained in downstream reservoir and blended.</li> <li>• Instrumentation recalibrated.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by back flow from the outlet main to the sampling line on commissioning of new booster pumps. A turbidity monitor used for on-site checks was not calibrated.</li> <li>• Recommended that the company keeps calibration records for all instruments.</li> <li>• The company relocated the sampling facilities to ensure they are representative of water leaving the works</li> <li>• Recommended a review of sample points at all other similar sites to ensure that they are representative.</li> <li>• Critical that the only online turbidity measurement at Compton works is downstream of disinfection.</li> <li>• Recommended that turbidity monitors are placed upstream of disinfection in order to demonstrate compliance with Regulation 26.</li> <li>• Suggested improvements be made to the risk assessment for the commissioning of booster pumps as that used for this planned work was inadequate.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
24 Nov 2014 For 24 hours (SVT)	Mill Meece works, Newcastle Under Lyme, Staffordshire.	126,532	<i>E.coli.</i>	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Carried out investigatory sampling.</li> <li>• Inspected works and identified risks of ingress and fouling on UV reactors.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended company complete the actions identified as part of its inspection in a timely manner.</li> <li>• Required an update on progress against actions and a confirmed plan for completion of this programme of work.</li> <li>• Critical that the company have not assessed the condition of the borehole.</li> <li>• Recommended company investigate the condition of the borehole and provide a copy of that investigation to the Inspectorate.</li> <li>• Recommend that the company include asset assessment as part of their investigation procedures.</li> </ul> <p>Risk classification: Significant</p>
24 Nov 2014 For 3 days (TMS)	Swanley, Kent.	60,833	Brown discolouration due to mains burst.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Staff briefed on correct procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company acknowledged that procedures were not followed correctly to minimise discolouration in this known problem area.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
25 Nov 2014 For 1 month (SES)	Chipstead, Surrey.	6,500	Loss of supply due to third party mains damage.	<p><b>Sutton and East Surrey Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Provided bottled water.</li> <li>• Monitored turbidity to assess cause.</li> <li>• Planned to remove chalk deposits using ice pigging technique.</li> <li>• Planned to replace a section of over-sized main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
26 Nov 2014 For 3 days (SVT)	Tewkesbury.	8	Sewage taste and odour.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• <i>E.coli</i> detected in consumer samples.</li> <li>• Issued do not drink notices and supplied bottled water.</li> <li>• Properties were supplied via a tank on farmer's land.</li> <li>• Tank bypassed.</li> <li>• Served a Section 75 Notice.</li> <li>• Double check valves installed to protect mains supply.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Concerned at the delay in providing a do not drink notice when the supply arrangements were not clear.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
27 Nov 2014 For 10 hours (DWR)	Cilfor works, Lleyn peninsula area of Gwynedd.	6,500	Residual disinfectant dosing failure.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Control systems failed to shutdown the works after a chlorine dosing failure for 12 hours allowing un-chlorinated water to enter the service reservoir.</li> <li>• Manually shutdown the works and dosed chlorine at downstream service reservoir.</li> <li>• Isolated supply to the service reservoir and drained water in main from works.</li> <li>• Fault rectified and works restarted</li> <li>• Carried out a review of findings.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Disinfection at this works is by means of UV and this was unaffected.</li> <li>• Critical of delay in isolating the service reservoir.</li> <li>• Recommended the company takes steps to ensure suitable safeguards are in place to prevent treatment failures arising as a result of a programmable logic controller (PLC) fault.</li> <li>• Required the company to inform the Inspectorate of all works where there is no back up to the PLC: 23 similar sites were found and changes made to prevent a similar future event.</li> <li>• Suggested that the next scheduled clean of the reservoir is brought forward to remove accumulated deposits that arose during this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
28 Nov 2014 For 5 weeks (SVT)	Ettington service reservoir, Ettington, Warwickshire.	3	High chlorine following burst on inlet main to reservoir.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Isolated a service reservoir and switched off the booster chlorination to repair a burst main, but in the process failed to isolate sodium hypochlorite dosing.</li> <li>• Disconnected the dosing rig.</li> <li>• Inspected equipment to identify possible faults.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Disappointed that the company did not verify if backsiphonage did occur.</li> <li>• Disappointed at the length of time taken to establish the degree of upset to a consumer directly affected by elevated chlorine levels.</li> </ul> <p>Risk classification: Significant</p>
