

## 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 (white)	SEW (1)	Wokingham, Berkshire (6,500)
	TMS (1)	Parts of North London (212,000)
Chemical	ANG (10)	Rushden, Northamptonshire (3) Wellingborough, Northamptonshire (3) Foulden, Norfolk (3) Irthlingborough, Northamptonshire (3) Kenton, Suffolk (5) Corby, Northamptonshire (3) Oving, Buckinghamshire (3) Cosgrove, Buckinghamshire (3) Stotfold, Central Bedfordshire (3) Wellingborough, Northamptonshire (3)
	DWR (1)	Wigmore, Herefordshire (3)
	IWN (1)	Kings Cross, London (4,000)
	SEW (1)	Stockbury, Kent (100)
	SWT (1)	Padstow, Cornwall (3)
	UUT (1)	Clitheroe, Lancashire (3)
	WSX (1)	Durleigh, Somerset (3)

<b>Nature</b>	<b>Number of not significant and minor events</b>	<b>Area affected (estimate of population affected)</b>
Discolouration	ALB (1)	Shotton, Flintshire (3)
	ANG (5)	Walsham, Norfolk (3) Belstead, Suffolk (8,980) Colchester, Essex (3) Holbrook, Suffolk (6,200) Shefford, Bedfordshire (6,910)
	HPL (4)	Hartlepool (1,250) Hartlepool (1,743) Hartlepool (5,750) Hartlepool (4,528)
	NNE (1)	Stanley, County Durham (9,578)
	SEW (2)	Bexhill on Sea, East Sussex (14,513) Maidstone, Kent (3,500)
	SVT (3)	North East Leicestershire (12,565) Parts of Birmingham (38,874) Shrewsbury, Shropshire (5,272)
	WSX (4)	Keinton Mandeville, Somerset (2,785) Bath, Somerset (5,000) Hinton St George and Dinnington, Somerset (3,153) Beaminster, Dorset (2,959)
	YKS (2)	Central Sheffield, South Yorkshire (10,000) Horsforth, West Yorkshire (12,500)
Health concern	ANG (1)	Peterborough, Cambridgeshire (1)
	SEW (1)	Hurley, Berkshire (57,000)
	SRN (1)	Hardham and the surrounding areas, West Sussex (217,341)
Inadequate treatment	SEW (1)	Seaford, East Sussex (11,433)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Loss of supplies/ poor pressure	ANG (7)	Boston, Lincolnshire (57,500) Dersingham, Norfolk (90) Spalding, Lincolnshire (45,000) Attleborough and Wymondham, Norfolk (3,750) Grimsby, North East Lincolnshire (10,000) Broughton, North Lincolnshire (6,098) Beetley, Norfolk (5,025)
	BRL (1)	Eastville, Bristol (16,000)
	DWR (3)	Newport, South Wales (875) Connahs Quay, Flintshire (14,500) Llanelli, Carmarthenshire (12,500)
	ESK (5)	Thundersley, Essex (3,802) Great Yarmouth, Norfolk (500) Hullbridge, Essex (5,800) Hockley, Essex (8,166) Great Baddow, Essex (4,560)
	HPL (1)	Hartlepool (1,838)
	PRT (1)	Farlington, Portsmouth (N/A)
	SRN (4)	Brading, Isle of Wight (37,500) Rustington, West Sussex (2,500) Winchester, Hampshire (1,665) Millbrook, Hampshire (933)
	SVT (11)	Coseley, Wolverhampton (5,304) Droitwich, West Midlands (55,000) Redditch, Worcestershire (6,833) Tenbury Wells, Worcestershire (2,956) Redditch, Worcestershire (14,717) Stafford, Staffordshire (8,676) Spondon, Derbyshire (16,719) Parts of Birmingham (47,000) Parts of Birmingham (21,250) Telford, Shropshire (16,700) Sutton-in-Ashfield, Nottinghamshire (7,000)
	SWT (2)	Newquay, Cornwall (2,070) Tiverton, Devon (2,350)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Loss of supplies/ poor pressure	TMS (10)	Cirencester, Gloucestershire (29,110) Kilburn, North West London (190,000) Oxford, Oxfordshire (5,000) Areas of North West London (100,000) Carterton, Oxfordshire (22,030) Brentford, Middlesex (229,320) Bayswater, London (200,000) Thamesmead, South East London (58,000) Mile End, East London (130,000) Central London (73,010)
	VWP (1)	Tidworth, Wiltshire (1,500)
	WSX (2)	Litton Cheney, West Dorset (2,000) High Ham, Somerset (750)
	YKS (1)	Blackshaw Head, West Yorkshire (400)
Microbiological	AFW (2)	Meesden, Hertfordshire (125) Cobham, Surrey (18)
	ANG (9)	Northampton (3) Bury St Edmunds, Suffolk (3) Wickhambrook, Suffolk (3) Amphill, Bedfordshire (3) Broughton, Lincolnshire (69) Biggleswade, Bedfordshire (3) Daventry, Northamptonshire (3) Bedford, Bedfordshire (3) Ely, Cambridgeshire (3)
	BRL (1)	Radstock, Somerset (3)
	DWR (3)	Cray, Brecon (3) Abergavenny, Monmouthshire (13) Cray, Brecon (3)
	ESK (1)	Billericay, Essex (3)
	IWN (1)	Kings Cross, London (4,000)
	NNE (1)	Bishop Auckland, County Durham (3)
	SES (1)	Ewell, Surrey (100)
SEW (1)	Petersfield, Hampshire (2,420)	

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Microbiological	SVT (2)	Chesterfield, Derbyshire (12,000) Worksop, Nottinghamshire (45,000)
	TMS (9)	Carterton, Oxfordshire (3) Welling, Kent (3) Stoke Newington, London (3) Mitcham, Surrey (3) Swindon, Wiltshire (3) Beckton, East London (3) Pimlico, Central London (3) Tottenham, North London (3) Churn Hill, Oxfordshire (2,808)
	WSX (3)	Porlock, Somerset (3) Bishopstone, Gloucestershire (3) Hooke, Dorset (3)
Other	SST (1)	Burton, Staffordshire (75)
	PRT (1)	West Dean, West Sussex (1,000)
	SEW (2)	Canterbury, Kent (39,000) Crawley, West Sussex (12,752)
	SRN (1)	Medway, Kent (1,250)
	TMS (3)	Procedural issue with company sampling on three occasions (N/A)
Public concern	AFW (1)	Woking, Surrey (40,000)
	ANG (15)	Norwich, Norfolk (3) Sleaford, Lincolnshire (3) Wellingborough, Northamptonshire (3,288) Snailwell, Cambridgeshire (3) King's Lynn, Norfolk (60,000) King's Lynn, Norfolk (750) Surfleet, Lincolnshire (5) Little Stonham, Suffolk (5) Blyton, Lincolnshire (2) Stony Stratford, Northamptonshire (3) Snailwell, Cambridgeshire (3) Norwich, Norfolk (3) Mundford, Norfolk (15) Ixworth, Suffolk (2,163) Colchester, Essex (4,000)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Public concern	DVW (2)	Southsea, Wrexham (100) Treuddyn, North Wales (30)
	DWR (11)	Bangor, North Wales (3) Llanelli, Carmarthenshire (118) Barry, South Wales (3) Talybont, Gwynedd (75) Hengoed, Caerphilly (6) St George, Abergele (5) Bodelwyddan, Denbighshire (723) Swansea, South Wales (2,672) Lampeter, Carmarthenshire (825) Capel Dewi, Carmarthenshire (10,000) Swansea, South Wales (6,680)
	ESK (1)	West Hanningfield, Essex (88)
	NNE (1)	Hunstanworth, County Durham (28)
	SES (1)	Hever, Kent (3)
	SEW (1)	Farnham, Hampshire (3)
	SRN (2)	Ventnor, Isle of Wight (3) Rainham, Kent (20)
	SST (1)	Barton Under Needwood, Staffordshire (78)
	SVT (17)	Bromsgrove, Worcestershire (3) Alsager, Staffordshire (3) Ellenhall, Staffordshire (3) Hucknall, Nottinghamshire (3) Mansfield, Nottinghamshire (3) Wigston, Leicestershire (3) Shrewsbury, Shropshire (3) Lydney, South Gloucestershire (3) Bewdley, Worcestershire (3) Kempsey, Worcestershire (3) Malvern, Worcestershire (5) Dines Green, Worcestershire (343) Langold, Nottinghamshire (8) Enderby, Leicestershire (1,100) Wem, Shropshire (3) Buxton, Derbyshire (3) Rednal, Birmingham (73)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
	SWT (3)	St Austell, Cornwall (3) Boswinger, Cornwall (3) St Blazey, Cornwall (155)
	TMS (10)	Dartford, Kent (3) Hounslow, Middlesex (3) Royal Wootton Bassett, Wiltshire (105) Oxford, Oxfordshire (3) Earlsfield, South West London (3) Worcester Park, Surrey (3) Paddington, Central London (3) Cricklewood, North West London (49,000) Barnet, North London (49,160) West Brompton, South West London (195)
	WSX (5)	Sparkford, Somerset (3) West Lavington, Wiltshire (3) Charlton Horethorne, Somerset (3) Bridgwater Somerset on two occasions (3)
	YKS (2)	Selby, North Yorkshire (105) Willerby North Yorkshire (0 –media only)
Taste or odour	AFW (1)	Beaconsfield, Buckinghamshire (3)
	ANG (6)	Old Costessey, Norfolk (13) Ipswich, Suffolk (3) Terrington St Clement, Norfolk (3) Gainsborough, Lincolnshire (3) Holbeach, Lincolnshire (3) Skellingthorpe, Lincolnshire (3)
	BRL (4)	Wotton-under-Edge, Gloucestershire (3) Kingston Seymour, North Somerset (3) Frampton Cotterell, South Gloucestershire (3) Shoscombe, Somerset (5)
	ESK (1)	Palgrave, Suffolk (5)
	SBW (1)	Ferndown, Dorset (3)
	SEW (1)	Ashford, Kent (15)
	SVT (1)	Hartbury, Gloucestershire (3)
	SWT (2)	Newton Abbott, Devon (5) Tavistock, Devon (5)

Nature	Number of not significant and minor events	Area affected (estimate of population affected)
Taste or odour	TMS (8)	Bromley, Kent (3) Kensal Rise, North West London (3) Ashton Keynes, Wiltshire (3) Bledlow, Buckinghamshire (3) Bicester, Oxfordshire (3) Sydenham, South East London (3) Hackney, East London (3) Royal Wootton Bassett, Wiltshire (3)
	UUT (2)	Crewe, Cheshire (3) Penrith, Cumbria (3)
<b>Total</b>	<b>235 – AFW (4), ALB (1), ANG (53), BRL (6), DVW (2), DWR (18), ESK (8), HPL (5), IWN (2), NNE (3), PRT (2), SBW (1), SES (2), SEW (11), SRN (8), SST (2), SVT (34), SWT (8), TMS (41), UUT (3), VWP (1), WSX (15), YKS (5)</b>	<b>2,503,631</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
03 Jan 2012 For 4 weeks (WSX)	Sutton Bingham raw water impounding reservoir supplying Sutton Bingham works serving consumers in Yeovil area of Somerset.	No consumers directly affected – works out of supply.	Media interest in planned works.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Ceased planned work.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Planned work being carried out on raw water reservoir reported to media by a member of the public who was critical of waste of water during a period of drought.</li> <li>• Critical of the company for failing to inform DWI of media interest, the company has since put in place measures to ensure all media interest events (irrespective of actual risk to water quality) are notified as required by Information Direction.</li> </ul> <p>Risk classification: Significant</p>
08 Jan 2012 For 24 hours (DVW)	Burton, Rossett, North Wales.	13	Media interest in discoloured water and report of illness.	<p><b>Dee Valley Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area. Flushed mains and reassessed discolouration risk in zone. Illegal connection found and disconnected.</li> <li>• Put in place procedures to prevent a recurrence of discolouration that occurred as part of this event.</li> <li>• The company revised procedures to prevent any further breaches of Regulation 35 and Information Direction.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Householder went to media alleging illness after reporting discolouration to the company, Inspectorate notified by the media, not the company.</li> <li>• No recommendations or suggestions made.</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 Jan 2012 For 48 hours (SST)	Tipton, Walsall and Wednesbury in West Midlands.	300,000	Discolouration due to third party damage to a main.	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Reviewed procedures.</li> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Flushed mains.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• The company has in place a trunk mains strategy group – looking at mitigation and updating the risk of discolouration in this zone as part of learning gained from this event.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Satisfactory company investigation and actions.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
12 Jan 2012 For 36 hours (UUT)	Blackpool and Lytham St Annes, Lancashire.	171,052	Discolouration due to failure of pressure reducing valve in network.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Replaced faulty equipment.</li> <li>• Rezoned area (brought in water from different source).</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 cause was failure of a pressure reducing valve.</li> <li>• Suggested review of Regulation 28 risk assessment for the area and incorporation of learning from the event.</li> </ul> <p>Risk classification: Significant</p>
15 Jan 2012 For 8 months (YKS)	Single property Whiston, Yorkshire.	3	Health concern regarding lead levels in blood.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Provided bottled water.</li> <li>• Provided advice to consumer.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Delay in notifying the Inspectorate.</li> <li>• Investigation ongoing.</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 Jan 2012 For 1 day (SVT)	Chesterfield West, Derbyshire.	18,501	Discolouration due to planned work.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired faulty equipment.</li> <li>• Sampled affected area.</li> <li>• Revised procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate contingency planning.</li> <li>• Inadequate training/competence of staff.</li> <li>• Did not forewarn customers.</li> <li>• Lack of maintenance of equipment.</li> <li>• Inadequate risk assessment.</li> <li>• Suggested that condition of main be incorporated into risk assessments for planned work.</li> <li>• Recommended that company procedures for planned work be followed in entirety, in particular risk assessments.</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 Jan 2012 For 2 days (SVT)	Bamford works, supplying consumers in Derbyshire, Leicestershire and Nottinghamshire.	200,000	Treatment failure.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at treatment works.</li> <li>• Sampled affected area.</li> <li>• Bypassed service reservoir.</li> <li>• Retrained staff.</li> <li>• Revised procedures.</li> <li>• Lime plant is now subject to weekly inspection and pipework flushed. Maintenance frequency has also been increased for other critical equipment linked to dosing.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Concluded that the investigational sampling was insufficient to fully assess the potential risk, in particular disinfection by-products.</li> <li>• Recommended that the company improve its approach to investigational sampling, ensuring the appropriate number and type of samples are taken as required by Regulation 17 and 18.</li> <li>• Recommended that sample times are accurately recorded at the time of collection during investigations.</li> <li>• Reminded the company of a previous recommendation associated with the Frankley works event on 29 November 2010 about the need to ensure an adequate number of samples are taken from appropriate locations in a timely manner when investigating future 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
19 Jan 2012 For 48 hours (SVT)	Swynnerton works supplying consumers in the Stoke area of Staffordshire via two downstream reservoirs where blending with other sources occurs.	132,735	<i>Cryptosporidium.</i>	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shut down treatment works.</li> <li>• Company does not intend to use works until additional treatment (UV) is installed.</li> <li>• Updated Regulation 28 risk assessment.</li> <li>• Investigation of catchment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate treatment process – disinfection.</li> <li>• This event occurred due to ingress into borehole following heavy and prolonged rainfall in early 2012.</li> <li>• Company required to undertake a revision of its Regulation 28 risk assessment following commission of UV reactor and also identify any changes in catchment.</li> </ul> <p>Risk classification: Significant</p>
22 Jan 2012 For 16 hours (DWR)	Sluvad works supplying consumers in Cardiff and the surrounding areas.	465,000	<i>Cryptosporidium.</i>	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Reinstated treatment process.</li> <li>• Review of procedures.</li> <li>• Catchment review.</li> <li>• Installed additional flow meters and relocated pH and dosing points.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Notice in place for company to take actions to mitigate identified risks in the longer term.</li> <li>• No recommendations or suggestions made.</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 2012 For 2 days (PRT)	Southsea near Portsmouth, Hampshire.	17,492	Discolouration due to a mains burst.	<p><b>Portsmouth 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>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
23 Jan 2012 For 2 days (UUT)	Bromborough, Wirral, Merseyside.	9,338	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>• Provided bottled water on request.</li> <li>• Sampled affected area.</li> <li>• Review of procedures and network modelling carried out.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause of this event was planned work on trunk main from Sutton Hall works and relates to subsequent operation of hydrant used to flush the network.</li> <li>• Satisfactory investigations and actions.</li> </ul> <p>Risk classification: Significant</p>
26 Jan 2012 For 24 hours (ESK)	Chigwell works supplying consumers in Redbridge, Havering, Dagenham and Barking in Essex.	469,292	<i>Cryptosporidium.</i>	<p><b>Essex and Suffolk Water action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area and enhanced monitoring at works.</li> <li>• Reviewed treatment process and raw water quality.</li> <li>• Contacted raw water supplier (Thames Water).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 2012 For 2 hours (UUT)	Cowpe works supplying consumers in the Rossendale Valley in Lancashire.	9,925	Turbidity.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Reinstated treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was loss of control of ferric coagulant dosing.</li> <li>• Recommended that company review mitigation and contingency for this site and incorporate into a revised Regulation 28 risk assessment.</li> <li>• Recommended that the company review its arrangements for taking water samples in the investigation of events to ensure requirements of Regulation 17 and 18 met.</li> </ul> <p>Risk classification: Significant</p>
31 Jan 2012 For 15 hours (SVT)	Castleton, Derbyshire.	1,500	Loss of supplies due to planned work.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <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>• Inadequate communication caused delay in response.</li> <li>• Inadequate contingency planning.</li> <li>• Inadequate training/competence of staff.</li> <li>• Recommended that company follow its procedures for risk assessment prior to planned 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
