

**ISO/IEC 17024:2012 Certification of Persons Scheme for
sampling private water supplies in accordance with The
Private Water Supplies (England) Regulations 2016 (as
amended) and The Private Water Supplies (Wales) Regulations
2017**

Record of Amendments

Version Number	Date	Amendment
0.91	04-Jun-2020	Version for pilot trial
1.00	24-Jul-2020	Updated references to legislation

Status of this Document

This Sampler certification scheme may be subject to review and amendment following publication of this document. The latest version of this scheme, together with guidance on the scheme, is available on the Inspectorate's website at www.dwi.gov.uk

Foreword

A sampler certification scheme has been set up to provide a framework of standards to ensure that monitoring of private water supplies is compliant with Schedule 3, Part 1 of The Private Water Supplies (England) Regulations 2016 (as amended) and Schedule 4, Part 1 of The Private Water Supplies (Wales) Regulations 2017. This states that a local authority must ensure that each sample is:

- a) Taken by a competent person using suitable equipment. Competence is defined as certification under this scheme.
- b) Representative of the water at the sampling point at the time of sampling
- c) Not contaminated in the course of being taken, such that it impact on the wholesomeness of the sample
- d) Kept at such a temperature and in such condition as will secure that there is no material change in what is to be measured, and
- e) Analysed without delay by a competent person using suitable equipment within 24 hours at the receiving laboratory, unless the specified method states otherwise.

The sampler must ensure that the sample is analysed using a system of analytical quality control that meets the requirements of ISO17025. The system for sampling must be subjected to checking by a person who is approved by the Secretary of State for that purpose. UKAS is the National Accreditation Body for England and Wales.

This document sets out the standards you must meet to be certified as an individual to sample private water supplies. You can apply to a certification body as an individual or the application may be made through an organisation. Certification remains unique to the individual. This standard focuses on a samplers' competence which may be assessed via:

- A samplers experience and training
- Written and practical examination

A number of certification bodies are permitted to run this scheme and must be accredited to do so by the United Kingdom Accreditation Service (UKAS). Details of certification bodies may be found at www.dwi.gov.uk

Benefits of this Scheme

- This scheme makes sure that information about private water supply sampling is reliable
- Everybody involved in sampling private water supplies is working towards the same standard
- The scheme sends a message that sampling private water supplies is an important part of producing reliable information for regulatory purposes
- By setting quality standards which everybody must comply with, the standard promotes and raises the professional reputation of people and organisations involved in sampling private water supplies.

If you have any questions about what you need to do to be certified or would like more information on how to apply, please contact one of the UKAS Accredited certification bodies listed at www.dwi.gov.uk

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1. Scope of Certification

This ISO/IEC 17024 Private Water Supply Sampling scheme is designed for local authorities but is aimed at, and is designed to cover any persons taking samples to fulfil the monitoring requirements of The Private Water Supplies (England) Regulations 2016 (as amended) and The Private Water Supplies (Wales) Regulations 2017.

Regulation 7 of The Private Water Supplies (England) Regulations 2016 (as amended) and The Private Water Supplies (Wales) Regulations 2017 requires that all local authorities in England and Wales must monitor (sample and analyse) all private water supplies in accordance with this part when carrying out its duties under section 77 (1) of the Water industry Act 1991. These regulations implement the 1998 Drinking Water Directive in England and Wales (98/83/EC). Regulatory monitoring is carried out to satisfy the requirements of the Water Act 1989.

Persons certified under this scheme shall be considered competent in respect of Schedule 3, Part 1(1)(a) of the The Private Water Supplies (England) Regulations 2016 (as amended) and Schedule 4, Part 1(1)(2)(b) of The Private Water Supplies (Wales) Regulations 2017.

The requirement for the scheme is described in Schedule 3, Part 1(3) of The Private Water Supplies (England) Regulations 2016 (as amended) and Schedule 4, Part 1(1)(2)(b) of The Private Water Supplies (Wales) Regulations 2017.

This scheme is not designed to accredit laboratories or analytical methods. Accreditation for this is covered under ISO/IEC17025 and falls outside of the scope of this scheme.

This scheme is only designed to certify aspects of sampling required for demonstrating competence in regard to sampling for the Private Water Supplies Regulations. It does not cover field testing or investigational sampling, although the sampling manual that this scheme is based on does provide guidance on other types of sampling.

The scheme is owned by Drinking Water Inspectorate, and has been developed with a number of stakeholders to meet the requirements of the Regulations.

