Method Statement for Microbiological and Chemical Sampling
Domestic Systems

These method statements have been prepared for Suppliers tendering for work that includes the Bacteriological sampling of water systems in accordance with ACOP L8 and HSG274 Part 2 & HTM04-01, BS 7592:2008 - Sampling for Legionella bacteria in water systems – Code of practice and ISO19458: 2006.

These Method Statements deal only with the Technique and Hygiene Aspects of Bacteriological sampling of water systems. It does not include any requirements for Health and Safety or access equipment/arrangements etc. Its use is limited to parity of tendering to ensure all tenderers are pricing for the same Bacteriological sampling of water systems Quality of Service. The tenderer must satisfy themselves that they have allowed for any other requirements beyond this Method Statement.

The paragraphs in the Method Statement are not necessarily in a sequential order.

All personnel involved with Bacteriological sampling of water systems must be fully conversant with water hygiene and trained in water sampling techniques. Evidence of such training will be required.

Tenderers to satisfy themselves that they fully understand the requirements of this method statement and price accordingly. Anything that is considered unclear or ambiguous etc should be raised with Engie prior to submitting or confirming a price.

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1 Sampling General:

1.1 All samples are to be recorded by the contractor, as prescribed within Annex G of BS 8554 (see Appendix A of this document.

1.2 Each sample bottle will be marked up with indelible marker pen.

1.3 A clean pair of disposable gloves are to be worn when taking each sample.

1.4 Cold (<20°c) samples will be stored in a cooler bag containing a cool gel pack or some other mechanism of achieving a steady temperature during sample transport unless stated otherwise in the individual method statements. Please note the following:

a. The ice or gel pack must not come into direct contact with the sample bottle.
b. The storage temperature is dependent on the bacteria being sampled i.e.:
    i. Legionella species need to be kept <20°C ideally circa 18°C which will be possible with a cooler box with ice or gel pack depending on ambient temperature the box is being stored within and the time to transport to the lab. This must be within 6 hours of the sample being taken; beyond this and up to 48 hours a datalogger must monitor the temperature throughout its journey.
    ii. TVC's E-Coli, Coliforms and Pseudomonas aeruginosa samples need to be brought down rapidly to (5 ±3)°C and therefore must be refrigerated. After taking these samples they must be placed in a gel or ice cooled cooler box and transported to either a refrigerated vehicle or a refrigerated cooler box capable of reducing the temperature to (5 ±3)°C. A data logger must be placed within the cooler box and stay with this batch of samples until delivered to the Lab. The sooner these samples are delivered to the Lab the better, but a maximum of 24 hours.
    iii. The sampler must supply the data logger ensuring it is included with the samples throughout their journey from placing the sample batch within the cooler box to their removal, and handover into the care of the Lab. The sampler must present the datalogger report along with the sample certificates from the Lab; including reference identification so the sample batch can be related to the datalogger.

1.5 Hot (>50°c) samples will be stored in a cooler box or bag. Please note the following:

a. Hot water samples are likely to be 60°C + they need to be reduced and stabilised <20°C for Legionella SPP as soon as practical, for TVC's, Pseudomonas aeruginosa the samples temperature need to be reduced to (5 ±3)°C.
b. (***NOTE:*** E-Coli and Coliforms should not be taken from hot water, as these organisms cannot survive in hot water) Any positive samples are likely to through environmental contamination.
c. If hot water samples are placed directly into a gel or iced cooler bag the heat load is likely to overwhelm the cooling ability of the gel or ice pack. Therefore, after taking these samples they must be placed in a gel or ice cooled cooler box and transported to either a refrigerated vehicle or a refrigerated cooler box capable of reducing the temperature to (5 ±3)°C. A data logger must be placed within the cooler box and stay with this batch of samples until delivered to the Lab. The sooner these samples are delivered to the Lab the better, but a maximum of 24 hours.