01 Feb 2012 For 3 days (ANG)	Barrowby Lincolnshire.	9,375	Discolouration due to burst main.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired faulty equipment.</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Removed service reservoir from supply.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate contingency planning.</li> <li>• Recommended that the risk assessment prior to any planned work on service reservoirs takes into account changes to local hydraulics that may be caused by maintenance/repair/replacement activities. This action to be incorporated into the company's maintenance and inspection programmes.</li> </ul> <p>Risk classification: Significant</p>
02 Feb 2012 For 14 days (BRL)	Cheddar, Wedmore, Knoll areas in Somerset.	Not relevant.	Increase in Cryptosporidiosis in the community.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Reviewed upstream works treatment process and catchment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Health surveillance data showed an increase in cryptosporidiosis in the community (five reported cases) investigations did not show any link to drinking water. Epidemiology pointed to the cause as foreign travel.</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 2012 For 8 hours (ANG)	Grantham, Lincolnshire.	3,300	Discolouration due to planned work.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <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>• Inadequate follow-up sampling.</li> <li>• Inadequate procedures.</li> <li>• Recommended that the company review its investigational sampling policy to ensure it is targeted to capture the nature and full extent of any water quality problem experienced by consumers as required by Regulation 17 and 18.</li> <li>• Recommended that the company ensures that all future modelling work approximates as closely as possible the conditions that will prevail at the time the work is carried out.</li> </ul> <p>Risk classification: Significant</p>
08 Feb 2012 For 1 hour (SES)	Woodmansterne works supplying areas of Banstead, Sutton, and Woodmansterne, Surrey.	83,000	High turbidity.	<p><b>Sutton and East Surrey Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Investigated treatment operation.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate procedures.</li> <li>• Inadequate maintenance as contact tank inspection frequency not as stated in Regulation 28 risk assessment.</li> <li>• Recommended that company review ability to run to waste at this site.</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 2012 For 12 hours (YKS)	Snainton works supplying consumers in the Snainton area of Yorkshire.	<10	Chlorine taste or odour.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Replaced faulty equipment.</li> <li>• Flushed mains.</li> <li>• Company reviewed use of this valve and reduced the time interval for replacement of multi functional valves (MFV).</li> <li>• Review of hydraulic operation of this area of network.</li> <li>• Introduced a check of functioning of MFVs into routine maintenance for chlorination units.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company failed to adequately protect the network from back-siphonage from their own dosing equipment resulting in high levels of chlorine entering the supply.</li> <li>• Recommended that the company share the wider learning points from this event, particularly the specific treatment valve failure, with the industry.</li> </ul> <p>See the <i>Drinking water quality events</i> section.</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
08 Feb 2012 For 8 hours (UUT)	Buckton Castle works supplying consumers in the Ashton, Stalybridge and Harpley, Lowbrook and Westwoods areas of Greater Manchester.	214,689	High turbidity and iron.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired faulty equipment.</li> <li>• Investigated cause of polyelectrolyte dosing failure and re-started coagulation dosing equipment and washed filters.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate action to mitigate known risks of faulty plant equipment up to a year before the event.</li> <li>• Recommended that the company ensure that maintenance procedures include testing of the equipment to ensure correct operation following maintenance work.</li> <li>• Recommended that the company ensure that appropriate mitigation is put in place such that, should the automatic flow reduction fail to operate again, water leaving the works continues to meet water quality standards and that the Regulation 28 risk assessment is reviewed and updated in light of this event.</li> </ul> <p>Risk classification: Significant</p>
16 Feb 2012 For 4 days (DVW)	Wrexham, Trem Y Nant, Hightown and Rhostyllen areas of North Wales.	33,350	Discolouration due to a mains burst.	<p><b>Dee Valley Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Feb 2012 For 48 hours (SES)	Effingham, Surrey.	38,700	Discolouration due to planned work.	<p><b>Sutton and East Surrey 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>• Inaccurate records of previous valve operations held on the company Geographic Information System (GIS).</li> <li>• Suggested that the company maintains accurate records of valve operations and these are verified prior to future strategic changes in the operation of its trunk main network.</li> <li>• Recommended that revised risk assessment is applied to operation of all network valves of a similar age and condition as identified during this event.</li> <li>• Suggested that when assessing the extent of discolouration during any future water quality event the company evaluates the parameters tested for and includes those commonly associated with discolouration to identify the nature and extent of the event as required by Regulation 17 and 18.</li> </ul> <p>Risk classification: Significant</p>
17 Feb 2012 For 8 hours (TMS)	Hinksey, Oxfordshire.	6,250	Loss of supplies/poor pressure due to a mains burst.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Feb 2012 For 24 hours (CAM)	Fleam Dyke works supplying consumers in Cambridgeshire.	262,560	<i>E.coli</i> detected in a treated water sample.	<p><b>Cambridge Water Company Plc action:</b></p> <ul style="list-style-type: none"> <li>• Investigated treatment process.</li> <li>• Sampled affected area.</li> <li>• Reviewed sampling point facilities.</li> <li>• Reviewed procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Original result was from a sample of raw not treated water.</li> <li>• Suggested that the company modify sample point labelling at this works to prevent a recurrence.</li> </ul> <p>Risk classification: Significant</p>
20 Feb 2012 For 48 hours (SVT)	Moss Gate works supplying consumers in the Meir Heath area of Stoke-on-Trent, Staffordshire.	32,000	Enterococci in a treated water sample.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Carried out hydrogeology and catchment investigations.</li> <li>• Inspected condition of borehole.</li> <li>• Sampled affected area.</li> <li>• Reviewed procedures.</li> <li>• Chlorine residuals increased in zone.</li> <li>• CCTV inspection of borehole.</li> </ul> <p><b>DWI comments and findings.</b></p> <ul style="list-style-type: none"> <li>• Suggested that the company revise Regulation 28 risk assessment.</li> </ul> <p>Risk classification: Significant</p>
23 Feb 2012 For 5 days (ANG)	Potsgrove, Bedfordshire.	1,128	Issue of boil water advice following the detection of <i>E.coli</i> from a hydrant subsequent to planned work.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals in the distribution system.</li> <li>• Boil water advice issued.</li> <li>• Lifted boil notice after two clear samples.</li> </ul> <p><b>DWI comments and findings.</b></p> <ul style="list-style-type: none"> <li>• <i>E.coli</i> contamination detected after planned work by the company to repair leakage.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Feb 2012 For 4 weeks (UUT)	Residential street in Partington, Manchester.	30	Taste or odour.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Fittings inspection carried out.</li> <li>• Provided bottled water on request.</li> <li>• Removed cross connection.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Customer identified an open cross connection with a rainwater system for toilet flushing and supply to garden taps.</li> <li>• Company notification of event was late.</li> <li>• Sampling was not timely enough, as it took place after the cross-connection was removed it was impossible to conclusively link water quality problem at the tap to the cross connection.</li> <li>• Hazards not fully identified, therefore boiling or do not drink advice not provided.</li> <li>• Recommended that staff be trained in identification of serious events.</li> <li>• Recommended that company revises its investigational sampling approach to ensure serious breaches of fittings regulations are acted on promptly as a water quality event.</li> <li>• Recommended that methodology for identifying sampling parameters is improved to ensure requirements of Regulation 17 and 18 are met.</li> <li>• Suggested that company take steps to ensure the risks from rainwater harvesting are integrated into risk-based approach to fittings inspections in line with recommendations from DWI report on rainwater harvesting event in 2010.</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 Feb 2012 For 4 hours (YKS)	Chellow works supplying consumers in Bradford area, West Yorkshire.	670,000	Disinfection failure.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Replaced faulty equipment.</li> <li>• Reviewed procedures and took action to prevent a recurrence.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was a power spike which affected chlorine dosing.</li> <li>• Inadequate mitigation of known risks with equipment and maintenance.</li> <li>• Critical of lack of failsafe systems to prevent undisinfected water leaving this site.</li> <li>• Recommended review of Regulation 28 risk assessment.</li> <li>• Critical of management of power systems on site and automated control and lack of appropriate maintenance.</li> </ul> <p>Risk classification: Significant</p>
28 Feb 2012 For 24 hours (SWT)	Tottiford works supplying consumers in Dartmoor, Devon.	74.083	<i>E.coli.</i>	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Investigated laboratory analysis and integrity of bottles.</li> <li>• Investigated treatment process and catchment.</li> </ul> <p><b>DWI Comments and Findings.</b></p> <ul style="list-style-type: none"> <li>• The works is the subject of a major upgrade, including provision of rapid gravity filters, a contact channel, pH correction and oxidation facilities. These changes, combined with the other actions taken by the company, should prevent recurrence 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 Feb 2012 for approx 5 months (SST)	Seedy Mill works supplying consumers of SST and SVT (via bulk supply).	98,588	Dead fish in a service reservoir.	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• When fish detected in service reservoir the company traced problem to Seedy Mill works.</li> <li>• Sampled affected area.</li> <li>• Increased chlorine residuals.</li> <li>• Reviewed procedures.</li> <li>• Replaced and refurbished filters on site.</li> <li>• Installed equipment to prevent fish in raw water from entering process streams.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of lack of maintenance and filter operation.</li> <li>• Critical of delayed company investigation and repetition of issues on site.</li> <li>• Potential failure of compliance with Regulation 26(3).</li> <li>• Critical of management, particularly lack of visibility of filtration performance and condition.</li> <li>• Investigation ongoing.</li> </ul> <p>This is linked to the events at Seedy Mill works on 28 February, 16 July and 30 August 2012.</p> <p>Risk classification: Serious</p>
28 Feb 2012 for approx 5 months (SVT)	Areas fed by bulk supply from South Staffs Seedy Mill works.	1,380	Treatment failure at Seedy Mill works (SST) with dead fish in distribution system.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Company carried out real time water quality risk assessment of affected zones with no risks identified.</li> <li>• Company liaised with South Staffordshire Water.</li> <li>• Sampling surveys of hydrants and at consumer properties.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</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 2012 For 4 days (SRN)	Hythe, Southampton.	13,000	Discolouration due to a mains burst.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Company also notified the Environment Agency due to risk of flooding in the New Forest.</li> <li>• Company corrected records of mains in the area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
01 Mar 2012 For 4 hours (AFW)	Paddlesworth works supplying consumers near Folkestone, Kent.	25,000	High turbidity.	<p><b>Affinity Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at treatment works.</li> <li>• Flushed mains.</li> <li>• Reviewed procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The high turbidity was linked to planned installation of a new valve on a raw water transfer main.</li> <li>• Inadequate investigational sampling.</li> <li>• Recommended adequate investigation into events, including appropriate number and type of samples as required by Regulation 17 and 18.</li> </ul> <p>Risk classification: Significant</p>
01 Mar 2012 For 12 hours (UUT)	Hazel Grove, Cheshire.	73,393	Discolouration due to a mains burst.	<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>• 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 investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Mar 2012 For 7 days (DWR)	Maesteg, Bridgend, Wales.	5	Issue of do not drink notice (petrol taste/odour).	<p><b>Dŵr Cymru Welsh Water 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>• Fittings inspection carried out at properties and commercial businesses of interest (car wash at redundant petrol station) and no deficiencies found.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations and suggestions made.</li> </ul> <p>Risk classification: Significant</p>
05 Mar 2012 For 12 hours (SVT)	Ladycross service reservoir near Long Eaton, Derbyshire.	40,875	Loss of supplies due to planned work.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Bypassed service reservoir.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Sampled affected area.</li> <li>• Repaired faulty equipment.</li> <li>• Inspection of ball valves.</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 risk assessment.</li> <li>• Inadequate training/competence of staff.</li> <li>• Lack of maintenance of equipment.</li> <li>• Recommended that learning from event and information relating to valves be incorporated into distribution, operation and maintenance schedules.</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 Mar 2012 For 3 weeks (SVT)	Leek, Staffordshire.	43	Do not drink notice due to illegal cross connection with private borehole.	<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>• Retrained staff.</li> <li>• Review of procedures.</li> <li>• Sampled affected area.</li> <li>• Carried out Water Fittings Inspection of local haulage yard.</li> <li>• Severn Trent successfully prosecuted the premises owner for a breach of the Water Supply (Water Fittings) Regulations. The fine was £600 with £14,487.40 costs.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Supplied water unfit for human consumption.</li> <li>• Reminded company of the requirement to carry out a full investigation and establish the nature of any contamination as required by Regulation 17 and 18.</li> <li>• Recommended that the company reviews it's procedures for customer complaint visits, in particular the use of on-site tests.</li> <li>• Recommended that the company audit their customer call centre procedures during 2013 to ensure that all lessons have been learned.</li> <li>• Suggested that the company ensure that any advice (safe to drink) is removed from any script used by call centre staff and that they refrain from commenting directly on the safety of the water.</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 Mar 2012 For 1 day (DWR)	Ross on Wye, Herefordshire.	21,943	Discolouration.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Refilled service reservoirs in area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that company were unable to find a cause for event, service reservoir levels were low due to a reduction in the bulk supply from Severn Trent following a burst raw water main the day before and changes to flow in network.</li> <li>• Delay in obtaining investigative water samples.</li> <li>• Critical that company provided inaccurate information to Inspectorate in final reports.</li> <li>• Suggested that company update their distribution, operation and maintenance strategy with information gained 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
13 Mar 2012 For 4 days (SVT)	Castle Bromwich, Small Heath, Selly Park, and Solihull areas in West Midlands.	22,712	Discolouration due to a mains burst.	<p><b>Severn Trent 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>• Sampled affected area.</li> <li>• Flushed mains.</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>• Inadequate contingency planning.</li> <li>• Inadequate risk assessment.</li> <li>• Pre-planning for this job was not comprehensive, excluded consideration of a key service reservoir level dropping and a main being used at higher flow velocities than normal.</li> <li>• Suggested that company review effectiveness of modelling for planned work.</li> <li>• Suggested that company consider effectiveness of flushing methodology.</li> <li>• Recommended that company ensure compliance with Regulation 17 and 18 to ensure a full investigation of water quality 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
