

A Tale of Two Outbreaks

DEFRA Consultation on Draft Amended Water Quality Regulation 2007

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Torbay 1995

1st FOR
SALES
SERVICE
PARTS
WARRANTY
REPAIRS

Herald Express

SERVING SOUTH DEVON WITH THE NEWS

THURSDAY, AUGUST 17, 1995

NO. 31,313

'TRIANGLE' residents' VJ reunion - See Page 14

A POINTER FROM RAY - AND IT'S RAY ON TOP! Flower Power is on Page 20

'Starve 'em out aim' for pesky gulls

BARTMOUTH is to starve the pest gull population out of town - they hope.

The town's leaders have been forced to step ahead of planning and protection. Instead of a long-term plan to starve the birds, they are concentrating on preventing and controlling them.

During the 1970s, the town had a gull problem. It was estimated to cost £12,000 a year - not to mention the damage to the town's reputation.

It was the result of a survey carried out in 1974. The gull population was estimated to be 100 birds per acre.

The town's leaders are now concentrating on preventing the birds from nesting. They are also trying to encourage the birds to leave the town.

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As bug toll nears 100 mark expert says it's hard to kill



PROVE IT AND WE'LL PAY UP

THE number of confirmed cases of cryptosporidium, a parasite which causes diarrhoea, has risen to 100 in Devon. The health experts believe that a low level of the parasite in the water supply may have caused the outbreak. A spokesman for South West Water Services (SWWS) said the firm - up to 100 people - had more reported cases than in any other area. The firm is now testing the water supply for the parasite. The firm is also testing the water supply for the parasite. The firm is also testing the water supply for the parasite.

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CLAIMS for compensation from angry South Devon hoteliers struggling to cope with bug-struck water supplies WILL be considered by South West Water.
"We will listen... but they'll have to prove it. There is still no proof we are too blame," said the company as one group of 100 local hoteliers approached a solicitor to take up their case.
Devon's Water Association has threatened to withdraw its general compensation scheme in the face of the claims.
The group has issued a 500-page list of demands.
South Devon Water has also promised to look into the claims.
"We are not going to pay the claims," said a spokesman for the company. "We will listen, but they'll have to prove it. There is still no proof we are too blame," said the company as one group of 100 local hoteliers approached a solicitor to take up their case.



Hitting baby jackpot - naturally!
A TORBAY family has come up on the baby "lottery".
Lynsey White has just given birth to a baby - a girl named "Lynsey".
"The odds against this baby being born on the National Lottery are 1 in 100 million," said a spokesman for the company. "We will listen, but they'll have to prove it. There is still no proof we are too blame," said the company as one group of 100 local hoteliers approached a solicitor to take up their case.

Torbay outbreak - 1995

- ca 500 cases; storm > increased poor quality river water abstraction plus partial treatment by-pass. (see SL Harrison et al. Managing a large outbreak of cryptosporidiosis: etc. *Commun. Dis. & Publ. Hlth.*; 2002: vol 5: 230-9.).
- Water company refused to accept findings.
- DWI prosecution failed on non-admissibility of epidemiological evidence.

1999 No. 1524

WATER INDUSTRY, ENGLAND AND WALES

**The Water Supply (Water Quality) (Amendment)
Regulations 1999**

<i>Made - - - -</i>	<i>2nd June 1999</i>
<i>Laid before Parliament</i>	<i>9th June 1999</i>
<i>Coming into force</i>	<i>30th June 1999</i>

The Secretary of State for the Environment, Transport and the Regions, as respects England, and the Secretary of State for Wales, as respects Wales, in exercise of the powers conferred on them by sections 69 and 213(2) of the Water Industry Act 1991^(a) and of all other powers enabling them in that behalf, hereby make the following Regulations:

Citation, commencement and interpretation

1.—(1) These Regulations may be cited as the Water Supply (Water Quality) (Amendment) Regulations 1999 and shall come into force on 30th June 1999.

(2) In these Regulations, "the principal Regulations" means the Water Supply (Water Quality) Regulations 1989^(b).