1.6 Mixed temperature (38°c – 43°c) samples will be stored in a bag with added ice or gel pack. Please note the following:

a. For Legionella these blended samples need to be reduced to <20°C as soon as possible, as 38 to 43°C is within the optimum growth temperature range for most pathogenic bacteria.
b. In the case of TVC's Pseudomonas aeruginosa, E-Coli and Coliforms, the sample temperature needs to be reduced to (5 ±3)°C. If these samples are placed directly into a gel or iced cooler bag the heat load is likely to overwhelm the cooling ability of the gel or ice pack. Therefore after taking these samples they must be placed in a gel or ice cooled cooler box and transported to either a refrigerated vehicle or a refrigerated cooler box capable of reducing the temperature to (5 ±3)°C. A data logger must be placed within the cooler box and stay with this batch of samples until delivered to the Lab. The sooner these samples are delivered to the Lab the better, but a maximum of 24 hours.

1.7 Where Point of use Filters (POUF) are attached to outlets (whb showers etc) which require sampling they are NOT to be removed unless a replacement filter is available to be fitted. Operatives need to be trained on aseptic install of such filters.

2 Hot and Cold Outlet Microbiological Sampling – Pre Flush Sampling

Hot - TVC's, Pseudomonas aeruginosa 'only'

Cold & blended - TVC's, Pseudomonas aeruginosa E-Coli and Coliforms

2.1 The sample should be collected without cleaning or disinfection of the outlet. (although the condition of the outlet should be noted, standard of cleanliness, scale deposits etc – if very poor take a photo)

2.2 The top of the 250 – 500ml sample bottle should be removed, taking care to avoid touching the rim of the bottle or contaminating the surfaces of the sample bottle cap which will be in contact with the sample of water. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination i.e. hold the internal side of the cap down.

2.3 The water sample should be collected immediately the tap is turned on to a steady flow, without letting any water run to waste.

2.4 The sample container should be filled almost to the top just leaving a small air gap.

2.5 Care should be taken to avoid flushing any biocide-neutralising agent out of the container.

2.6 The container should then be capped, and the contents inverted several times to ensure any biocide-neutralising agent is well mixed in the sample water.

2.7 The temperature and biocide concentration of the water at the outlet must be taken after the sample has been collected. Following the water sample a 10ml or other low volume water quantity is to be taken for a free-chlorine or other biocide test to be performed. After this a second bottle should be filled with water from the outlet and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets.

3 Hot and Cold Outlet Microbiological Sampling – Post Flush Sampling

Hot - TVC's, Pseudomonas aeruginosa 'only'

Cold & blended - TVC's, Pseudomonas aeruginosa E-Coli and Coliforms

3.1 Any anti-splash or spray nozzle device should be removed, and the outlet cleaned externally and disinfected as described below.

3.2 Chemical disinfection of the outlet is the preferred method for routine monitoring.

3.3 When disinfecting with a chemical disinfectant, any fittings should be removed e.g. spray inserts, flow directors etc.

3.4 To determine the quality of water coming from the system via a particular outlet ensure that the outer surfaces of the tap have been cleaned thoroughly, this would include the removal of any dirt, scale, slime, grease or any other debris which may fall off into the sample bottle when filling.

3.5 Remove any flow stabiliser, nozzle or insert and using a 'swan neck' wash bottle drench the inside of the outlet with 1,000mg/L of Sodium Hypochlorite disinfectant. The outside of the tap should be wiped with an alcohol wipe to remove debris or contamination and then sprayed with 1,000mg/L of Sodium Hypochlorite. Leave for two minutes to allow the disinfection process to take place. If the outlet is in a very poor condition i.e. obvious scale and or biofilm observed from removal of the anti-splash or spray nozzle device a second disinfection of the inside of the outlet should be performed; again allowing 2 minutes for the disinfectant to work, followed by a 30 second flush to remove the disinfectant from the outlet.

3.6 Open the outlet and allow the water to flow long enough to ensure that the sample has no residual disinfectant after the outlet disinfection above (generally 2 to 3 minutes).