13 Mar 2012 For 12 days (NNE)	Newcastle and Gateshead Northumberland.	414,540	Discolouration due to planned work on trunk mains.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <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 contingency planning.</li> <li>• Suggested company satisfies itself that the transfer of complex modelling activities to contractors carries suitable safeguards and risk mitigations to ensure that any scenarios produced are credible, accurate, practicable and do not create discoloured water events.</li> <li>• Suggested company revalidates the concept of self-cleansing velocities against industry best practice.</li> <li>• Recommended a study to understand why filter sand was present in the mains network downstream of the works, specifically to look at the management of filter backwashing to ensure that this issue is understood and addressed to prevent a recurrence.</li> <li>• Recommended that any further planned exercises are carried out with a scenario relating to network discolouration risks to ensure water quality and risks are managed in light of Regulation 4 duty to supply wholesome water at all times.</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 Mar 2012 For 1 day (DWR)	Llyswen works supplying consumers in Powys, Wales.	10,000	<i>Cryptosporidium.</i>	<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>• Shut down treatment works.</li> <li>• Review of procedures.</li> <li>• Increased maintenance frequency of on-line colour monitor from quarterly to monthly.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event followed on from failure of a monitor that caused sub-optimal coagulation.</li> <li>• A new, more robust treatment process is being installed during this AMP period.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
15 Mar 2012 For 1 week (UUT)	Public building (nursery) in Lyme Green, Near Macclesfield, Cheshire.	3	Copper.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued a do not drink notice.</li> <li>• Bottled water provided on request.</li> <li>• Fittings inspection carried out with deficiencies identified.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause of this event was internal plumbing issues with infrequent use of a tap. The company advised the consumers and enforced duties under fittings regulations.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Mar 2012 For 1 week (SVT)	Single property in Coventry.	3	Blue colouration due to backsiphonage.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Do not drink notice issued.</li> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• Investigation of shared service pipe.</li> <li>• Carried out a fittings inspection with inconclusive results.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of failure to take samples for colour or odour when the water was reported as being blue and there was suspicion that there was a faulty toilet cistern valve and use of blue toilet cleaning chemical. Such analysis together with metals testing may have identified the matter rather more quickly than undertaking complex gas chromatography mass spectrometry (GCMS).</li> <li>• Recommended that the company put in place more appropriate procedures enabling and encouraging staff to select parameters for analysis based on case information, as required by Regulation 17 and 18.</li> <li>• Recommended the company considers proactive risk assessment of shared supply arrangements identified during routine network operations, and where appropriate, take preventative action.</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 2012 For 33 hours (DVW)	Boughton works and Boughton Tower supplying consumers in Upton and Blacon areas of Chester.	26,000	Loss of supplies/poor pressure due to a mains burst.	<p><b>Dee Valley Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired faulty equipment.</li> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Upgraded the SCADA system at this site and incorporated a decision tree into the works manual covering circumstances where the power supply is interrupted.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Suggested company reviews and prioritises the key alarms at this site, so that if there is a future power surge, operators are able to respond appropriately and in a timely manner.</li> <li>• Suggested that a revision is made to the site operating manual to ensure that in circumstances when the tower is out of service, operators are able to respond in a manner that prevents a repetition of this event.</li> </ul> <p>Risk classification: Significant</p>
20 Mar 2012 For 3 days (UUT)	Denton and Droylsdon, Manchester.	100,000	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>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate procedures.</li> <li>• Suggested that process for planned work and valve operation be reviewed.</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 2012 For 5 days (SVT)	Pant, West Wales.	105	Issue of a do not drink notice.	<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>• Provided bottled water to affected consumers.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
24 Mar 2012 For 10 days (UUT)	Ennerdale works supplying consumers in Cumbria.	80,000	High pH.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Blended supply with another source.</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>• Inadequate mitigation of risks associated with clean in place process for membrane treatment.</li> <li>• Critical that pH probes located in the primary backwash tank were not functioning correctly.</li> <li>• Noted that process monitoring equipment was positioned in a manner that did not enable effective timely maintenance.</li> <li>• Suggested that future planned instrument installation is done with maintenance and operation in mind.</li> <li>• Suggested that company consider adding a further locking system to prevent accidental operation of valves.</li> <li>• A Notice was in place at this site to prevent recurrence of previous similar events.</li> <li>• A subsequent event occurred (see Ennerdale disinfection failure event on 9 August 2012).</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 Mar 2012 For 36 hours (UUT)	Irlam, Salford, Greater Manchester.	54,500	Discolouration due to a mains burst following preparatory work for trunk mains cleaning.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <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 critical that the event was caused directly by the actions of the company, however, actions were taken to prevent a recurrence.</li> </ul> <p>Risk classification: Significant</p>
04 Apr 2012 For 6 hours (SVT)	Tenbury Wells, Worcestershire.	7,655	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>• Replaced main.</li> <li>• Flushed mains.</li> <li>• Planning a trial of acoustic sounding for tracing non-metallic mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• A trenching machine hit and damaged a 6 inch main during planned work.</li> <li>• This event was a repetition of a similar event in 2010 where the circumstances were compounded by inaccurate company geographic information system (GIS) records for asbestos cement mains.</li> <li>• Suggested that the company reviews its trial hole methodology.</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 2012 For 18 hours (NNE)	Auton service reservoir, Durham City area, Northumberland.	11,083	Media interest due to loss of supplies/poor pressure.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Replaced faulty equipment.</li> <li>• Bypassed service reservoir.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate communication, caused by a fault with telemetry equipment relating to level sensors at the site, delayed the response. Actions have been taken by the company to prevent a recurrence, including a region-wide review of telemetry and visibility of sites.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
09 Apr 2012 For 48 hours (TMS)	Residents in single block of flats, Isle of Dogs, London.	75	Petrol taste or odour.	<p><b>Thames Water Utilities 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>• Provided an alternative supply by tanker/bowser.</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>• The event was associated with vandalism of a premises storage tank.</li> <li>• Fittings inspectors worked closely with the property management company to prevent a recurrence, a lock was fitted to the tank room.</li> <li>• No recommendations or suggestions made.</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 Apr 2012 For 12 hours (SRN)	Goldstone works supplying consumers near Brighton, Sussex.	48,103	Disinfection failure.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Planned work on phosphate dosing equipment by contractors resulted in cabling serving flow signals to chlorine dosing equipment being disconnected in error.</li> <li>• The operator overrode the works as it was thought that water quality alarms being received were due to aeration in the chlorine analysers. Manual tests showed that there was failure of the disinfection process.</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>• Water that had not been disinfected entered the on-site treated water storage reservoir.</li> <li>• Inadequate risk assessment.</li> <li>• Recommended that the company review guidance and procedures for staff on the identification of hazards to water quality and the documentation and mitigation of risks for all planned work.</li> </ul> <p>Risk classification: Significant</p>
12 Apr 2012 For 1 week (UUT)	Chorley, Lancashire.	100,000	Loss of supplies/poor pressure.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired faulty control valve.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Apr 2012 For 24 hours (YKS)	Huby works supplying consumers near York.	20,000	<i>Cryptosporidium.</i>	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired faulty equipment.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Cause was a failure of the clarification process.</li> <li>• Suggested company consider more frequent inspection of chemical dosing lines.</li> </ul> <p>Risk classification: Significant</p>
19 Apr 2012 For 10 hours (UUT)	Cowpe works supplying consumers in Rossendale, Lancashire.	9,925	Disinfection 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> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate procedures.</li> <li>• Inadequate risk assessment and mitigation of known problems.</li> <li>• Recommended review of alarm and control philosophy for this site and improved mitigation regarding sub-optimal disinfection at this and other works of a similar design and update all relevant Regulation 28 risk assessments.</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 Apr 2012 For 24 hours (BRL)	Fishponds, Bristol.	6,700	Rotten eggs taste or odour due to planned work.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Review of procedures.</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>• Cause was incorrect operation of network valves which resulted in stagnant water entering the network.</li> <li>• Critical of procedures and investigation.</li> <li>• Recommended that company puts in place measures to ensure that appropriate sample parameters are tested for during water quality events as required by Regulation 17 and 18.</li> <li>• Recommended company reviews its provision of information to ensure that the requirements of the Information Direction are met.</li> <li>• Recommended company revises call centre scripts to ensure that advice given to consumers regarding safety of water is accurate and is based on evidence.</li> </ul> <p>Risk classification: Significant</p>
27 Apr 2012 For 1 day (SRN)	Northfleet, North Kent.	55,000	Media interest: group of babies born with a congenital defect (Gastrochisis) and speculation by media that atrazine in groundwater is a causative factor.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Company sought expert medical advice and liaised with stakeholders.</li> <li>• Company reviewed water quality data for the area.</li> <li>• Company sampled the area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This was a high media interest story.</li> <li>• The company liaised appropriately with the HPU who do not consider there is a link to the public water supply. The HPU's investigation is ongoing.</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 Apr 2012 For 2 days (YKS)	North West Sheffield.	250,000	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>• Provided bottled water on request.</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.</li> <li>• Recommended that company introduce system of risk assessment for operations of valves on trunk mains.</li> <li>• Suggested that Regulation 28 risk assessment be reviewed.</li> </ul> <p>Risk classification: Significant</p>
30 Apr 2012 For 6 hours (YKS)	Keld Head works supplying consumers in Pickering, North Yorkshire.	22,085	Disinfection failure.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> <li>• Review of alarm and failsafe operation.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate failsafe and alarm setting at this site.</li> <li>• Inadequate commissioning and testing of failsafe for disinfection at this site.</li> <li>• Recommended that the company reviews the visibility of alarms and actions taken in response to them.</li> <li>• Recommended that the company demonstrate staff are adequately trained and competent in identification of water quality issues and requirements of Regulations.</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
04 May 2012 For 8 weeks (SVT)	Chesterfield and Dronfield, Derbyshire.	847	High pH.	<p><b>Severn Trent 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>• Flushed main.</li> <li>• The company identified that asbestos cement main was oversized and low flow was exacerbating the issues with high pH. The section in question is due to be abandoned and the other sections resized.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
05 May 2012 For 34 hours (NNE)	Blaydon, Tyne and Wear.	30,205	Loss of supplies/poor pressure due to a mains burst.	<p><b>Northumbrian Water Ltd 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>• Suggested company take forward their conclusions as learning points to aid their response to future events and update Regulation 28 risk assessment as appropriate.</li> </ul> <p>Risk classification: Significant</p>
07 May 2012 For 24 hours (SVT)	Hanchurch Service reservoir supplying consumers in South Stoke, Staffordshire.	128,500	Enterococci.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Enhanced monitoring of treated water and raw water.</li> <li>• Inspected reservoir.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 2012 For one day (UUT)	Congleton, Cheshire.	4,894	Discolouration.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Flushed main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate planning of maintenance.</li> <li>• Recommended that company review Information Letter 13/97 relating to discoloured water and adhere to the principles therein.</li> <li>• Suggested that company review their Regulation 28 risk assessment.</li> </ul> <p>Risk classification: Significant</p>
11 May 2012 For 3 days (TMS)	Farm premises in Wargrave area of Berkshire	180	Outbreak of gastroenteritis due to cross connection with river water irrigation system.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued a boil water notice.</li> <li>• Provided advice to the consumer.</li> <li>• Water fittings inspection carried out.</li> <li>• Supported health professionals on health surveillance.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company not able to definitively identify cross connection.</li> <li>• The company's evaluation of further legal action is ongoing. A previous event occurring at this site when Thames Water prosecuted the previous owners in 1992 under Fittings Regulations.</li> <li>• Suggested that in light of this event the company considers the risks posed by agricultural properties and uses information held on its company systems to update its approach to water fittings inspections and sampling.</li> <li>• Suggested the company should consider incorporating learning from this event into its Regulation 28 risk assessment.</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 May 2012 For 48 hours (UUT)	Prescot works supplying consumers in Liverpool, Merseyside.	523,110	<i>Cryptosporidium.</i>	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Replaced faulty equipment.</li> <li>• Sampled affected area.</li> <li>• Reviewed treatment process and operation.</li> <li>• Review of alarm handling.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Noted that polyelectrolyte dosing equipment and works auto shutdown did not function as designed and there was inadequate risk mitigation of known problems with coagulation and software control system at site.</li> <li>• Recommended that the company review its failsafe shutdown software code and alarm generation to ensure that all stages of treatment are adequately protected.</li> </ul> <p>Risk classification: Significant</p>