02 Dec 2014 For 3 hours (WSX)	Durleigh works, Bridgwater, Somerset.	45,200	Turbidity.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Turbid water contained on site and flushed to waste.</li> <li>• One GAC adsorber removed from service.</li> <li>• Limited sampling.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event occurred after a GAC filter was returned to use following cleaning with a strong chlorine solution which oxidised metals releasing particles into the filtrate.</li> <li>• Highly critical that this chlorinated backwashing operation was carried out without a documented risk assessment.</li> <li>• Recommended preparation of a suitable risk assessment and procedures for GAC cleaning.</li> <li>• Recommended that the company complies with guidance in BS EN 12915-2 (Products used for the treatment of water intended for human consumption – granular activated carbon Part 2.) which is part of the Regulation 31 approval.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
14 Dec 2014 For 1 day (ANG)	Ipswich, Suffolk.	9,853	Brown discolouration due to mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Flushed mains.</li> <li>• Investigated causes of discolouration in this area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This was the seventh event in this zone since 2010 and the second this year.</li> <li>• Required the company to provide a full report about the repeated and ongoing failures.</li> <li>• A Notice will be served requiring the company to identify and control the risks of discolouration at Belstead works and in the supply area.</li> </ul> <p>This was assessed along with the event in Ipswich on 17 November 2014.</p> <p>Risk classification: Significant</p>
15 Dec 2014 For 12 weeks (SVT)	Ashby De La Zouch, Leicestershire.	1,029	Coliform bacteria.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled and investigated.</li> <li>• Commenced booster chlorination.</li> <li>• Informed health authorities.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the company has no long-term strategy to prevent recurrence.</li> <li>• Recommended company reviews the operation of the DMA with a view to putting in place a strategy to prevent recurrence of bacteriological re-growth within the distribution system.</li> <li>• Recommended company updates the risk assessment for this DMA.</li> <li>• Recommended company reviews its notification procedures.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
15 Dec 2014 For 24 hours (SVT)	Frankley works, Birmingham.	1,178,139	<i>E.coli.</i>	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Investigatory sampling.</li> <li>• Planned repairs include new mesh covers to hatch covers and vents, suction tank roof membrane inspection and installation of new high lift pump station to enable inspections and maintenance of assets on site.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the company has an inoperable asset (mixing and pump suction tank) that cannot be taken out of service for inspection and maintenance.</li> <li>• Recommended review of routine procedures for preventing growth of flora and application of best practice.</li> <li>• Recommended review of tank inspection and testing methodology to ensure it meets best practice and incorporates the lessons learned from work being carried out at Melbourne works.</li> </ul> <p>Risk classification: Significant</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
15 Dec 2014 For 24 hours (SVT)	Melbourne works, Leicestershire.	1,200,000	<i>E.coli.</i>	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Investigatory sampling.</li> <li>• Installed tarpaulin as a temporary protective cover.</li> <li>• Increased chlorination.</li> <li>• Steam cleaned the sample facilities and erected a temporary cover pending the construction of a walk in kiosk.</li> <li>• Updated risk assessment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Required company to provide the rationale and scientific basis for its target Ct value of 20mg.min/l, and for the disinfection policy for this site.</li> <li>• Recommended that the company calculates the relative contact time to the first consumer or other suitable point to support its disinfection strategy conclusions.</li> <li>• Highly critical that the company did not act sooner to investigate issues associated with rabbit burrows on the contact tank embankment.</li> <li>• Highly critical that the company did not commit sufficient resources to carry out a flood test and internal inspection of the high lift pump tank, when the works was out of supply in July 2014.</li> <li>• Highly critical that the company have reactively made the decision to inspect the hatches on the contact tank as this is not conducive to a preventative safety plan approach.</li> <li>• Recommended company re-evaluate all the steps it has taken in response to all the audits, compliance and event assessments carried out by the Inspectorate since 2005 and provide evidence that each observation and recommendation has been sufficiently responded to and any improved practices are being adhered to.</li> <li>• Existing notice amended and served with the additional requirements of a root cause analysis for the <i>E.coli</i> detection and the completion of any remedial work identified.</li> </ul> <p style="text-align: right;">(Continued)</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
				<p>This is linked to the event at Melbourne works on 1 March 2014.</p> <p>Risk classification: Serious</p>
<p>15 Dec 2014 For 2 hours (UUT)</p>	<p>Hodder works, Lancashire.</p>	<p>750,000</p>	<p>Disinfection failure.</p>	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Works was shutdown.</li> <li>• Repaired the faulty dosing equipment and sampled the affected area.</li> <li>• The company subsequently installed a failsafe shutdown.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Chlorine dosing failed at both the intermediate and final water stage.</li> <li>• Sodium hypochlorite back-up system failed.</li> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Serious</p>
