

Estates and Facilities Alert

Ref: EFA/2013/004

Issued: 19 November 2013

Device

Cold water storage tanks

Problem

The use of uncapped PVC-U pipes (or similar) within cold water tanks as a support structure for the lid is likely to lead to stagnation and harbouring of harmful micro-organisms.

Action

- Inspect water tanks for hollow pipes used as a support structure.
- Replace with solid structures as the preferred option.
- Alert the tank manufacturers / installers who have used hollow pipe supports.

Action by

- Managers and staff responsible for the procurement, supply and maintenance of cold water tanks.
- Water Safety Groups

Contact

Enquiries about specific cold water tanks should be directed to the relevant supplier, installer or contractor.

Problem

1. Contamination of water supplies has been found in two recent projects within NHS Scotland. Extensive testing traced the source to the cold water storage tanks which gave TVC (Total Viable Count) readings for *Pseudomonas* readings in excess of 500cfu/100ml (after 72-hour incubation). TVC readings fell to 0cfu/100ml immediately after disinfecting the tanks but reverted to high levels following re-testing later.
2. Construction of the tanks utilised vertical 4 inch PVC-U pipes to support the lid, held in position by strategically placed cross-members (see Appendix, Photo 1), a permanent tank design adopted by at least three manufacturers.
3. The pipes were saw-cut to length with the top supporting the lid and the base sitting directly on the tank floor. Since the ends of the pipes were not sealed, water was able to seep into and out of the pipes as the tank water level varied, providing near stagnant conditions for micro-organism growth while at the same time preventing effective disinfection. When the tank was drained and a pipe dislodged, detritus spilled out, further supporting the conclusion that this was almost certainly the source of the contamination.
4. Replacing the pipes with solid supports proved successful in eliminating the source of contamination (see Appendix, Photo 2).

Action

5. Inspect water tanks for uncapped and semi-submersed hollow pipes (or similar) used as a support structure. These should be removed to eliminate possible contamination and replaced with 'clean' solid supports, i.e. ones without cavities, crevices or details allowing water to stagnate and harbour micro-organisms.
6. Tank manufacturers and installers who employ hollow pipe supports in their cold water tanks should be alerted to the issues highlighted in this alert.

Suggested Onward Distribution

- Authorising Engineers (Water)
- Responsible, Authorised & Competent Persons (Water)
- Capital Planning & Design
- Estates/Facilities
- Health & Safety
- Hospices
- Infection Control Staff
- Risk Management

Appendix



Photo 1

Cold water storage tank interior as constructed
(uncapped vertical PVC-U pipe held in position by cross members)



Photo 2

Cold water storage tank as altered
(solid vertical lid supports)

Additional information for Scotland

The above sections of this Alert were compiled by Health Facilities Scotland and distributed nationally without modification.

Action required by this alert should be **underway by: 17th December 2013**

Action required by this alert should be **completed by: 31st March 2014**

Enquires should quote reference number EFA/2013/ 004 and be addressed to:

Northern Ireland Adverse Incident Centre (NIAIC) Health Estates Estate Policy Directorate Stoney Road Dundonald Belfast BT16 1US	Tel: 02890 523868 Fax: 02890 523900 E-mail: NIAIC@dhsspsni.gov.uk Website: http://www.dhsspsni.gov.uk/niaic
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How to report adverse incidents

Incidents relating to medical devices, estates equipment and plant in Northern Ireland must be reported to the Northern Ireland Adverse Incident Centre (NIAIC) as soon as possible. Further information about reporting incidents can be found in DB(NI)2010-001; and downloadable report forms are available from the NIAIC's website (<http://www.dhsspsni.gov.uk/niaic>).

Alternatively, further information and printed incident report forms are available from: NIAIC at the address above.
(An answer phone service operates outside normal office hours)

Estates and Facilities Alerts are available in full text on the NIAC website

Further information about SABS can be found at <http://sabs.dhsspsni.gov.uk>

This Alert can be found on the following websites

<http://www.dhsspsni.gov.uk/niaic> and <http://sabs.dhsspsni.gov.uk>

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