12 May 2012 For 5 days (YKS)	Albert works supplying consumers in the Halifax area of West Yorkshire.	120,000	Iron.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired faulty equipment.</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>• Inadequate communication caused delay in response.</li> <li>• Inadequate treatment process – clarification.</li> <li>• Inadequate risk assessment.</li> <li>• Lack of maintenance of equipment.</li> <li>• Sampling was not timely enough.</li> <li>• Recommended company develops a system of introducing or reintroducing assets into supply that assesses and mitigates risks and complies with Regulation 26.</li> <li>• Recommended review of investigation procedures to ensure timely investigation of actual or perceived water quality issues as required by Regulation 17 and 18.</li> <li>• Recommended review of Regulation 28 risk assessment.</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 May 2012 For 3 hours (UUT)	Wybersley works supplying consumers in Cheadle Hulme, Hazel Grove and Stockport area.	319,143	High pH.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired faulty equipment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that company failed to identify issues with pH monitoring equipment and this led to inadequate disinfection.</li> <li>• Suggested that all treatment works alarm locations and set points are reviewed.</li> <li>• Inspectorate concluded that there had been a failure to adequately disinfect the water and operate a continuous treatment process.</li> <li>• Inspectorate put in place a Notice requiring improvements to be made to on-site telemetry and control of processes.</li> </ul> <p>Risk classification: Significant</p>
28 May 2012 For 96 hours (DVW)	Wrexham, North Wales.	42,500	Discolouration.	<p><b>Dee Valley Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was increased flows due to high demand disturbing mains deposits.</li> </ul> <p>This is linked to the events at Wrexham on 5 August and 30 September 2012.</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
06 Jun 2012 For 48 hours (SBW)	Alderney works Bournemouth area, Dorset.	185,000	<i>E.coli.</i>	<p><b>Semcorp Water Action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Reviewed treatment process.</li> <li>• Reviewed raw water quality.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of company investigation of this event.</li> <li>• Inspectorate audit of site showed deficiencies in sampling practice relating to sterilisation of the taps and also labelling and handling of samples. The site audit identified that changes were needed in practices for chironomid control and visibility of disinfection processes at site.</li> <li>• Undertaking in place for mitigation of risks identified previously with location of contact tanks below the slow sand filters. The company has not yet satisfied the requirements for being released from this undertaking.</li> </ul> <p>Risk classification: Significant</p>
07 Jun 2012 For 12 hours (ESK)	Southwold, Suffolk	4,732	Discolouration due to planned work.	<p><b>Essex and Suffolk Water action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Restored pumps to normal operation.</li> <li>• Review of pumping and flow data.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and action satisfactory.</li> <li>• No recommendations or suggestions made.</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 Jun 2012 For 9 days (TMS)	Walton works supplying consumers in large parts of London.	99,500	High bromate.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Retrained staff.</li> <li>• Review of procedures.</li> <li>• Shut down treatment works.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of the company for permitting untrained staff to operate the ozone plant, concluded that event was due to a failure of management and management processes.</li> <li>• Suggested training programme extended to cover all staff responsible for ozone process, including the site managers.</li> <li>• Suggested treatment works operating manuals are revised to incorporate the lessons from this event.</li> <li>• Recommended that in any future situation involving overdosing of ozone, the company includes DBPs in its suite of investigative analyses as required by Regulation 17 and 18.</li> </ul> <p>Risk classification: Significant</p>
07 Jun 2012 For 1 week (YKS)	Dunkeswick, Leeds, West Yorkshire.	75	Issue of a boil water notice due to potential for contamination of burst main.	<p><b>Yorkshire 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>• Repaired burst main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Suggested company reviews its internal communications to ensure that investigations are adequate and samples are taken from the correct location in a timely manner to demonstrate the extent and nature of the water quality impact as required by Regulation 17 and 18.</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 Jun 2012 For 2 hours (SWT)	Bastreet works supplying consumers in Launceston, Cornwall.	12,500	<i>Cryptosporidium</i> .	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shut down treatment works.</li> <li>• Sampled affected area.</li> <li>• Repaired faulty polyelectrolyte dosing equipment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Suggested on-line water quality trend data be improved so it is quantitative and presentation enables interpretation.</li> <li>• This works is identified as being at risk from <i>Cryptosporidium</i> in the regulatory risk assessment.</li> </ul> <p>Risk classification: Significant</p>
13 Jun 2012 For 2 days (DWR)	Abergavenny, Usk, Powys, Wales.	62,500	Discolouration due to a mains burst.	<p><b>Dŵr Cymru Welsh Water 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> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Caused by failure of a newly installed line valve on a 28 inch steel trunk main. Initial repair completed by a rezoning operation. Faulty valve repaired later after network modelling, company warned 26,000 customers ahead of the operation and received no calls.</li> <li>• Inspectorate satisfied with company investigation and 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
13 Jun 2012 For 48 hours (PRT)	Westergate and Eastergate works supplying Bognor Regis and surrounding areas, West Sussex and Southern Water customers from bulk supply.	78,000	<i>Cryptosporidium.</i>	<p><b>Portsmouth Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of catchment.</li> <li>• Review of works processes.</li> <li>• Liaised with health professionals.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
16 Jun 2012 For 72 hours (SVT)	Melbourne works supplying consumers in Derbyshire and Leicestershire.	926,000	Disinfection failure.	<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> <li>• Retrained staff.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Evidence of inadequate disinfection.</li> <li>• Evidence that critical valves were unlabelled and the site not being operated as designed.</li> <li>• Evidence of failure to comply with policy for use of works override and maintenance of records.</li> <li>• Evidence of repetition of issues previously identified at same site (five events since 2005, four unsatisfactory audits by DWI).</li> <li>• The company was prosecuted in September 2012 relating to one of the events at this site in September 2011.</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
19 Jun 2012 For 24 hours (SVT)	Millmeece works, supplying Millmeece and surrounding areas, Staffordshire.	126,532	<i>E.coli.</i>	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at treatment works.</li> <li>• Sampled affected area.</li> <li>• Enhanced monitoring at site until additional UV treatment installed in July 2012.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Suggested revision of Regulation 28 risk assessment for the Hancurch group of groundwater sources.</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 Jun 2012 For 5 days (TMS)	Kangley Bridge works supplying consumers in Beckenham and Bromley Town, Greater London.	10,000	<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>• Review of procedures.</li> <li>• Inspected treated water tank.</li> <li>• Removed site from supply.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate alarms in place.</li> <li>• Inadequate management of filters.</li> <li>• Inadequate investigation.</li> <li>• Critical of management of filter backwashing.</li> <li>• Suggested that staff be trained in quality investigations.</li> <li>• Recommended the company puts in place authorisation procedures for a change of process/treatment.</li> <li>• Recommended the company reviews on-line monitors in terms of criticality and maintenance.</li> <li>• Notice put in place to mitigate risks associated with <i>E.coli</i> by using a single borehole and also isolate a further source including the sand filters. The notice requires the company to review alarm settings and ensure these are appropriate, enhance training for staff in water quality investigations and assess competency and implement company-wide system for authorisation of process/alarm changes and recording actions. The company is also required to carry out large volume sampling and enhanced monitoring of filter backwashing, and audit and report on all measures in the 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
22 Jun 2012 For 2 days (SWT)	Allers works supplying consumers in Tiverton area, Devon.	79,000	<i>Cryptosporidium</i> .	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> <li>• Review of catchment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This works is identified as being at risk of <i>Cryptosporidium</i> in the regulatory risk assessment and continuous monitoring is in place.</li> <li>• A subsequent event at this works where coliform bacteria and <i>E.coli</i> were detected led the Inspectorate to put in place a Notice requiring enhanced monitoring at this site for microbiological parameters in 2013.</li> </ul> <p>Risk classification: Significant</p>
25 Jun 2012 For 24 hours (SRN)	Burham works supplying consumers in Gravesham, Maidstone, Swale, Tonbridge and Malling, Medway areas of Kent.	340,000	Rabbits in treated water tank.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of procedures.</li> <li>• Removed site from supply.</li> <li>• Increased chlorine residual at works and in network.</li> <li>• Notified bulk supply user (SEW) so they could sample affected bulk supply area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was a failure of security arrangements, specifically hatches were not secure and alarms not fully commissioned.</li> <li>• DWI audit found that procedures were not being followed and there were insufficient records of the investigation carried out.</li> <li>• Recommended that the bulk supply agreement be revised to specify arrangements for maintaining a supply to consumers when water is not wholesome.</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
25 Jun 2012 For 72 hours (SEW)	Burham works (SRN) supplying areas of North Kent.	44,051	Rabbits in treated water tank.	<p><b>South East Water Plc Action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Carried out action appropriate to event.</li> </ul> <p>This is linked to the event at Burham works on 25 June 2012.</p> <p>Risk classification: Significant</p>
26 Jun 2012 For 15 hours (SRN)	Brading, Isle of Wight.	375	Loss of supplies/poor pressure due to a mains burst.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Late and inadequate notification under Information Direction.</li> <li>• Inadequate number of investigative samples and parameters, therefore not compliant with Regulation 17 and 18.</li> <li>• Suggested that the company review its sampling procedures following burst mains in light 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
27 Jun 2012 For 2 days (UUT)	Huntington works supplying consumers in Cheshire and Merseyside.	1,606,396	High turbidity.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Restarted normal works operation following power failure.</li> <li>• Review of procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of contingency plan which used bypass of treatment and recommended a review to ensure requirements of Regulation 26 met at all times.</li> <li>• A legally binding programme of work is in place at this works to upgrade control systems and the Inspectorate reviewed progress with this and similar undertakings during 2012.</li> </ul> <p>Risk classification: Significant</p>
28 Jun 2012 For 24 hours (NNE)	Broken Scar works –Darlington Supply supplying consumers in the Darlington area, County Durham.	70,000	<i>E.coli.</i>	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Reviewed treatment process.</li> <li>• Increased chlorine residuals at works.</li> <li>• Inspected site and improvements made to fittings associated with pumping and sampling facilities.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company took action to inspect the contact tanks on site, no ingress found, but valves associated with the tanks were not closing fully.</li> <li>• Suggested that the company updates its Regulation 28 risk assessment.</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 Jun 2012 For 30 days (YKS)	Rivelin works supplying consumers in Manor, Fullwood and Norton areas of Sheffield.	236,301	<i>Cryptosporidium</i> .	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> <li>• Review of catchment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
29 Jun 2012 For 3 days (SWT)	Teignmouth, Devon.	12,173	Discolouration due to a mains burst.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</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>• Sampling was not timely enough.</li> <li>• Recommended that company reviews its investigational procedure to ensure that it is timely, covers the parameters of interest and confirms the extent of the event as required by Regulation 17 and 18.</li> </ul> <p>Risk classification: Significant</p>
30 Jun 2012 For 8 hours (WSX)	Rockwell Green, Wellington, Somerset.	7,500	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 mains.</li> <li>• Rezoned the area (brought in water from a different area).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of failure of company to identify the potential for discolouration prior to this planned mains rehabilitation work.</li> <li>• Suggested learning from event is incorporated into distribution, maintenance and operation strategy (DOMS).</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 2012 For 54 hours (DWR)	Pendine works supplying consumers in Pembrokeshire and Carmarthenshire, Wales.	7,500	Iron.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment processes.</li> <li>• Review of borehole protection.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was critical that the operator failed to escalate the water quality event, contrary to company procedures.</li> <li>• The Inspectorate recommended that further investigation be made of the on-line Iron monitor to establish root cause of issues causing event and reason why water quality alarms were not generated as designed.</li> <li>• The Inspectorate was critical that on site testing of Iron was not fit for purpose, but concluded that the company had taken action to modify this procedure since the time of event to address deficiencies.</li> </ul> <p>Risk classification: Significant</p>
07 Jul 2012 For 4 hours (NNE)	Murton works supplying consumers in Berwick upon Tweed, Northumberland.	15,000	High turbidity.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shut down treatment works.</li> <li>• Review of catchment.</li> <li>• Removed works from supply.</li> <li>• Chlorine residuals increased at works upon return to supply and at service reservoirs.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommendations made regarding protection of the borehole headworks, new sample line installation and turbidity shutdown arrangements.</li> <li>• Suggested that Regulation 28 risk assessment be reviewed and updated as necessary.</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 Jul 2012 For 2 days (SWT)	Pynes works, supplying consumers in Exeter, Devon.	122,580	<i>Cryptosporidium</i> .	<p>South West Water Ltd action:</p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at treatment works.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This works is identified as being at risk of <i>Cryptosporidium</i> in the regulatory risk assessment.</li> <li>• Suggested company review on-line data before it is included in the company's event report to ensure that it is accurate and in a form that is capable of being evaluated.</li> </ul> <p>Risk classification: Significant</p>
09 Jul 2012 For 1 week (SEW)	Headley Park pumping station supplying consumers in Headley and Greatham, Surrey.	68,414	High turbidity and manganese.	<p><b>South East Water Plc 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>• The cause of this event was a burst on the outlet of the contact tank.</li> <li>• Company did not notify the Inspectorate, or local authorities or health authorities at the time.</li> <li>• Critical that no risk assessment carried out in relation to the repair.</li> <li>• Recommended that the company should carry out an assessment of risk prior to any planned or reactive work.</li> <li>• Failure to carry out an adequate investigation with monitoring as required by Regulation 17.</li> <li>• Recommended that the company put in place measures to ensure compliance with Regulation 10 and 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