Amendments to the principal Regulations

2.—(1) After regulation 23 of the principal Regulations the following regulations shall be inserted:

"Risk assessment for cryptosporidium

23A.—(1) A water undertaker shall, by 1st October 1999 or such later date as the Secretary of State may specify in a notice served on the undertaker, carry out a risk assessment for each of its treatment works to establish whether there is a significant risk from cryptosporidium oocysts in water supplied from the works and submit to the Secretary of State a report of the assessment.

(2) A notice under paragraph (1) may specify a later date in relation to all of an undertaker's treatment works or in relation to one or some of its treatment works.

(3) Where a report of an assessment is submitted to the Secretary of State pursuant to paragraph (1) he shall, if he considers that the risk assessment has not been satisfactorily carried out, serve a notice on the water undertaker which—

(a) sets out his reasons for considering that the assessment has not been satisfactorily carried out; and

(b) requires the water undertaker, by a date specified in the notice, to carry out a further assessment and submit to him of that assessment,

and the water undertaker shall comply with the requirement by the date specified.

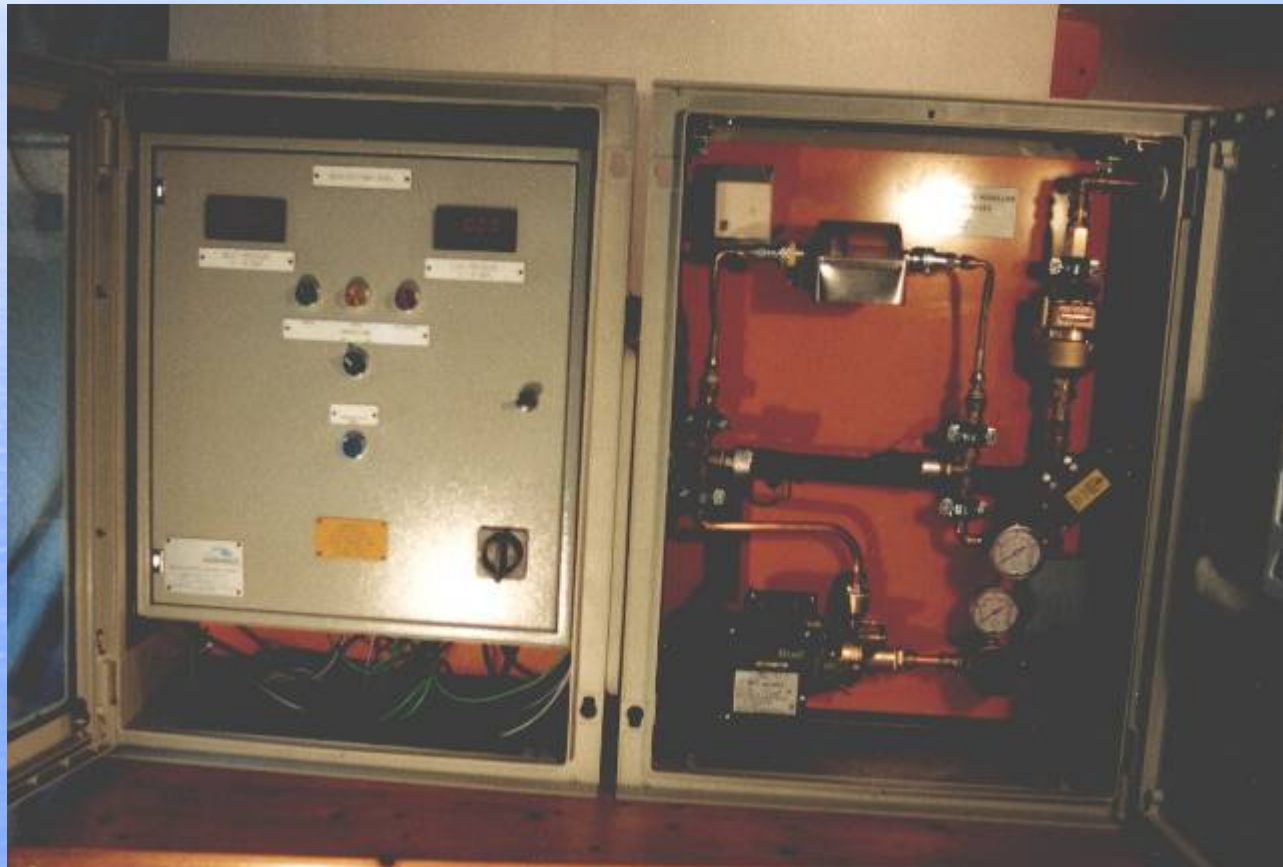
^(a) 1991 c. 56.