3.7 Place the 250 – 500ml bottle under the outlet, avoiding the bottle coming into direct contact with the outlet surface and fill the sample bottle without closing, reopening or adjusting the outlet flow.

3.8 If the sample is to be taken from the distribution main, choose a sample point on or close to the distribution main, (usually just after the water meter).

3.9 When opening the outlet, make sure it is about half the full flow and flush it until a constant water temperature is reached. Then place the bottle in the water flow and fill without any possibility of further contamination. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination. i.e. hold the internal side of the cap down.

3.10 Many water micro-organisms enter a sample from the disruption of a biofilm or a pressure jolt, so to prevent this from occurring, it may be necessary to open the tap to a maximum flow for 5 to 10 seconds before reducing to half flow and then maintaining a steady, constant flow before taking the sample and throughout the sampling. (i.e. do not alter the flow just before taking the sample or during the sample)

3.11 The sample container should be filled almost to the top just leaving a small air gap.

3.12 The container should then be capped, and the contents inverted several times to ensure any biocide-neutralising agent is well mixed in the sample water.

3.13 The temperature and biocide concentration of the water at the outlet must be taken after the sample has been collected. Following the water sample a 10ml or other low volume water quantity is to be taken for a free-chlorine or other biocide test to be performed. After this a second bottle should be filled with water from the outlet and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets.

4 Hot and Cold Outlet Legionella Sampling – Pre Flush Sampling

4.1 The sample should be collected without disinfection of the outlet.

4.2 The top of the 1000ml sample bottle should be removed, taking care to avoid touching the rim of the bottle or contaminating the surfaces of the sample bottle cap which will be in contact with the sample of water. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination. i.e. hold the internal side of the cap down.

4.3 The water sample should be collected immediately the tap is turned on without letting any water run to waste.

4.4 The sample container should be filled almost to the top just leaving a small air gap.

4.5 Care should be taken to avoid flushing any biocide-neutralising agent out of the container.

4.6 The container should then be capped, and the contents inverted several times to ensure any biocide-neutralising agent is well mixed in the sample water.

4.7 The temperature and biocide concentration of the water at the outlet must be taken after the sample has been collected. Following the water sample a 10ml or other low volume water quantity is to be taken for a free-chlorine or other biocide test to be performed. After this a second bottle should be filled with water from the outlet and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets.

5 Hot and Cold Outlet Legionella Sampling – Post Flush Sampling

5.1 Any anti-splash or spray nozzle device should be removed, and the outlet cleaned externally and disinfected as described below.

5.2 Chemical disinfection of the outlet is the preferred method for routine monitoring.

5.3 When disinfecting with a chemical disinfectant, any fittings should be removed e.g. spray inserts, flow directors etc.

5.4 Using the 'swan neck' wash bottle drench the inside of the outlet with 1,000mg/L of Sodium Hypochlorite. The outside of the tap should be wiped with an alcohol wipe to remove debris or contamination and then sprayed with 1,000mg/L of Sodium Hypochlorite. Leave for two minutes to allow the disinfection process to take place. If the outlet is in a very poor condition i.e. obvious scale and or biofilm observed from removal of the anti-splash or spray nozzle device; the scale should be removed with an appropriate product and a second disinfection of the inside of the outlet should be performed; again allowing 2 minutes for the disinfectant to work, followed by a 30 second flush to remove the disinfectant from the outlet.

5.5 The tap should be turned on and water run to waste to ensure all residual disinfectant is removed and all disinfected water flushed out of the outlet, typically for at least two minutes, longer if the main run is a long way from the outlet – as it is the water in the system that needs to be sampled not the outlet or pipework local to the outlet.

5.6 When this has taken place and without adjusting the flow of water, the 1000ml sample container should be filled almost to the top just leaving a small air gap. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination. i.e. hold the internal side of the cap down.

5.7 The container should then be capped, and the contents inverted several times to ensure any biocide neutralising agent is well mixed within the water.

5.8 The temperature and biocide concentration of the water at the outlet must be taken after the sample has been collected. Following the water sample a 10ml or other low volume water quantity is to be taken for a free-chlorine or other biocide test to be performed. After this a second bottle should be filled with water from the outlet and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets.