10 Jul 2012 For 48 hours (DVW)	Llwyn Onn works supplying consumers in Wrexham, North Wales.	97,766	<i>Cryptosporidium.</i>	<p><b>Dee Valley Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired faulty equipment.</li> <li>• Replaced faulty equipment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended works checks are documented and a minimum frequency specified to ensure consistency between operators and technicians.</li> <li>• Suggested company considers a more formal approach to a site log book which incorporates relevant criteria for information to be recorded. A site log should assist in establishing an auditable record of activities at this site.</li> <li>• Suggested company keeps a supply of key spares for dosing pumps.</li> <li>• Suggested company uses the quickest procurement route when purchasing critical parts for repairs to a site affected by a water quality event.</li> </ul> <p>Risk classification: Significant</p>
11 Jul 2012 For 24 hours (TMS)	Hampstead service reservoir, supplying consumers in Muswell Hill and Hampstead, North London.	33,760	<i>E.coli.</i>	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Removed service reservoir from supply.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was an integrity failure.</li> <li>• Critical that the ingress occurred relatively soon after the reservoir was last inspected and repaired (3 years).</li> <li>• Recommended review of inspection method and remedial work effectiveness.</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 2012 For 1 day (SRN)	Otterbourne works supplying consumers in the Winchester area of Hampshire.	10,000	<i>Cryptosporidium.</i>	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of raw water data.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that a deterioration in performance of the membranes was noted two months prior to this event but not acted on.</li> <li>• Recommended that the company introduces or improves procedures, at this and all other membrane filtration sites, to closely monitor performance of membrane filtration following receipt of pressure decay time alarms and where appropriate replace relevant membrane unit.</li> </ul> <p>Risk classification: Significant</p>
12 Jul 2012 For 24 hours (YKS)	Hurlfield service reservoir supplying consumers in Sheffield, South Yorkshire.	65,000	<i>E.coli.</i>	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Enhanced monitoring in place.</li> <li>• Reservoir inspected.</li> <li>• Specialist advice sought on reasons for low pressure.</li> <li>• Repairs carried out to minor points of ingress.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</li> </ul> <p>This event is linked to the event at Rivelin works on 29 June 2012.</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
13 Jul 2012 For 4 days (YKS)	22 properties in Cherry Burton Village, East Riding of Yorkshire.	55	<i>E.coli</i> , clostridia, Enterococci, coliform bacteria, taste and odour, and nitrate.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Increased chlorine residuals in the distribution system.</li> <li>• Issued a boil water notice.</li> <li>• Sampled affected area.</li> <li>• Removed cross connection.</li> <li>• Flushed affected area.</li> <li>• Water fittings inspection conducted at affected properties and this was how the cross connection to an agricultural borehole was identified. The company removed this and put in place measures to protect the network. The third-party landowner was subsequently successfully prosecuted by Yorkshire Water.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was a cross connection with an agricultural borehole.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
13 Jul 2012 For 6 weeks (UUT)	Sweetloves works, supplying consumers in Bolton, Lancashire.	210,000	Musty taste or odour.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Removed raw water reservoir from supply initially, subsequently blended reservoir water with other raw water sources.</li> <li>• Sampled affected area.</li> <li>• Mobilised standby powdered carbon dosing equipment.</li> <li>• Review of raw water sources.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company response was slow.</li> <li>• Company asked to report on progress with actions to improve management of upstream reservoirs to prevent a repetition.</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 Jul 2012 For 8 weeks (SWT)	Drift works supplying consumers in Penzance West Penwith, Cornwall.	50,752	Trihalomethanes and taste and odour.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Increased turnover in downstream reservoirs.</li> <li>• Wrote to consumers and placed notice on website to apologise about chlorine taste and odour due to reactively commissioning new GAC filtration process and failing to adjust chlorine dose.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was an increase in organic matter in the raw water and failure to adjust treatment as necessary.</li> <li>• Recommended that the company plans timely warnings to customers of expected changes in water quality, particularly as part of planned work, where risk has been identified.</li> <li>• Critical that the commissioning of a new GAC process was triggered by a failure of trihalomethane standard in the distribution network.</li> <li>• The company did not adhere to the requirements of section 9(3)(g) of the Information Direction ensuring reports contain consumer contact information as appropriate.</li> </ul> <p>Risk classification: Significant</p>
15 Jul 2012 For 1 day (NNE)	Washington, Tyne and Wear, Northumberland.	366,177	Discolouration due to planned work.	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Reviewed procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that Consumer Council of Water were not notified of this event.</li> <li>• Recommended a review of notification procedures to ensure compliance with Regulation 35.</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 Jul 2012 For 1 day (SST)	Seedy Mill works supplying consumers in Burton on Trent and surrounding areas, Staffordshire.	0	<i>E.coli.</i>	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Inspected contact tank.</li> <li>• Refurbished and cleaned filters.</li> <li>• Increased chlorine residuals.</li> <li>• Reviewed procedures.</li> <li>• Installed equipment to prevent fish in raw water from entering process streams.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of lack of maintenance and filter operation.</li> <li>• Critical of delayed company investigation and repetition of issues on site.</li> <li>• Potential failure of compliance with Regulation 26(3).</li> <li>• Critical of management, particularly lack of visibility of filtration performance and condition.</li> <li>• Investigation ongoing.</li> </ul> <p>This is linked to the events at Seedy Mill works on 28 February and 30 August 2012.</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
19 Jul 2012 For 8 days (SVT)	Coventry, West Midlands.	35	Do not drink notice following mains burst.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued a do not drink notice.</li> <li>• Carried out water fittings inspection – no deficiencies identified.</li> <li>• Provided bottled water to affected consumers.</li> <li>• Flushed affected area.</li> <li>• Rezoned area.</li> <li>• Repaired main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company confirmed that there was an unusual taste and odour to water. However, there was no indication of contamination.</li> <li>• The company carried out water fittings inspections on several properties in the road and no infringements were identified.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
20 Jul 2012 For 5 days (TMS)	Two properties in Bicester, Oxfordshire.	5	<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>• Issued a boil water notice.</li> <li>• Issued advice to the consumer regarding tap hygiene.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 2012 For 73 hours (DWR)	Llandysul Ceredigion, Wales.	33	Issue of do not drink advice.	<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> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Cause was hydrocarbon spill by third party in vicinity of plastic pipes.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
23 Jul 2012 For 32 hours (SVT)	Kidderminster zone and Bewdley area Midlands.	5,733	Loss of supplies/poor pressure due to planned work.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued bottled water on request.</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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
24 Jul 2012 For 14 hours (UUT)	Wigan, Greater Manchester.	48,400	Discolouration due to a mains burst.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Jul 2012 For 24 hours (SST)	Hopwas, Staffordshire.	66,790	Discolouration due to a burst main.	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <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>• Insufficient samples and investigation carried out.</li> <li>• Recommended that company ensure compliance with Regulation 17 and 18 to ensure a full investigation of water quality events.</li> </ul> <p>Risk classification: Significant</p>
26 Jul 2012 For 4 weeks (SRN)	Weir wood works supplying consumers in Crawley, West Sussex and also supplying South East Water consumers with a bulk supply of water.	29,826	Chlorate and bromate.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of procedures.</li> <li>• Review of chemical storage.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate storage and management of chemicals.</li> <li>• Recommended improved control of dosing of sodium hypochlorite and review of procedures for the design and operation of the disinfection process.</li> <li>• Suggested that revised procedure for the storage of disinfection chemicals be extended to other sites.</li> </ul> <p>This is linked to a minor event in Crawley, West Sussex (12,752) that occurred in August 2012.</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
27 Jul 2012 For four days (YKS)	Etton works supplying consumers in East Yorkshire.	46,000	Disinfection failure.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired faulty battery charging equipment for water quality monitors.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was a power failure of battery charging equipment linked to water quality monitors.</li> <li>• Suggested revision of procedures to take into account learning from this event, in particular those relating to failsafe testing at this works and also the practice of manually adding chlorine to raise chlorine levels in contact tank and downstream service reservoir.</li> <li>• Recommended additional training provided to staff.</li> <li>• Recommended alarm inhibition authorisations are recorded.</li> <li>• Recommended that company review failsafe arrangements at other similarly configured sites.</li> <li>• Critical that actions proposed to prevent a repetition of issues highlighted with maintenance of battery chargers were identified previously by company, but staff has chosen not to take any further action unless a repetition occurred.</li> <li>• Company has since taken action to review all sites and put in place measures to regularly test, maintain and retrain staff regarding failsafe systems and modified procedures.</li> </ul> <p>Risk classification: Significant</p>
29 Jul 2012 For 48 hours (UUT)	Bolton, Lancashire.	85,278	Discolouration due to a damaged hydrant and associated valve.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 2012 For 10 days (TMS)	Sidcup, Greater London.	43,000	Discolouration due to a mains burst.	<p><b>Thames Water Utilities 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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
01 Aug 2012 For 2 weeks (DWR)	Nant Peris works, supplying consumers in Gwynedd, North Wales.	205	<i>Cryptosporidium.</i>	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Detailed inspection of catchment.</li> <li>• Collaborated with Public Health Wales and local authority to decide on appropriate action which involved requesting GPs to carry out health surveillance and local authority checks on private supplies.</li> <li>• Abandoned works and put in place an alternative supply by mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was critical of the analytical turnaround time for the failing sample but noted that since the time of the event the company has taken action at the laboratory to address delays.</li> <li>• The Inspectorate recommended that the company shares with the industry their review of the location of sampling points used for the detection and investigation of <i>Cryptosporidium</i> when there is UV treatment in place.</li> <li>• The company has subsequently updated its risk assessment and identified seven other sites where capital schemes for improvement are required.</li> <li>• The Inspectorate concluded that a recurrence of issues was unlikely as the company acted to abandon this source and is now supplying consumers from a modification to an existing distribution 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 Aug 2012 For 48 hours (DVW)	Wrexham, North Wales.	7,500	Discolouration due to issues with historic deposits in ring main and renovation work.	<p><b>Dee Valley Water Plc 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>• Recommended company take forward the learning points from events to prevent further recurrence.</li> <li>• The Wrexham ring main and associated supply area is covered by Notices (Llwyn Onn and Legacy works Notices), which set out mitigation of discolouration risks. The Notices were reviewed and it was noted that the improvements will be completed in 2013. The company is providing regular reports on the effectiveness of its actions.</li> </ul> <p>Risk classification: Significant</p>
06 Aug 2012 For 72 hours (TMS)	Lewknor Service reservoir supplying consumers in Aylesbury, Buckinghamshire.	13,000	Coliform bacteria.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Removed service reservoir from supply.</li> <li>• Review of sample point.</li> <li>• Sampled affected area.</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>• Inadequate communication caused delay in response.</li> <li>• Suggested improved protocol for isolating assets from supply.</li> <li>• Recommended review of sample point facilities and an action plan requested.</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 Aug 2012 For 4 weeks (UUT)	Concessionary supply in Nelson, Blackburn area Lancashire.	3	<i>E.coli</i> and Enterococci.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued boil water notice.</li> <li>• Issued advice to consumer.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> <li>• A Notice is in place specifying the investigation that the company must make in response to failures. The Notice was complied with. These supplies were transferred onto a mains supply in April 2013.</li> </ul> <p>Risk classification: Significant</p>
06 Aug 2012 For 1 day (NNE)	Cambo service reservoir supplying consumers in Scots Gap near Otterburn, Northumberland.	420	<i>E.coli.</i>	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued a boil water notice.</li> <li>• Removed service reservoir from supply.</li> <li>• Bypassed service reservoir.</li> <li>• Flushed mains.</li> <li>• Increased chlorine residuals at service reservoir.</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>• Inadequate procedures.</li> <li>• Recommended that the company modify their procedures for the acceptance and verification of service reservoir repairs.</li> <li>• Suggested that where serious and numerous deficiencies are found then a further inspection should precede return to supply.</li> <li>• Company had to be prompted to update the Inspectorate about progress with the investigation.</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 Aug 2012 For 2 weeks (WSX)	Durleigh works supplying consumers in Bridgwater, Somerset.	54,200	Coliform bacteria.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at treatment works.</li> <li>• Sampled affected area.</li> <li>• Shut down treatment works.</li> <li>• Review of the treatment process.</li> <li>• Reviewed Regulation 28 risk assessment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company failed to identify a cause of seasonal detections of coliform bacteria, but action plan in relation to dissolved air flotation plant put in place</li> <li>• The company has updated its Regulation 28 risk assessment using 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
08 Aug 2012 For 2 days (SVT)	Wolverhampton Bilston, Northamptonshire.	28,000	Discolouration due to planned work.	<p><b>Severn Trent 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>• Flushed affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inadequate risk assessment.</li> <li>• The network model created prior to this work assumed a valve to be open when it was found to be shut when the company checked the status prior to work commencing. The Inspectorate was critical that this model had not been re-run.</li> <li>• Suggestion from a previous event at Tenbury Wells in April 2012 reiterated, namely that the company should review effectiveness of current method for flushing strategic mains.</li> <li>• Recommended that where assumptions are found to be wrong the risk assessment should be revisited and updated.</li> <li>• Suggest that company review its current communication practices between field operatives and planners with regard to ensuring that information gained in the field is incorporated into risk assessments in a timely manner to specifically ensure that discolouration is mitigated.</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 2012 For 3 days (UUT)	Ennerdale works supplying consumers in south and east Workington and Seaton, Cumbria.	80,000	Disinfection failure.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Disinfection compromised when plant failed to shutdown as designed following an issue with cleaning process for membranes resulting in high pH water being released into the process stream.</li> <li>• Repetition following putting in place of Notice.</li> <li>• See Ennerdale pH failure event on 24 March 2012. Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