<p>16 Dec 2014 For 3 days (ANG)</p>	<p>Southwick Tower, Oundle, Northamptonshire</p>	<p>16,748</p>	<p>Taste or odour.</p>	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• TCP taste and odour reported by consumers after a water tower was returned to service after being out of supply for more than a year.</li> <li>• The tower was removed from supply, inspected and the materials tested.</li> <li>• The area was flushed.</li> <li>• Advised consumers the water was safe to drink.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Bromophenol compounds detected above taste thresholds.</li> <li>• Evidence of consumer rejection of the supply.</li> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Serious</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
16 Dec 2014 For 1 day (WSX)	Durleigh works Bridgwater, Somerset.	45,200	Detection of coliform bacteria, <i>Clostridium perfringens</i> and Enterococci.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Limited investigation at works performance.</li> <li>• Enhanced monitoring.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended that future investigations of Clostridia failures are comprehensive and include timely sampling from intermediate stages of the works.</li> <li>• Critical of the limited investigation of the performance of the GAC filters given recent operational problems were known about.</li> <li>• Required the company to review and resubmit its risk assessment for this site.</li> </ul> <p>Risk classification: Significant</p>
22 Dec 2014 For 1 day (SVT)	Strensham works, Warwickshire.	691,000	<i>E.coli.</i>	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Investigatory sampling.</li> <li>• Treatment works investigation.</li> <li>• Identified the cause as a submerged leaking gland on a washout valve. Chamber pumped out and leak repaired.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The site is subject to enhanced monitoring for microbiological parameters.</li> <li>• Recommended planned improvement works for 2017 are brought forward to deal with risk of structural failure.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
24 Dec 2014 For 12 hours (WSX)	Bulbridge works, Sailsbury.	1,610	Disinfection failure.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Once aware, shut down the works and Isolated downstream service reservoir.</li> <li>• Sampled affected area.</li> <li>• Flushed affected area.</li> <li>• Reviewed control philosophy before returning site to supply.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Auto shutdown was activated on low chlorine, however, valve did not shut, company identified root cause was a corroded actuator.</li> <li>• Suggested company reviews whether maintenance and replacement intervals for actuators of this type are set at the appropriate frequency.</li> <li>• Suggested calibrated network models are used, instead of operator estimation, to decide on extent and timing of flushing after such events.</li> <li>• Concluded no flushing occurred for two disinfection events at this site</li> <li>• Reassurance sought and received that no other sites are configured in a similar way.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
28 Dec 2014 For 46 hours (ANG)	Caistor St Edmunds, Norfolk.	15,000	Loss of supply due mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Burst occurred on the outlet pumping main at a works.</li> <li>• Alternative supplies were provided by tanker.</li> <li>• Temporary overland main was installed while the repair was carried out.</li> <li>• Sampled the affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Tanker drivers were not hygiene trained.</li> <li>• Suggested company considers the deployment of tankers as a restricted operation and trains its fleet of drivers in the Principles of Water Supply Hygiene.</li> <li>• Suggested that the company assesses feedback from its dissatisfied consumers to maximise learning and improve consumer service in the future.</li> <li>• Suggested company adds some obvious vulnerable consumers to its Water Care list.</li> </ul> <p>Risk classification: Significant</p>
31 Dec 2014 For 24 hours (ANG)	Diss, Norfolk.	15,390	Loss of supplies due to mains burst.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired and flushed the main.</li> <li>• Provided bottled water on request.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
31 Dec 2014 For 1 day (TMS)	Nunhead service reservoir, South London.	400,000	<i>E.coli.</i>	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Inspected reservoir and found no defects, likewise no relevant distribution events identified.</li> <li>• Consulted PHE. No evidence of illness within the community.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>
31 Dec 2014 For 48 hours (DWR)	South West Anglesey.	6,745	Discolouration due to mains burst.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Flushed and sampled affected area.</li> <li>• Proactively text messaged affected customers.</li> <li>• Provided bottled water.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was satisfied with the company's handling of this event.</li> </ul> <p>Risk classification: Significant</p>

## Events outstanding from 2013 completed in 2014

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
15 Jan 2013 For 24 hours (UUT)	Wayoh works Harwood, Greater Manchester.	4,500	Brown discolouration due to pump operation.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Repaired faulty equipment.</li> <li>• Sampled affected area.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company report was incomplete as it did not explain the works control arrangements nor did it contain the results of investigational sampling.</li> <li>• Company eventually demonstrated the cause as accidental operation of pumps by uncontrolled access to maintenance switches.</li> <li>• There have been repeated discolouration events associated with this site and also third party contacts to the Inspectorate.</li> <li>• Recommended that the company ensures its reports contain all relevant information in a clear, accurate way with appropriate context.</li> <li>• Recommended prompt assessment of the impact on water quality of operational changes.</li> <li>• Recommended that the company ensures events are fully investigated and reports are comprehensive.</li> <li>• Recommended staff training to ensure appropriate advice is given to consumers about discoloured water.</li> <li>• Recommended risk assessment be updated as part of learning from this event.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