5.9 The outlet and surroundings should then be rinsed with clear water to avoid damage to the outlet and surrounding surfaces.

Any anti-splash or spray nozzle device should be cleaned disinfected and replaced, ensuring the oulet is left clean and fully functioning.

6 Hot and Cold Shower Legionella Sampling – Pre Flush Sample

Note: sampling from showers is not advisable, as you are unable to determine if the contamination is from the hot, cold or blended water from the shower; but where requested to do so:

Detachable and non-detachable Sampling Technique:

6.1 Most bacterial colonisation within showers occurs in the region of the outlet, including mixer valves, stainers, showerheads and any flexible hoses.

6.2 Where detachable showerheads are fitted, the showerhead must be unscrewed from the hose/fitting and the sample collected by turning the shower on to produce a gentle flow at the maximum temperature setting, and then allowing a sample container to be filled with water from the shower hose (without the hose touching the neck of the sample bottle).

6.3 In showers operating correctly, the process of turning the shower on will always result in a mixture of hot and cold water running from the shower, as cold water is automatically released into the showerhead first.

6.4 With other showers, there might be a variable mixture of hot and cold water, and it is advisable to begin collecting a sample with the shower set to its coldest setting and then to rapidly increase the setting to its maximum allowable temperature.

6.5 Showers with fixed heads are more difficult to sample; to minimize exposure to aerosols and ensure as much as possible of the water in the fitting is sampled, a new plastic bag (sterile food grade) can be secured (using an elastic band) around the fixed showerhead.

6.6 One corner of the plastic bag should then be cut off with clean scissors that have been pre- disinfected with 1,000mg/L of Sodium Hypochlorite .

6.7 The opened corner of the bag should then be placed into the mouth of the sample container.

6.8 When this has taken place and without adjusting the flow of water, the 1000ml sample container should be filled almost to the top just leaving a small air gap. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination. i.e. hold the internal side of the cap down.

6.9 The container should then be capped, and the contents inverted several times to ensure any biocide neutralising agent is well mixed within the water.

6.10 The temperature and biocide concentration of the water at the outlet must be taken after the sample has been collected. Following the water sample a 10ml or other low volume water quantity is to be taken for a free-chlorine or other biocide test to be performed. After this a second bottle should be filled with water from the outlet and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets.

7 Hot and Cold Shower Legionella Sampling – Post Flush Sample

Note: sampling from showers is not advisable, as you are unable to determine if the contamination is from the hot, cold or blended water from the shower; but where requested to do so:

Detachable and non-detachable Sampling Technique:

7.1 Most bacterial colonisation within showers occurs in the region of the outlet, including mixer valves, strainers, showerheads and any flexible hoses.

It is usually possible to obtain a post flush cold water sample from the shower, if you are able to isolate the hot water supply to the mixer valve; but again this is unadvisable; as there is no way of clearing the contamination from the mixing valve, pipework and hose; other than flushing.

7.2 Where detachable showerheads are fitted, the showerhead must be unscrewed from the hose/fitting and the sample collected by turning the shower on to produce a gentle flow at the maximum temperature setting, running the shower for at least two minutes and then allowing a sample container to be filled with water from the shower hose (without the hose touching the neck of the sample bottle) and without adjusting the flow of water, the 1000ml sample container should be filled almost to the top just leaving a small air gap. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination. i.e. hold the internal side of the cap down.

If requested to take a cold-water post-flush sample, access with be required to the isolation valves (this may necessitate assistance from Engie staff). Isolate the hot water valve to the shower mixer valve and follow the procedure above

7.3 The container should then be capped, and the contents inverted several times to ensure any biocide neutralising agent is well mixed within the water.

7.4 Showers operating correctly, the process of turning the shower on will always result in a mixture of hot and cold water running from the shower, as cold water is automatically released into the showerhead first.

