

Appendix IV. Capital Development Procedure Note 044

PROCEDURE NOTE

Ref No. 044

Title: Legionnaire's Disease Procedure

Date Originated: 16 August 2012

Updated: 28 January 2015

Colleagues,

Please note that from January 2015 there is a new Policy for the Control of Legionella Bacteria in Water Systems which is in-line with the requirements of BS 8558, HSE ACOP L8 (fourth edition) 'The Control of Legionella Bacteria in Water Systems' and supporting guidance HSG 274 Parts 1-3 inclusive and the Estates Divisions Standard Specification.

The Policy sets out the School's strategy, objectives and procedures/processes for managing the risks associated with Legionella bacteria and are available on the School's web-site for your own use and to disseminate to your project team. It can be view here:

P:\Estates\LSE Estate\Maintenance\Water Treatment\Legionella\2015 01 28 Policy for the Control of Legionella Bacteria in Water System .pdf

PMs should note that under the Policy they have certain responsibilities and duties under their allocated Capital and Long Term Maintenance projects to make sure that where practical they [together with their appointed consultants and contractors] mitigate the risks associated with Legionella bacteria. Such duties should include:

- Make sure systems are designed and installed in compliance with BS 8558 and the HSE ACOP L8 and supporting guidance HSG 274 Parts 1-3.
- Undertake an investigation of the condition of the existing domestic water systems are reviewed at the start of each project including any necessary sampling in accordance with industry codes of practices.
- Comply with the LSE control of Legionella bacteria within water systems policy and procedures and the standard specification during design and installation.
- Review existing Risk Assessment in full and incorporate any recommendations in consultation with the Head of Maintenance as the Deputy Responsible Person.
- Obtain, review and address any action plans or schedules of remedial works highlighted within such Risk Assessments.
- In respect of leased accommodation obtain from the landlord, his Legionella Risk Assessments in order to review and mitigate the risk of any Legionella bacteria entering the School's designated leased area and systems. The use of Zip heaters within are designated area on landlord's cold water supply service will eliminate the need to receive hot water services from the landlord.
- Where any domestic water systems are taken out of operation as a result of Cap Dev projects, e.g. toilets, kitchens, showers, either a regular flushing/recording procedure should take

place or a complete drain down and isolation of the system. In all cases notify and if necessary receive advice from Maintenance.

- On completion of the project, structure and full risk assessment is carried out including sampling and implicating schematics. This must be undertaken by the School's approved Water Treatment Specialist.
- On completion of each project please make sure a full Risk Assessment is carried out including sampling in order that comparison can be made with the original condition. Certificates should be obtained and circulated to colleagues in Maintenance. These must be carried out by the Schools approved Water Treatment Specialist.
- To improve records and to aid future works, it is important to instruct either appointed consultants or contractors to create new or update existing schematics of the water systems.

In order to reinforce the policy and to educate individuals of the technical detail, all PMs should attend the regular training and attend refresher courses every three years run by the School's approved training provider (as current date Tritec, check with Maintenance if in doubt) relating to the Control of Legionella Bacteria. PMs should be aware that the bacteria is a water borne organism and is transmitted by inhaling water droplets in the form of an aerosol that contains the bacteria. The bacteria may enter man-made water systems and multiply under favourable temperatures of 20c and 45c. The majority of incidents are linked to cooling towers, showers and spa baths.

For the avoidance of doubt, at the LSE, the following present a risk:

- Water systems incorporating an evaporative type cooling system
- Water systems incorporating an evaporative condenser
- "Domestic" hot and cold water systems and tank storage
- Showers
- Drinking Water systems (where attached to spray outlets)
- Humidifiers (wet spray design)
- Charged fire fighting systems (especially during testing).

Tritec currently at the date of this note undertake the School's Risk Assessments on existing systems, but PMs should be aware of procedures to eliminate or reduce risks during the design and construction of Capital Development Projects:

- Remove old sludged up and deteriorating storage tanks and other vessels
- Avoid new water storage systems
- Remove dead-legs in existing pipework
- Do not create new dead-legs in new pipework [Including lengths of pipe-work which are not regularly circulating]
- Chlorinate all pipework, new and existing, during and at the completion of project installation (certificate to be dated <30 days from full habitation, all outlets to be flushed for 3 minutes weekly post disinfection until full habitation) See BS8558.

At the time of construction and before the disinfection it may be necessary to leave the water in the system. Where this is the case, a regular regime of flushing should be undertaken at every outlet twice weekly (See BS8558).

- For localised refurbishment works new pipework, fittings etc., to be chlorinated by immersing in a recommended disinfecting solution before connection to existing systems
- Ensure all test certificates are issued including those for local pipework chlorination/disinfection.
- Set hot water systems at above 50 deg C (water should reach 50 deg C at furthest outlet within 1 minute of running the tap)
- Unless specifically required e.g. disabled WC's, avoid thermostatic mixing valves as they generally limit water to 38 deg C.



- Ensure cold water taps/systems provide water at below 20 deg C within 2 minutes of running tap.
- Avoid aerosol inserts to WHB taps and fine aerosols on shower heads
- Ensure all shower heads and hoses are removable, easily de-scalable and dis-infected

ALTHOUGH IT IS UNLIKELY THAT OUTBREAKS WILL OCCUR DURING CONSTRUCTION WORKS, PLEASE NOTE APPENDIX III OF THE POLICY DOCUMENT IN THE EVENT OF SUCH AN OCCURENCE.

Procedure

1. PM'S to ensure that they receive the regular training on Legionella
2. PM's to note their responsibilities and duties and to be aware of the areas where outbreaks may occur
3. PMs to note the type of documentation required during the entire construction process
4. PM's to note to see also Note 009 Procedure Note-09-O&M Manual standard Index which will require Volume 11 Mechanical Services and Public Health, Section Seven Test and Commissioning Data and Certificates to have copies of all the chlorination certifications
5. PM's on smaller projects or LTM related projects to ensure that the chlorination certificates stating that the works were undertaken in line with BS8558 are issued prior to hand over. Chlorination results should be clear before hand over or occupation or use of the wet systems as indicated above.
6. PM's to ensure that the Chlorination certificates are passed on to Maintenance.
7. Inform LSE Maintenance of new works irrespective of size to ensure that existing systems are suitable and Tritec can include the new works in their risk assessment (existing pipework schematic drawing to be updated to suit), monitoring and maintenance regime..

Thank you for your attention to this matter.

To: EL, MF, LA, MG, PN, TR, GB, AD Cc: KK, AB, JR, KC

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