10 Aug 2012 For 3 days (NNE)	Ryhope service reservoir South East Sunderland, Northumberland.	38,422	<i>E.coli.</i>	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at service reservoir and subsequently removed service reservoir from supply.</li> <li>• Sampled affected area.</li> <li>• Audit of upstream works and no issues identified.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
11 Aug 2012 For 2 days (SVT)	Birstall East Leicester, Leicestershire.	43,000	Discolouration due to a mains burst.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Provided an alternative supply by tanker.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Aug 2012 For 158 hours (ANG)	Flitwick, central Bedfordshire.	210	<i>E.coli.</i>	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <li>• Sampled affected area.</li> <li>• Issued a boil water notice.</li> <li>• Flushed mains.</li> <li>• Provided bottled water on request.</li> <li>• Replaced equipment in network (valves).</li> <li>• Investigations showed contamination (<i>E.coli</i>) due to condition of consumer's tap.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Contamination followed multiple mains bursts.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
13 Aug 2012 For 4 days (TMS)	Fobney Works Reading, Berkshire.	30,000	Bromate.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Retrained staff.</li> <li>• Sampled affected area.</li> <li>• Increased monitoring for bromate introduced following this event.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the company collected only one sample for bromate from the combined main ozone outlet during 2011.</li> <li>• Recommended programme of training for all staff responsible for operating ozone, including the site managers, at all relevant sites.</li> <li>• Recommended that the company carries out an adequate investigation as required by Regulation 17 and 18.</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 Aug 2012 (UUT)	Parbold, Lancashire.	Not relevant	Allegation of water-related death made as part of inquest proceedings.	<p><b>United Utilities Water plc and DWI actions:</b></p> <ul style="list-style-type: none"> <li>• Company and DWI deemed interested parties in the inquest.</li> <li>• Report and witness statements provided before date set by coroner.</li> <li>• Inquest hearing towards end of 2013.</li> </ul> <p>Risk classification: Significant</p>
25 Aug 2012 For 24 hours (NNE)	Warkworth works, supplying consumers in Alnwick, Amble, Warkworth, Ashington, Northumberland.	160,000	<i>Cryptosporidium</i> .	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of catchment data.</li> <li>• Increased chlorine residuals at treatment works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The works appeared to be operating normally with low turbidity measured throughout the process and all stages of treatment performing.</li> <li>• Recommended that the company review <i>Cryptosporidium</i> data for the past three years to determine whether the treatment regime is sufficient to cope with periodic changes in raw water quality.</li> <li>• The company has since undertaken the review and works to replace injector points and associated equipment, which contributed to the event, and to adjust alarm settings at this and other 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
26 Aug 2012 For 3 days (SVT)	Harpur Hill reservoir supplying consumers in Peak District.	10,058	Discolouration due to changes in flow in upstream trunk main.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed mains.</li> <li>• Survey of flow changes in trunk main and reason for low reservoir levels.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Root cause was maintenance on a valve at the reservoir which subsequently resulted in valve opening fully which caused increases in flow in system.</li> <li>• Critical that the company did not investigate changes in flow before dispatching staff to site, suggested that company review investigation of discolouration events associated with service reservoirs.</li> <li>• Suggested that the company reviews its mitigation of discolouration using flushing.</li> <li>• Minded to recommend that where similar arrangements exist for control of inlet flows on reservoirs these be reviewed to prevent a recurrence, however, the company has since assessed other sites and actions have been taken to prevent a recurrence of a similar 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 Aug 2012 For 48 hours (UUT)	Loveclough works, Burnley, Bury, Rossendale, Lancashire.	35,262	Iron and turbidity.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> <li>• Took site out of supply.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company failed to act on alarms being received and this resulted in water greater than 1NTU being presented for disinfection, there was also a failure of the clarification process with iron being carried over.</li> <li>• A Notice was put in place to require the company to make improvements to automated control and monitoring systems at a number of sites as there have been similar issues at other works (Wybersley and Cowpe) causing water quality events.</li> </ul> <p>Risk classification: Significant</p>
28 Aug 2012 For 2 weeks (SST)	Newstead and Rufford, Tamworth, Staffordshire.	1,250	Earthy/musty taste and odour.	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</li> <li>• Rezoned area (brought in water from different source).</li> <li>• Sampled affected area.</li> <li>• Changed network configuration to improve turnover.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Aug 2012 For 18 hours (NNE)	Alnwick, Amble, Warkworth, Ashington.	160,000	Turbidity due to treatment failure.	<p><b>Northumbrian Water Ltd Action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at treatment works.</li> <li>• Replaced faulty equipment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Loss of coagulation following a leak on the dosing line post flow meters causing deterioration of clarification and increased turbidity.</li> <li>• No recommendations or suggestions. The company response was satisfactory.</li> </ul> <p>Risk classification: Significant</p>
28 Aug 2012 For 3 days (UUT)	Stockport, Greater Manchester.	15,526	Discolouration due to mains damage.	<p><b>United Utilities Water plc 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>• The company has identified the risk from mobilisation of historic deposits in trunk mains and it was suggested that the company reviews its risk assessment in light of this event.</li> <li>• Suggested that company make an assessment of risks prior to undertaking network activities to identify risks to water quality.</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 Aug 2012 For 5 hours (SST)	Seedy Mill works supplying consumers across Staffordshire.	98,588	Loss of filter media allowing passage of fish into treated water.	<p><b>South Staffordshire Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Inspected contact tank and downstream reservoirs.</li> <li>• Refurbished and cleaned filters.</li> <li>• Increased chlorine residuals.</li> <li>• Reviewed procedures.</li> <li>• Installed equipment to prevent fish in raw water from entering process streams.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of lack of maintenance and filter operation.</li> <li>• Critical of delayed company investigation and repetition of issues on site.</li> <li>• Potential failure of compliance with Regulation 26(3).</li> <li>• Critical of management, particularly lack of visibility of filtration performance and condition.</li> <li>• Investigation ongoing.</li> </ul> <p>This is linked to the events at Seedy Mill works on 28 February and 16 July 2012.</p> <p>Risk classification: Significant</p>
30 Aug 2012 For 24 hours (ANG)	Thorpe Lodge service reservoir supplying consumers in Peterborough area, Cambridgeshire and also bulk supply to Thames Water.	20,515	<i>E.coli.</i>	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Bypassed service reservoir.</li> <li>• Removed service reservoir from supply.</li> <li>• Sampled affected area.</li> <li>• Repaired reservoir and improved drainage.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Aug 2012 For 4 days (DVW)	Boughton works, supplying Chester and surrounding areas.	102,000	Coliform bacteria.	<p><b>Dee Valley Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at service reservoir.</li> <li>• Increased chlorine residuals at treatment works.</li> <li>• Sampled affected area.</li> <li>• Increased chlorine residuals in the distribution system.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Lack of maintenance of equipment.</li> <li>• Inadequate contingency planning.</li> <li>• Inadequate risk assessment.</li> <li>• Inadequate procedures.</li> <li>• Inadequate investigations into root cause.</li> <li>• Minded to recommend that the company systematically tests each of its stored water reservoirs and contact tank to ascertain where ingress can occur. However, company has given the Inspectorate a timetable for this activity which is due for completion in March 2013.</li> <li>• Suggested that the company also review the Regulation 28 risk assessment for the site to include the treated water reservoirs.</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 Sep 2012 For 4 days (UUT)	Sandwith service reservoir supplying consumers in Cumbria.	9,905	Coliform bacteria.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Removed site from supply to inspect reservoir.</li> <li>• Identified ingress at the site and installed temporary dosing rig to boost chlorine residuals within the body of the reservoir during investigation.</li> <li>• Increased chlorine residuals at Ennerdale works which supplies this site.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company identified ingress points at the reservoir and a leak on the 18 inch main from the service reservoir to the affected area. The reservoir cell was drained and repairs carried out to this and the main.</li> <li>• The Inspectorate concluded that the company had made a satisfactory response to event.</li> </ul> <p>Risk classification: Significant</p>
02 Sep 2012 For 13 hours (SRN)	Ryde, Isle of Wight.	4,333	Media interest in discolouration due to burst main.	<p><b>Southern Water Services 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> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations and suggestions made.</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 Sep 2012 For 2 weeks (UUT)	Wayoh works supplying consumers in Bolton, Greater Manchester.	111,467	Pesticide (MCPA).	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of catchment.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Cause was recent agricultural spraying in the catchment in a location feeding into Wayoh impounding reservoir.</li> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
10 Sep 2012 For 1 day (TMS)	Tottenham High Rd, North London.	80,000	Media interest in traffic disruption due to burst main.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Repaired main.</li> <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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
10 Sep 2012 For 12 hours (SRN)	Hove, West Sussex.	15,000	Media interest in burst main due to third party damage.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 2012 For 3 weeks (TMS)	Banbury, Oxfordshire.	54,780	Coliform bacteria.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
11 Sep 2012 For 8 days (SEW)	Public building (school) Maidenhead, Berkshire.	500	Giardiasis.	<p><b>South East Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Water fittings inspection conducted –no infringements identified.</li> <li>• Liaised with health professionals.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation showed that there was no link between water supply and reports of illness.</li> </ul> <p>Risk classification: Significant</p>
11 Sep 2012 For 1 week (WSX)	Taunton, Somerset.	128	Gastroenteritis in properties on a private distribution network.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Liaised with contractor working on private onward distribution network.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that no water fittings inspection carried out and poor liaison between stakeholders investigating this event to obtain and share sample results taken by third party to allow visibility and assist investigation of event.</li> <li>• Recommended that company develops criteria and procedures for triggering water fittings inspections.</li> <li>• Critical that company did not carry out a fittings inspection at any of the properties and this resulted in not being able to demonstrate that company network was protected.</li> <li>• Recommended that company puts in place measures to ensure compliance with Regulation 17 and 18.</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 2012 For 3 days (UUT)	Plodder Lane service reservoir supplying consumers in Farnworth Greater Manchester.	89,174	Loss of supplies/poor pressure.	<p><b>United Utilities Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Repaired equipment.</li> <li>• Sampled affected area.</li> <li>• Provided alternative supplies (tankers).</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Noted that electrical fire resulted from failure of level sensors and continued pumping.</li> <li>• Recommended that the company carry out further work to understand this area of the network as a result of learning from this event.</li> <li>• Water quality zones affected during this event are covered by a legally binding undertaking (Manchester ring main undertaking).</li> <li>• A legal instrument will be put in place to prevent a recurrence. This relates to deficiencies identified in telemetry and control of sites.</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 Sep 2012 For 2 days (TMS)	Kempton Park works supplying consumers in central, North London and greater London.	3,505,977	Coliform bacteria.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Increased chlorine residual at works.</li> <li>• Review of treatment works configuration including surge vessels.</li> <li>• Notified inset appointee Independent Water Networks.</li> <li>• Company suspected stagnant water in a pump manifold contributed to this event.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that company final report was late and recommended that the company put in place action to ensure compliance with Regulations and Information Direction.</li> <li>• Recommended that for any future changes to the pumping manifold system at this and other sites, that the company assesses the risk to water quality before making such changes.</li> <li>• Recommended company continue to investigate root cause of coliform bacteria failures as evidence not conclusive.</li> </ul> <p>See the <i>Coliforms at works</i> section.</p> <p>Risk classification: Significant</p>
14 Sep 2012 For 1 day (YKS)	Malton service reservoir supplying consumers in North Yorkshire.	5,118	Enterococci.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Inspected service reservoir.</li> <li>• Company identified ingress at this site and another reservoir (Hildenley).</li> <li>• Actions taken to repair ingress and prevent a recurrence.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company failed to confirm presumptive samples result due to laboratory errors. However, the Inspectorate was satisfied that company took actions to prevent a 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
19 Sep 2012 For 3 days (WSX)	Taunton, Somerset.	4,000	Discolouration due to a mains burst.	<p><b>Wessex 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>• Provided an alternative supply by tanker/bowser.</li> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
24 Sep 2012 For 24 hours (UUT)	Hazel Grove, Stockport, Greater Manchester.	5,168	Discolouration due to actions by contractor following third party damage to main.	<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>• Restored network configuration to normal following contractor's intervention.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Inspectorate critical that sampling was not timely enough and the company failed to make a full investigation of consumer health concerns reported during the event.</li> <li>• Recommended that company reviews its procedures for sampling consumer properties during water quality events to ensure that requirements of Regulation 10, 17 and 18 are complied with.</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 Sep 2012 For 72 hours (BRL)	Single commercial property in Bristol.	3	Petrol spillage.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• Issued a do not drink notice.</li> <li>• Carried out a water fittings inspection.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Cause was spillage of fuel affecting plastic service pipe detected by water fittings inspection made by the company.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