03 Aug 2013 For 5 days (SWT)	Tamar works, Bude, North Cornwall.	20,059	Manganese.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• Strategic flushing carried out.</li> <li>• Investigations at the treatment works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company was slow to recognise the significance of the problems with treatment, whereby manganese entered supply at time of high demand, and communicated poorly with media and press.</li> <li>• The Inspectorate carried out an audit of this site and has taken consumer witness statements.</li> <li>• Recommended changes to set points for online turbidity monitors.</li> <li>• Recommended review and update of technical material guiding customer service agents to ensure advice to consumers about water quality matters is appropriate.</li> <li>• Recommend that the company reviews criteria for identifying unusual patterns of consumer contacts.</li> <li>• A Notice has been put in place covering improvements to this works to address trihalomethanes, pesticides including metaldehyde and propyzamide, taste and odour and disinfection by-products.</li> <li>• An additional legal instrument will be put in place to address issues with manganese compliance.</li> </ul> <p>Risk classification: Serious</p>



Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
27 Oct 2013 For 7 days (SVT)	Frankley works, Quinton, Birmingham.	775,000	Loss of supply due to a mains burst.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Alternative supplies and bottled water provided.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event consisted of a burst on a large water main leaving Frankley works and supplying water to Warley service reservoir.</li> <li>• Critical of delay in plans to refill Warley service reservoir.</li> <li>• Suggested company revises its contingency plans for this reservoir.</li> <li>• Recommended company improves its performance in relation to compliance with Information Direction.</li> </ul> <p>Risk classification: Significant</p>
02 Dec 2013 For 0.5 hours (SVT)	Frankley works, Birmingham.	1,500,000	Treatment failure.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Shut down treatment works.</li> <li>• Flushed chemical dosing lines.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Highly critical of the failure of lime dosing because this is the eighth event at this works in three years.</li> <li>• Recommended company review its investigatory criteria for sampling during events.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
08 Dec 2013 For 12 hours (YKS)	Rivelin works supplying consumers in Sheffield.	236,201	Turbidity.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment works performance.</li> <li>• Alarm dead bands subsequently checked and reset.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Root cause was wash fault on manganese contactor.</li> <li>• Critical that the alarm dead band for clear water tank turbidity was inappropriately set at 30 minutes rather than five minutes as per the company's requirements.</li> <li>• Critical that no auto shutdown for turbidity was in place at the time of the event.</li> <li>• Another event caused by poor filtrate from manganese contactors occurred at this works in 2014 (see event at Rivelin works on 21 October 2014).</li> <li>• A Notice has been put in place to address the risk of <i>Cryptosporidium</i> at this site.</li> </ul> <p>Risk classification: Significant</p>
20 Dec 2013 For 11 hours (WSX)	Boyne Hollow works supplying consumers in parts of Wiltshire.	2,750	<i>Cryptosporidium</i> .	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• The site was taken out of supply.</li> <li>• Limited sampling of the affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Actions have been taken by the company to address the shortcomings in the works configuration and control philosophy revealed by this event.</li> <li>• Suggested that the company acquires a better understanding of the hydraulics of this system and improves monitoring of <i>Cryptosporidium</i> to validate the philosophy within the site specific control rules.</li> <li>• Recommended improved procedures to ensure sufficient investigatory samples are taken in future similar situations.</li> </ul> <p>Risk classification: Significant</p>

Date and duration	Area	Estimate of population affected	Nature and cause of the event	Main actions and findings from the Inspectorate investigation
24 Dec 2013 For 4 hours (SRN)	Coltstable reservoir Horsham, West Sussex.	10,000	Loss of supply due to power failure.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Rezoned the area (brought water in from another area).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Adverse weather caused loss of power and then the loss of telemetry communication to the reservoir. Power was not restored for several days resulting in impaired control of the reservoir.</li> <li>• Company has trialled new broadband software to improve the reliability of communications with site.</li> </ul> <p>Risk classification: Significant</p>
26 Dec 2013 For 5 days (SVT)	Derwent Valley Aqueduct supplying consumers in Derbyshire and Leicestershire.	37,500	Loss of supply due to burst main.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by a burst on a large strategic main near a motorway junction, which led to loss of supplies, media interest and discoloured water. Work to reinstate the main was poorly planned and the first attempt was aborted due to further discoloured water complaints. This large strategic main is now being prioritised for cleaning.</li> <li>• The company did not take timely samples to confirm the extent and nature of the event.</li> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>