Certification bodies assess individual samplers against the requirements of the scheme and award certificates to samplers who meet the requirements via assessment. A list of these certification bodies may be found on the DWI website.

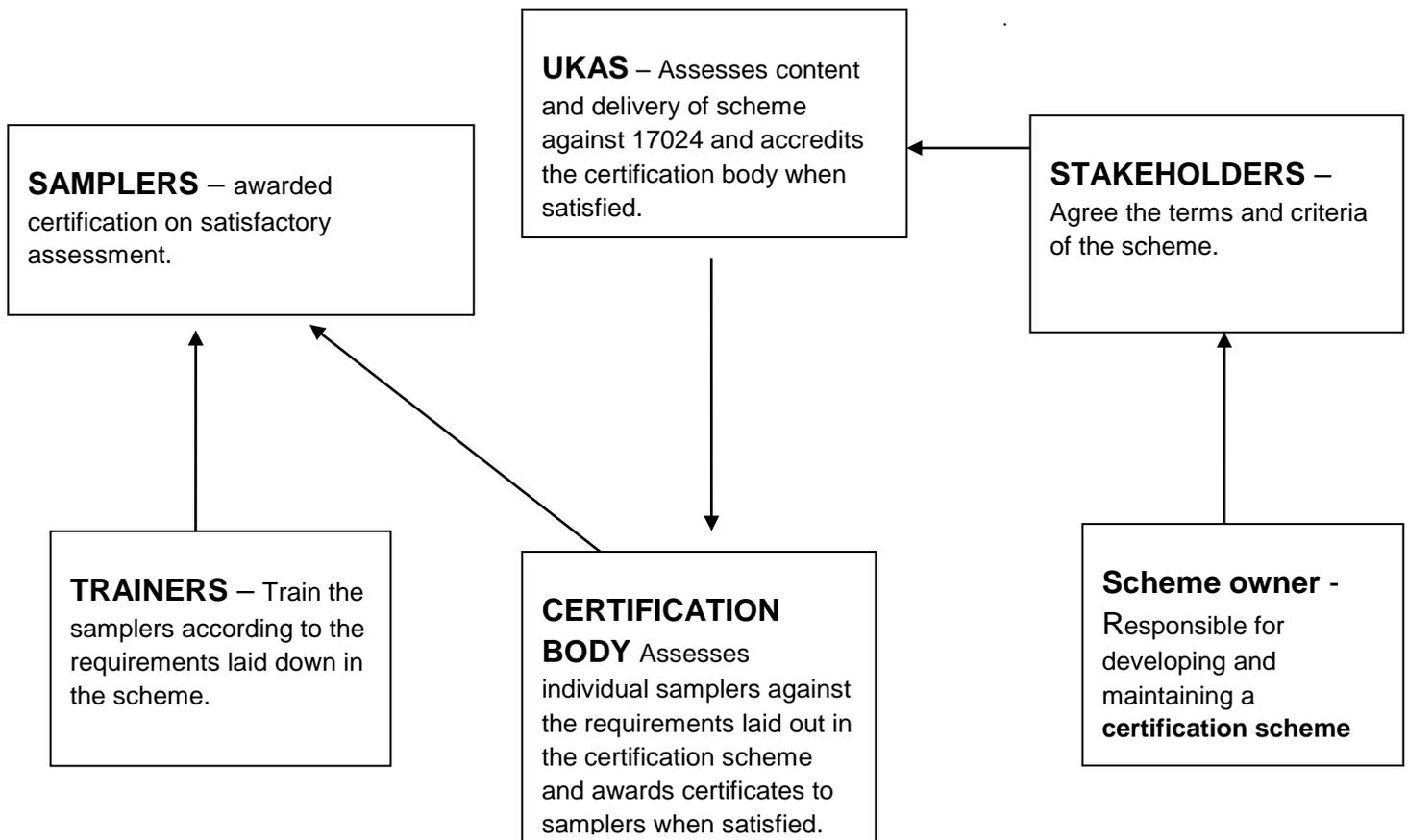
This scheme is unable to recommend specific training providers, and certification bodies are unable to insist on training being delivered by specific training organisations, although they may hold a list of reputable providers. As such, training may be provided by any organisation. Persons wishing to be trained should satisfy themselves that training covers

all aspects of the training syllabus which may be found in Appendix 1. Figure 1 shows the ISO17024 model.