28 Sep 2012 For 2 days (SWT)	Holemoor village, Devon.	23	Mains burst.	<p><b>South West Water Ltd Action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Sep 2012 For 8 weeks (WSX)	Food premises in Winterborne Stickland, Dorset.	3	<i>E.coli.</i>	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued boil water advice.</li> <li>• Water fittings inspection found that the storage tank and long supply pipe causing deterioration in quality of water. Fittings Regulations Notice issued requiring improvements to the tank.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event arose as a consequence of a water sample taken by an Environmental Health Officer (EHO) as part of a food safety inspection. The water company recognised that this property had been at the centre of a previous water quality event.</li> <li>• Company investigation and action satisfactory.</li> </ul> <p>Risk classification: Significant</p>
30 Sep 2012 For 1 day (DVW)	Borras and Marford, Wrexham, North Wales.	7,500	Loss of supplies/poor pressure due to a mains burst.	<p><b>Dee Valley Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</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>• Recommended company take the learning points from events during 2012 to inform forward programme of work on undertaking for Wrexham ring main to prevent further events of this nature.</li> </ul> <p>This is linked to the events at Wrexham on 28 May and 5 August 2012.</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
03 Oct 2012 For 24 hours (NNE)	Maltby service reservoir supplying consumers in Teesside, Middlesbrough.	146,263	<i>E.coli.</i>	<p><b>Northumbrian Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at service reservoir.</li> <li>• Repaired faulty equipment.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
04 Oct 2012 For 12 hours (DWR)	Elan works Rhayader and Llandrindod Wells, Powys, mid-Wales.	13,000	High turbidity and discolouration.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was the company's slow response to a change in raw water.</li> <li>• Recommended more timely response in future to safeguard treatment process and enable better control of coagulation process.</li> <li>• Critical of company's raw water management regime.</li> <li>• Recommended the company assesses effectiveness of its responses to changes in rainfall, reservoir turnover and reservoir releases within the Elan system.</li> <li>• Recommended company examines if there are effective communications in place with those agencies that monitor these changes, if it does not do so itself.</li> <li>• Suggested company updates its Regulation 28 risk assessment.</li> <li>• Recommended company collects appropriate numbers of samples in a timely manner and at suitable locations to comply with Regulations 18 and 19.</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
04 Oct 2012 For 1 week (SVT)	Chaddesley Corbett pumping station Kidderminster, Worcestershire.	68,101	Coliform bacteria.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Increased chlorine residuals.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate noted that since the time of this event the company has audited its analytical provider and carried out a company-wide review of hand dosing which was taking place at a downstream reservoir at the time of this event occurring.</li> </ul> <p>Risk classification: Significant</p>
05 Oct 2012 For 24 hours (DWR)	Goytre service reservoir supplying consumers in Margan and Port Talbot, Wales.	13,750	<i>E.coli.</i>	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Increased chlorine residuals at service reservoir.</li> <li>• Bypassed service reservoir.</li> <li>• Removed service reservoir from supply.</li> <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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 2012 For 72 hours (ANG)	Wisbech Cambridgeshire.	288	<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>• Review of sampler.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Faecal contamination occurred in a sample collected following an emergency cut out repair of a main.</li> <li>• Critical of company's conclusion that faecal contamination was due to an error of sampling when the sampler admitted to collecting sample from an outside tap, not from a consumer's internal tap, contrary to company procedures, therefore the cause of the contamination was more likely to have been the condition of the outside tap.</li> <li>• Recommended that the company conduct regular audits of sampling staff.</li> </ul> <p>Risk classification: Significant</p>
09 Oct 2012 For 24 hours (YKS)	Sowerby service reservoir supplying consumers near Halifax, West Yorkshire.	3,433	<i>E.coli.</i>	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Subsequently removed service reservoir from supply to carry out inspection.</li> <li>• Increased chlorine residuals at service reservoir and company continue to carry out large volume enhanced monitoring at this site.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Oct 2012 For 5 days (SWT)	Tamar works supplying consumers in Bude, Cornwall.	20,700	Pesticide (metaldehyde).	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of catchment.</li> <li>• Arranged to submit an undertaking to carry out appropriate investigations and actions with other stakeholders.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Metaldehyde was detected in raw water in the impoundment reservoir for the first time, possibly as a consequence of land run off after heavy rainfall.</li> <li>• The company was advised to submit an undertaking.</li> </ul> <p>Risk classification: Significant</p>
11 Oct 2012 For 66 hours (TMS)	Haselmere works, supplying Guildford and surrounding areas, Surrey.	9,330	<i>Cryptosporidium.</i>	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
12 Oct 2012 For 24 hours (NNE)	Newcastle, Northumberland.	40,220	Discolouration due to planned work.	<p><b>Northumbrian 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> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The company was carrying out work on a network connection covered by an undertaking. The company carried out modelling to assess the risk of causing discolouration prior to this event and subsequently this modelling was re-run using learning from this event.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Oct 2012 For 1 day (SWT)	Allers works supplying consumers in Tiverton, Bampton, South Molton, Cullompton, Honiton Lyme Regis, Devon.	78,663	<i>E.coli.</i>	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> <li>• Cleaned and inspected contact tank.</li> <li>• Audited laboratory method.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• A Notice was put in place requiring enhanced monitoring for microbiological parameters.</li> </ul> <p>Risk classification: Significant</p>
15 Oct 2012 For 36 hours (SVT)	Castle Bromwich, Small Heath, Selly Park, Solihull, Bordesley, Yardley, West Midlands.	88,660	Discolouration due to a mains burst.	<p><b>Severn Trent 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>• Sampled affected area.</li> <li>• Provided an alternative supply by tanker/bowser.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Suggested that the investigation should have included water fittings inspection in relation to failures of iron and coliform bacteria found during the investigation of this event as the property associated with the failing samples had also reported illness. The Inspectorate concluded that in this case the cause of failure had not been adequately investigated.</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 Oct 2012 For one day (SVT)	Chadwick Nick service reservoir supplying consumers in Alfreton area, Derbyshire.	10,000	Loss of supplies/poor pressure 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>• Provided bottled water on request.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of poor company communications with health professionals and vulnerable consumers.</li> <li>• Recommended that the company revise procedures for provision of bottled water to vulnerable consumers (such as care homes and schools) and review its method for keeping lists of stakeholders (such as council contacts) up to date to ensure that communications to these stakeholders occur in a timely manner during water quality events.</li> <li>• Suggested that the company introduce a policy for use by call centre staff stating when bottled water will be provided.</li> </ul> <p>Risk classification: Significant</p>
19 Oct 2012 For 12 hours (ANG)	Eaton Socon and Eaton Ford, Cambridgeshire.	6,250	Loss of supplies due to a 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 investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Oct 2012 For 59 days (YKS)	Skipton, North Yorkshire.	20	Discolouration and lead.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Replaced communication pipe.</li> <li>• Provided advice to consumer.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event relates to a protracted consumer complaint associated with media interest (local newspaper).</li> <li>• The cause was a long shared service pipe. The communication pipe section was replaced by Yorkshire Water.</li> <li>• This event notification was delayed and it was recommended that the company put in place actions to ensure that all events are reported in a timely manner.</li> <li>• Suggested that the company reviews the information it gives to consumers in cases where there is lead present and they are not the property owner.</li> </ul> <p>Risk classification: Significant</p>
26 Oct 2012 For 1 week (ANG)	Great Carlton, Lincolnshire.	10	Petrol like taste or odour.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued a do not drink notice.</li> <li>• Replaced main.</li> <li>• Working with manufacturer to understand properties of overland mains material.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was associated with the use of an approved material for overland mains to be used in emergency situations. There was some evidence that when water stagnated in the main a taste and odour may develop.</li> <li>• The Inspectorate has contacted the manufacturer and reviewed the previous approval of this material and product.</li> <li>• The Inspectorate is content that this product was satisfactory for temporary and emergency use and remains fit for purpose.</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 Oct 2012 For 2 hours (UUT)	Ulpha works supplying consumers in Ulpha and Barrow town, Lancashire.	52,059	Disinfection failure.	<p><b>United Utilities plc Action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Recommended that company have plans in place to protect consumers where sub-optimally disinfected water is supplied to properties.</li> <li>• Recommended that company review its site shutdown arrangements and configuration of site to ensure that water that has not been disinfected cannot enter supply.</li> </ul> <p>Risk classification: Significant</p>
01 Nov 2012 For 9 hours (SWT)	St. Dennis, Cornwall.	140	Loss of supplies/poor pressure due to third party damage to mains.	<p><b>South West Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a precautionary boil water notice.</li> <li>• Raised chlorine residuals.</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 company was advised to use the information gained during this event to inform its DOMS programme.</li> <li>• Suggested that the company should revisit its policy of only providing information to contractors carrying out planned work when requested, company encouraged to take a proactive approach.</li> </ul> <p>Risk classification: Significant</p>
05 Nov 2012 For 48 hours (YKS)	Gipton, Leeds, Yorkshire.	70,750	Mains burst and loss of supplies.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired 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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Nov 2012 For 3 days (AFW)	Denge works, supplying consumers in Denge and Romiley, Kent.	13,500	Discolouration due to damage to main during planned work.	<p><b>Affinity Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Flushed mains.</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>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
14 Nov 2012 For 12 hours (UUT)	Sweetloves works supplying consumers in Bolton and Blackburn.	78,000	High chlorine.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by a defective loading valve which allowed sodium hypochlorite to continue to be dosed when site had shutdown.</li> <li>• Recommended that the company inspect all sites where these valves are present to ensure that the same failure cannot occur again.</li> <li>• A Notice has been put in place requiring the company to address issues with alarms at this site and also to inspect all loading valves at its treatment work sites.</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 2012 For 72 hours (BRL)	Shipton Moyne and Tetbury, Gloucestershire.	250	<i>E.coli.</i>	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area after unsatisfactory mains repair sample.</li> <li>• Issued a boil water notice.</li> <li>• Increased chlorine at supplying works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the company failed to take samples to investigate this event and failed to meet requirements of Regulation 10.</li> <li>• Recommended that the company revises its procedures for sampling following loss of water supplies.</li> <li>• Critical that valve operation procedures were not followed and there was unauthorised operation of a valve which is likely to have contributed to negative pressure drawing contaminated water through faulty and flooded air valves.</li> <li>• The company has taken actions to replace faulty valves and modify procedures to prevent a recurrence of this event.</li> </ul> <p>Risk classification: Significant</p>
17 Nov 2012 For 7 hours (UUT)	Atherton, Greater Manchester.	13,500	Discolouration.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Flushed affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of the lack of investigative samples taken, recommendation made to review the timing and extent of water samples taken during events as repetition of this deficiency seen in other investigations in 2012.</li> <li>• Critical that third party contractor not provided with guidance on valve locations or water quality information prior to valve operation.</li> <li>• Recommended that method statements issued as part of planned work include details of valves and potential water quality impact.</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 Nov 2012 For 4 days (SVT)	Kingswinford near Stourbridge, West Midlands.	200	Burnt type of taste or odour.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued advice to consumers.</li> <li>• Repaired main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate suggested that consistent advice was given to consumers regarding the safety of the water in a formal and controlled manner.</li> </ul> <p>Risk classification: Significant</p>
21 Nov 2012 For 5 days (WSX)	Taunton, Somerset.	23	<i>E.coli.</i>	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area after unsatisfactory mains repair sample.</li> <li>• Issued boil water advice.</li> <li>• Provided advice to the consumer.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation by company showed that this event was caused by ingress of groundwater while a repair of a main was being made.</li> <li>• The Inspectorate required the company to demonstrate that staff had received the additional training indicated by the company in their response.</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 Nov 2012 For 8 days (SVT)	Broadway service reservoir supplying consumers in Broadway, Worcestershire.	5,000	Issue of boil water advice.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Issued boil water advice.</li> <li>• Provided bottled water on request.</li> <li>• Inspected service reservoir.</li> <li>• Repaired main.</li> <li>• Review of catchment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Initial findings indicated a serious failure of site integrity allowing contamination of treated water in supply.</li> <li>• The company was slow to understand the cause of increasing turbidity so initial actions were not sufficiently robust.</li> <li>• The Inspectorate visited the site in December 2012 and took statements from both company staff and consumers to assist in the investigation of this event.</li> <li>• The inspectorate served a Notice to require risks to be monitored and mitigated.</li> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Serious</p>
21 Nov 2012 For 45 hours (UUT)	Crosshill, Saughall Massie.	10,041	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> <li>• Flushed mains.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</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 Nov 2012 For 24 hours (YKS)	Harlow Hill service reservoir supplying consumers in Harrogate, North Yorkshire.	66,400	<i>E.coli.</i>	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Inspected reservoir.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Adverse result from enhanced large volume monitoring.</li> <li>• The company concluded that this event is related to inundation of air valves and intends to replace and modify air valves and carry out upstream works to protect against backflow and contamination of reservoir.</li> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