^(b) S.I. 1989/1147, to which there are amendments not relevant to these Regulations.

Cryptosporidium Regulation 1999/2000/2001

- Extensive source Risk Assessments (RAs)
- Sites identified as high risk >continuous sample monitoring <1 oocyst/10L/~1000L/24 hrs (NB NOT a health-risk based standard).
- Full PACE-compliance.
- New Criminal offence if > limit oocysts (dead or alive).
- Other lower risk sites operational sampling only.
- Low risk sites no sampling/interest sampling.

Continuous Cryptosporidium Monitoring: PACE-compliant continuous sampling unit



Llyn Cwellyn



North Wales Outbreak 2005

main findings (1)

- Cwellyn classed as A1, low risk – Regulatory sampling not required; operational crypto sampling started early November 05.
- Intermittent *Clostridium*-positives in supply.
- WTW running to specification – not designed to eliminate *Cryptosporidium* oocysts.
- Several sewage in-puts oocyst-positive for *C.hominis*
- Probable surface streaming towards abstraction point (lessening dilution factor).

North Wales Outbreak 2005

main findings (2)

- *C.hominis* in treated supply in very low numbers.
- Epidemiology study confirmed link.
- Relatively high attack rate in adults suggests rare event.
- Findings suggest infection from single oocysts!

Consultation on Amendment to Water Quality Regulations

www.defra.gov.uk

Consultation on the amendment of the Water Supply (Water Quality) Regulations 2000 and the Water Supply (Water Quality) Regulations 2001

December 2006



Summary of proposed Changes (pathogens)

- Full supply chain risk-based approach (i.e. move to water safety management (HACCP) approach and away from reliance on “end product sampling”.
(NB EU water Directives still require and consumer tap sampling. Aim of EU Water Framework Directive is to protect catchments and raw water quality to minimize risks and treatment needed.)
- Improved audit, review and updating of RAs on sources.
- *Clostridium perfringens* monitoring as a parameter (rather than as indicator only).

Summary of proposed Changes (pathogens)

- Revocation of Regulations 26 to 29, 33 (currently apply to Crypto only). Replacement to include all pathogens.
- Changed wording regarding a parameter “at a value or concentration ...that may constitute a potential danger to human health”.
- Requirement to reduce (not remove) the value, etc, to a safe level before any water enters supply (cf setting level by specifying monitoring parameter levels for treated water).

Summary of proposed Changes (cont'd)

- Removal of Regulatory (PACE compliant) cryptosporidium continuous monitoring and standard (<1 oocyst/10L average in $\sim 1,000\text{L}/24\text{hrs}$) on treated water.
- Operational *Crypto* monitoring to continue as part of risk assessment, including raw waters (currently mainly EA).
- Enhanced need for WCo's to assess potential risk (all pathogens) to public health including source/catchment (currently mainly EA).

Summary of proposed Changes (pathogens)

- Re: Updating (revoking) Regulations 26 – 29 re “removal of oocysts”. This requirement is seen as a barrier to innovation and ability to use novel and/or inactivation technologies, e.g. UV, ozone, to inactivate or kill oocysts rather than remove them.

Summary of proposed Changes (pathogens)

- Overall intention of the proposed amended Act is that water source is better protected and then adequately treated before it is supplied.
- **Consultation says that it is for the courts to decide what is a potential danger to human health.**

Risk from *Cryptosporidium* in water

Footnote:

- As numbers of oocysts in environment fall, population (herd) immunity falls and hence population susceptibility rises.
- Potential impact (attack rate) therefore rises in the event of a break-through of oocysts into supply.

See: Casemore DP. Towards a US National estimate of the risk of endemic waterborne disease – sero-epidemiologic studies. *Journal of Water & Health* 2006; vol. 4 Supplement 2): 121-163.