7.5 With other showers, there might be a variable mixture of hot and cold water, and it is advisable to begin collecting a sample with the shower set to its coldest setting and then to rapidly increase the setting to its maximum allowable temperature.

7.6 Showers with fixed heads are more difficult to sample; to minimize exposure to aerosols and ensure as much as possible of the water in the fitting is sampled, a new plastic bag (sterile food grade) can be secured (using an elastic band) around the fixed showerhead.

7.7 One corner of the plastic bag should then be cut off with clean scissors that have been pre-disinfected with 1,000mg/L of Sodium Hypochlorite.

The shower should now be opened to its full hot setting and allowed to run for at least two minutes.

If requested to take a cold-water post-flush sample, access with be required to the isolation valves (this may necessitate. assistance from Engie staff). Isolate the hot water valve to the shower mixer valve and allowe to run for at least two minutes.

7.8 The opened corner of the bag should then be placed into the mouth of the sample container.

7.9 When this has taken place and without adjusting the flow of water, the 1000ml sample container should be filled almost to the top just leaving a small air gap. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination. i.e. hold the internal side of the cap down.

7.10 The container should then be capped, and the contents inverted several times to ensure any biocide neutralising agent is well mixed within the water.

7.11 The temperature and biocide concentration of the water at the outlet needs be taken after the sample has been collected. Following the water sample the 10ml or other low volume water quantity is to be taken for a free-chlorine or other biocidal test to be performed. After this a second bottle should be filled with water from the outlet and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets.

Any anti-splash or spray nozzle device should be cleaned disinfected and replaced, ensuring the oulet is left clean and fully functioning.

8 Hot and Cold Calorifier 'Drain off' point Legionella Sampling

Sampling Technique:

8.1 These samples can be potentially hazardous, as legionellae have often been found in storage calorifier drain-off points and water might be at high-pressure and/or at high temperature. Additionally, storage calorifier drain cocks often corrode and might snap off when an attempt is made to open them.

8.2 Storage calorifier drain-off points should therefore only be sampled if specifically indicated by the risk assessment and the results should be interpreted with caution.

8.3 Where storage calorifier drain-off points are sampled, disposable gloves should be used, in addition to any other protective equipment appropriate for the conditions on the site.

8.4 Wherever possible, the cold-water supply should be turned off at a location (in terms of pipe length) nearest to the calorifier. This should minimise mixing of the cold-water supply and calorifier water.

8.5 The outside and inside surfaces of the outlet side of the drain valve should be disinfected with 1,000mg/L of Sodium Hypochlorite. Allow two minutes for disinfectant to take effect.

8.6 Any pipe-work connected to the drain should be removed, if possible, before disinfecting the valve. The drain valve should then be opened for a few seconds in order to rinse out any remaining disinfectant from the valve.

8.7 If there is insufficient space to place a sample container under the outlet to collect the sample, then clean, sterile silicone rubber tubing can be attached to the drain valve.

8.8 The valve should be opened, and water allowed to discharge into the sample bottle. Alternatively, water should be discharged into a sterile container and then transferred to a sample bottle.

8.9 The visual appearance of the water, for example the presence of rust deposits, sediment or corrosion products, should be noted in order to facilitate the assessment of the cleanliness of the calorifier.

8.10 When this has taken place and without adjusting the flow of water, the 1000ml sample container should be filled almost to the top just leaving a small air gap. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination i.e. hold the internal side of the cap down.

8.11 The container should then be capped, and the contents inverted several times to ensure any biocide neutralising agent is well mixed within the water.

8.12 The temperature and biocide concentration of the water at the outlet must be taken after the sample has been collected. Following the water sample a 10ml or other low volume water quantity is to be taken for a free-chlorine or other biocide test to be performed. After this a second bottle should be filled with water from the outlet and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets.

9 Hot and Cold CWS Sampling

'Dip' Sampling Technique: Specifically requested usually following a sample result that indicates a suspected bacterial outbreak etc.
Any requirement for Hot and Cold Dip Sampling must be referred to the Engie RP and AE Water

10 Healthcare 'Augmented Care' Pseudomonas aeruginosa Sampling: HTM04-01 Part B

'Pre' Flush Sampling Technique:

10.1 To be considered a true 'pre' flush sample the outlet must not have been used for a period of at least two (preferably longer) hours prior to sampling.