23 Nov 2012 For 1 day (WSX)	Maundown works supplying consumers in West Somerset.	40,000	<i>E.coli.</i>	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment processes.</li> <li>• Increased chlorine residuals at works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause was a laboratory error, the result was from a raw water sample.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</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 Nov 2012 For 1 day (DWR)	Porth area of Rhondda, Wales.	21,250	Media interest due to a mains burst.	<p><b>Dŵr Cymru Welsh Water action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Repaired main.</li> <li>• Company issued apology letter to consumers for loss of water.</li> <li>• Bottled water and alternative supply using tankers provided.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The cause of this event was a burst on a strategic main due to ground destabilisation following heavy rainfall in a hilly area previously mined.</li> <li>• The company investigation and actions satisfactory.</li> </ul> <p>Risk classification: Significant</p>
03 Dec 2012 For 2 days (SVT)	Cropston works indirect supply via Hallgates and Ragdale service reservoirs to consumers in Leicestershire, Nottinghamshire.	777,000	Enterococci.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Increased chlorine residual at works.</li> <li>• Enhanced monitoring at works for clostridia and Enterococci.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate was critical of the company as no cause could be found for this failure.</li> <li>• The Inspectorate will be taking enforcement action with regard to this site.</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 Dec 2012 For 2 days (UUT)	Romiley area of Stockport, Cheshire.	4,312	Discolouration.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Provided bottled water on request.</li> <li>• Flushed mains.</li> <li>• The company reviewed operations at an upstream reservoir (Greavefold) as it was thought the event arose from operation of valves at this reservoir during planned work.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that this resulted from planned work and that the contractors were not authorised to operate these valves and had not followed company procedure as required. It was recommended that company satisfies itself that there is sufficient supervision of contractors and mechanisms in place to monitor adherence to procedure and competency for the assigned tasks.</li> </ul> <p>Risk classification: Significant</p>
05 Dec 2012 For 24 hours (WSX)	Boyne Hollow works supplying consumers in Shaftesbury, Dorset.	15,334	<i>Cryptosporidium.</i>	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of catchment.</li> <li>• Review of treatment processes.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• No recommendations or suggestions made.</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 Dec 2012 For 4 weeks (BRL)	Barrow Gurney, Somerset.	43	Petrochemical delivery error to a private water supply tank.	<p><b>Bristol Water Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area following report of 'oily' taste by resident. Supply subsequently identified as private supply system with mains fed tanks.</li> <li>• Issued a do not drink notice.</li> <li>• Provided bottled water on request.</li> </ul> <p><b>DWI comments and findings:</b> The factors contributing to this event were</p> <ul style="list-style-type: none"> <li>• water tanks were not secured by locks.</li> <li>• water and oil tanks were not clearly labelled.</li> </ul> <p>Risk classification: Significant</p>
07 Dec 2012 For 2 days (ANG)	Sandhouse works supplying consumers in Milton Keynes Bletchley, Northamptonshire.	7,000	Sulphide odour.	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of catchment.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
08 Dec 2012 For 1 day (CAM)	Great Wilbraham pumping station supplying consumers in rural Cambridgeshire.	260,000	<i>E.coli.</i>	<p><b>Cambridge Water Company Plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of treatment process.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</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 Dec 2012 For 2 hours (YKS)	Ingbirchworth works supplying consumers in Barnsley and the surrounding areas.	76,353	High pH.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of procedures.</li> <li>• Repaired faulty equipment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Cause was a loss of pH control due to failure of dosing equipment.</li> <li>• Water with an elevated pH was presented for disinfection.</li> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
12 Dec 2012 For two days (SBW)	Wimborne, Dorset.	6927	Discolouration due to planned work.	<p><b>Sembcorp Bournemouth Water 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>• Critical that the company failed to provide information within the timescales specified in the Information Direction.</li> <li>• Reminded the company that the initial notification of events should follow the cascade 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 Dec 2012 For 74 hours (WSX)	Fulwood, Trull, Taunton, Somerset.	3	Chemical taste or odour.	<p><b>Wessex Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Sampled area.</li> <li>• Issued bottled water on request.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical that the company did not issue a written notice relating to the infringements of the fittings regulations to the householder and that the householder was informed in a letter dated 20 February 2013 that samples from both the hot and cold water systems in their property were satisfactory and showed no evidence of chemicals from the solar heating system, while in fact chemicals used to prevent freezing of the system were still present in the hot water system.</li> <li>• Suggested that the company uses learning from the similar event at Upton Eco Housing Development to inform its appraisal of risks to water quality where these systems are fitted.</li> </ul> <p>Risk classification: Significant</p>
18 Dec 2012 For 3 days (YKS)	Graincliffe works, supplying Bingley and surrounding areas, Yorkshire.	157,908	Treatment failure due to power failure.	<p><b>Yorkshire Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of procedures.</li> <li>• Repaired faulty equipment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Turbid water throughout works on restart after power failure compromising disinfection due to plant failure.</li> <li>• Delay in notifying 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
21 Dec 2012 For 1 day (SRN)	Balsdean works supplying consumers in Falmer and north of Brighton, West Sussex.	20,000	High turbidity.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Shut down affected works.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Event arose as company concerned about sufficiency of water when works needed to be shutdown due to high turbidity in the boreholes following heavy rain. The rising groundwater due to extensive rainfall in autumn resulted in water entering fissures in chalk and releasing deposits.</li> <li>• Company investigation and actions satisfactory.</li> <li>• No recommendations or suggestions made.</li> </ul> <p>Risk classification: Significant</p>
24 Dec 2012 For one week (UUT)	Huntington works and Hurleston works supplying consumers in Cheshire and Dee areas.	1,600,000	Pesticide (metaldehyde).	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Reviewed the catchment.</li> <li>• Liaised with other stakeholders.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>
28 Dec 2012 For 1 day (ANG)	Newton works supplying consumers in Lincoln and Newton, Lincolnshire.	63,800	<i>Cryptosporidium.</i>	<p><b>Anglian Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Review of catchment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</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 Dec 2012 For three days (SVT)	Llandinam works supplying consumers Llandinam and Newtown, Wales.	3,658	Issue of a boil water notice 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>• Issued a boil water notice.</li> <li>• Repaired main.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Investigation ongoing.</li> </ul> <p>Risk classification: Significant</p>

## Events outstanding from 2011 completed in 2012

<b>Date and duration</b>	<b>Area</b>	<b>Estimate of population affected</b>	<b>Nature and cause of the event</b>	<b>Main actions and findings from the Inspectorate investigation</b>
06 Oct 2011 For 24 hours (UUT)	Whitehaven and surrounding areas in Cumbria supplied by Ennerdale works.	80,000	High pH.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Restored treatment processes.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by a valve failure on a membrane filtration unit which caused water with elevated pH to enter supply.</li> <li>• The Inspectorate audited this site in February 2012.</li> <li>• Notice in place for deficiencies with clean in place process relating to membrane treatment process.</li> <li>• This and similar events in 2012 continue to be investigated by the Inspectorate.</li> </ul> <p>This is linked to the events at Ennerdale works on 11 and 24 November 2011.</p> <p>Risk classification: Significant</p>
25 Oct 2011 For 4 weeks (SVT)	Six properties within a concessionary supply in Downton.	15	Issue of a boil water notice.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Issued a do not drink notice.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This concessionary supply was subsequently transferred to a mains supply.</li> <li>• Suggested that where supplies are transferred that in addition to a risk assessment a full water analysis of microbiological and chemical parameters is undertaken to verify the risk assessment.</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
04 Nov 2011 For 48 hours (SRN)	Southampton, Hampshire.	55,000	Loss of supplies due to planned work.	<p><b>Southern Water Services Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Provided bottled water on request.</li> <li>• Rezoned area affected (brought in water from different source).</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 critical that the loss of water supply to the Otterbourne zone was due to inaccurate differentiation of the two 24 inch mains and was minded to recommend the company should ensure accurate identification of their mains assets on GIS. However the company has since introduced clearer labelling of mains and revised its procedures.</li> <li>• There were issues regarding the recharge of an affected reservoir and air in the system due to faults on an air valve in distribution. The Inspectorate was critical that this valve had not been checked due to it being below heavy covers. The company has since briefed staff and revised its procedures to ensure that all valves are checked prior to operation seeking support where there are difficulties in operation.</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 Nov 2011 For 2 hours (SVT)	Rugby and a small part of Coventry.	91,214	Disinfection failure.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Shut down Draycote works.</li> <li>• Sampled affected area.</li> <li>• Disciplinary action taken against the operator who acted outside agreed procedures.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Critical of poor communication between operators and contractors.</li> <li>• Critical of lack of investigatory sampling.</li> <li>• Failure of treatment equipment and unauthorised use of works override.</li> <li>• Disciplinary action taken.</li> <li>• Review of procedures and further staff training provided.</li> <li>• Repair of faulty equipment.</li> </ul> <p>Risk classification: Significant.</p>
11 Nov 2011 For 4 days (UUT)	Whitehaven and surrounding areas in Cumbria supplied by Ennerdale works.	80,000	High pH.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Restored treatment.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event relates to high pH and low chlorine caused by issues with valving arrangements and configuration at site.</li> <li>• The Inspectorate audited this site in February 2012.</li> <li>• Notice in place for deficiencies noted with clean in place process relating to membrane treatment process.</li> <li>• This and similar events in 2012 continue to be investigated by the Inspectorate.</li> </ul> <p>This is linked to the events at Ennerdale works on 6 October and 24 November 2011.</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
24 Nov 2011 For 2 days (UUT)	Whitehaven and surrounding areas in Cumbria supplied by Ennerdale works.	80,000	Treatment failure.	<p><b>United Utilities Water plc action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Restored treatment.</li> <li>• Reviewed treatment process and alarm settings.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• This event was caused by the failure of the membrane filter unit.</li> <li>• The Inspectorate audited this site in February 2012.</li> <li>• Notice was issued for deficiencies noted with clean in place process relating to membrane treatment process.</li> <li>• This and similar events in 2012 continue to be investigated by the Inspectorate.</li> </ul> <p>This is linked to the events at Ennerdale works on 6 October and 11 November 2011.</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
28 Nov 2011 For 3 days (TMS)	Area of Tring, Hertfordshire supplied by Dancers End service reservoir.	15,000	Ingress of contamination into service reservoir.	<p><b>Thames Water Utilities Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Sampled affected area.</li> <li>• Removed reservoir from supply.</li> <li>• Increased chlorine residuals leaving the site.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• The Inspectorate issued a notice in 2010, which required the company to make improvements to the roof and structures at this site.</li> <li>• The Inspectorate were critical that following this event and an audit, weekly site visits and checks by staff which formed part of the notice requirements could not be verified and the company failed to identify integrity and water quality issues.</li> <li>• The Inspectorate was critical that the company did not assess risks posed by presence of Glis glis in body of reservoir.</li> <li>• The Inspectorate recommended that the company work with other water companies to deliver a protocol for the investigation of foreign bodies in drinking water and assessment of potential risks to water quality.</li> <li>• The Inspectorate was critical that information provided under the notice was misleading or inaccurate. The Inspectorate recommended that the company put in place procedures for the verification of information submitted to the Inspectorate (control measures) that is evidence based.</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
29 Nov 2011 For 48 hours (SVT)	Melton Mowbray and Market Harborough, Leicestershire.	5,000	Loss of supplies due to telemetry failure.	<p><b>Severn Trent Water Ltd action:</b></p> <ul style="list-style-type: none"> <li>• Manually restarted pumps.</li> <li>• Sampled affected area.</li> </ul> <p><b>DWI comments and findings:</b></p> <ul style="list-style-type: none"> <li>• Telemetry failure caused pumps to shut down as they indicated the reservoir was full.</li> <li>• This reservoir has been included in the schedule of works of an existing undertaking about improvements to telemetry at several sites.</li> </ul> <p>Risk classification: Significant.</p>
01 Dec 2011 For 5 months (ANG)	Four organisations affected; Anglian Water, South Cambs and Babergh Local Authorities	N/A	Laboratory AQC deficiency	<p><b>Anglian Water Services Ltd Action:</b></p> <ul style="list-style-type: none"> <li>• Review of procedures.</li> <li>• Revalidation of an analytical method led to failure to sign off new methodology and staff continued to plot performance using an inappropriate control standard. This led to inaccuracy in reporting analytical performance and control.</li> <li>• The company have put new quality management procedures which require senior management signoff prior to any analytical changes being implemented in the laboratory. All changes are now formally documented and deficiencies have been corrected. The company has reviewed the data affected and confirmed that this did not change the accuracy or validity of regulatory samples.</li> </ul> <p><b>DWI Comments and Findings:</b></p> <ul style="list-style-type: none"> <li>• DWI was satisfied with the company investigation of this event and actions taken to prevent a 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
01 Dec 2011 For 6 months (CAM)	Cambridge Water	N/A	Laboratory AQC deficiency	<p><b>Cambridge Water Company Plc Action:</b></p> <ul style="list-style-type: none"> <li>• Review of procedures.</li> <li>• Revalidation of an analytical method by the analytical provider for the company led to failure to sign off new methodology and staff continued to plot performance using an inappropriate control standard. This led to inaccuracy in reporting analytical performance and control.</li> <li>• The company have put new quality management procedures which require senior management signoff prior to any analytical changes being implemented in the laboratory. All changes are now formally documented and deficiencies have been corrected. The company has reviewed the data affected and confirmed that this did not change the accuracy or validity of regulatory samples.</li> </ul> <p><b>DWI Comments and Findings:</b></p> <ul style="list-style-type: none"> <li>• DWI were satisfied with the company investigation of this event and actions taken to prevent a recurrence.</li> </ul> <p>Risk classification: Significant</p>