10.2 The sample should be collected without disinfection of the outlet.

10.3 The top of the 250 – 500ml sample bottle should be removed, taking care to avoid touching the rim of the bottle or contaminating the surfaces of the sample bottle cap which will be in contact with the sample of water. The cap should be kept in the sampler's hand and positioned so that debris does not fall into the cap causing contamination i.e. hold the internal side of the cap down.

10.4 The water sample should be collected immediately the tap is turned on without letting any water run to waste.

10.5 The sample container should be filled almost to the top just leaving a small air gap.

10.6 Care should be taken to avoid flushing any biocide-neutralising agent out of the container.

10.7 The container should then be capped, and the contents inverted several times to ensure any biocide-neutralising agent is well mixed in the sample water.

10.8 The temperature and biocide concentration of the water at the outlet must be taken after the sample has been collected. Following the water sample a 10ml or other low volume water quantity is to be taken for a free-chlorine or other biocide test to be performed. After this a second bottle should be filled with water from the outlet and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets.

'Post' Flush Sampling Technique:

10.9 The sample should be collected without disinfection of the outlet. NOTE: although this is correct for HTM 04-01 you cannot determine any positive was from the system or the outlet which is the whole point of the post flush sample – for this reason we require this sample to be taken the same as other post flush samples i.e. full disinfection of the outlet internal (spigot) and the whole tap cleaned and disinfected externally. So, all as before described.

10.10 Any anti-splash or spray nozzle device should be removed, and the outlet cleaned externally and disinfected as described below.

10.11 Chemical disinfection is the preferred method for routine monitoring.

10.12 When disinfecting with a chemical disinfectant, any fittings should be removed e.g. spray inserts, flow directors etc.

10.13 Using the 'swan neck' wash bottle drenches the inside of the outlet with 1,000mg/L of Sodium Hypochlorite. The outside of the tap should be wiped with an alcohol wipe to remove debris or contamination and then sprayed with 1,000mg/L of Sodium Hypochlorite. Leave for two minutes to allow the disinfection process to take place. If the outlet is in a very poor condition i.e. obvious scale and or biofilm observed from removal of the anti-splash or spray nozzle device; the scale should be removed with an appropriate product and a second disinfection of the inside of the outlet should be performed; again allowing 2 minutes for the disinfectant to work, followed by a 30 second flush to remove the disinfectant from the outlet.

10.14 The tap should be turned on and water run to waste to ensure all residual disinfectant is removed and all disinfected water flushed out of the outlet, typically for at least two minutes, longer if the main run is a long way from the outlet – as it is the water in the system that needs to be samples not the outlet or pipework local to the outlet.

10.15 Place the 250 – 500ml bottle under the outlet, avoiding the bottle coming into direct contact with the outlet surface and fill the sample bottle without closing and reopening the outlet. The cap should be kept in the sampler`s hand and positioned so that debris does not fall into the cap causing contamination. i.e. hold the internal side of the cap down.

10.16 The sample container should be filled almost to the top just leaving a small air gap.

10.17 The container should then be capped, and the contents inverted several times to ensure any biocide-neutralising agent is well mixed in the sample water.

10.18 Record the temperature and/or biocide concentration of the water at the time of sampling. To accomplish this a second bottle should be filled with water from the tank and the thermometer introduced to take the temperature. This second bottle is to be spray disinfected with 1,000mg/L of Sodium Hypochlorite between each temperature taken to mitigate the risk of cross contamination between outlets / tanks.

Any anti-splash or spray nozzle device should be cleaned disinfected and replaced, ensuring the oulet is left clean and fully functioning.

Appendix A – Example Log for avoidance of deviating samples

Annex G (informative) **Example documents used to avoid deviating samples**

Figure G.1 Example log