This scheme contains a single level of certification for samplers. There is no limit to the number of training bodies or certification bodies that may operate.

Figure 1: UKAS Accreditation of certification of sampling using the ISO 17024 model

This International Standard contains principles and requirements for a body certifying persons against specific requirements, and includes the development and maintenance of a certification scheme for persons.



Certification is unique to individuals, and may be retained if individuals are sampling for another organisation or commence employment with another organisation.

It is recognised that many local authorities will only have a few individuals who undertake sampling for Private Water Supplies. New starters should only take samples under supervision of certified individuals until they are themselves certified.

The Scheme is due to be reviewed after the first year of operation and then every 3 years. This review shall include consultation with training bodies, certification bodies and local authorities.

2. Job and Task Description

Jobs and tasks requiring certification under this scheme are detailed in the Private Water Supplies Sampling Procedures Manual ([click here for link](#)).

The sampling procedures manual forms the basis of the scheme in terms of its requirements. It contains sections on the following:

- Document control and scope of Scheme
- Legislative background
- Maintaining sample integrity
- Sample types
- Sample vessels (bottle types)
- Protective equipment
- Preparation of solutions for tap disinfection
- Order of sampling
- Sampling methods
- Tap preparation
- Chemical samples
- Microbiological samples
- Storage and transportation of samples

Note that the manual also contains appendices relating to activities that are not required learning as part of the certification scheme. These have been included to provide information on good practice for sampling and field testing procedures that fall outside of the scope of regulatory monitoring. Where this is the case, the manual clarifies that this is the case. In addition, the training syllabus in Appendix 1 details which parts are required learning as part of the scheme.

Evidence of compliance with the procedures in the manual is evidence of ongoing competence for the purposes of the scheme.

3. Required Competence

Required competence is defined by DWI in Appendix 1. Completion of an approved training course and subsequently achieving a pass rate of 80% for both the written and practical tests shall be considered sufficient evidence to issue certification.

Should a person not achieve the pass rate they should refrain from regulatory sampling activities until competency can be demonstrated.

Competence shall be assessed at a frequency of once every 3 years. This assessment shall be made by a certification body approved by UKAS for this scheme, and shall consist of a written and a practical examination. A minimum pass rate of 80% for both the written and practical part of the exam shall be required.

There is a single level of competence.

Competence is considered to be completion of the training and successfully passing the assessment and includes the tasks listed in Sections 1-7 and 9 of the PWS Sampling Procedures Manual (also listed in Section 2 above). The certification body shall make the decision on whether competency has been achieved.

4. Abilities - where applicable

Samplers shall have a basic level of numeracy and literacy, and this shall be demonstrated as part of the assessment process. In addition, it is expected that they shall be capable of:

- Identifying the correct sampling equipment to take
- Using the correct forms
- Identifying and using appropriate Personal Protection
- Equipment (PPE)
- Identifying hazards to personal safety when sampling (eg legionella, deep water, problem premises etc.)
- Identifying and dealing with the appropriate/relevant person
- Effectively explaining purpose of sampling visit
- Identifying nature and scope of water supply and identifying relevant persons to the supply
- Samples taken aseptically, where appropriate
- Samples taken in accordance with correct procedures
- Sampling bottles and accompanying paperwork labelled correctly
- Reporting to relevant persons within agreed timescales
- The requirement to draft and issue reports, letters and other documents relating to private water supplies
- To keep abreast of new legislation, techniques and ideas in the field of private water supplies
- To ensure that field equipment is maintained and calibrated in accordance with the manufacturer's instructions.
- To carry out all duties in accordance with National Legislation, private water supply regulations and any Council or Departmental Codes of Practice or procedures.
- Use of common IT packages

5. Prerequisites

To be considered for certification under this scheme, applicants should pass the assessment for the scheme. It is also recommended that applicants have some hygiene awareness surrounding drinking water sampling and also have undertaken training designed for this scheme. Applicants should also have an awareness of The Private Water Supplies (England) Regulations 2016 (as amended) and The Private Water Supplies (Wales) Regulations 2017. They should, in particular, be aware of requirements for monitoring and sampling. These shall be assessed by the certification body as part of the final written examination.

In addition, the scheme sampling manual contains a requirement for a certification body to adapt various proformas within the manual to reflect specific practices in a regional area. As part of this scheme, a certification body shall need to retain a copy of any amended versions of the scheme sampling manual as stated in the sampling manual. In addition the sampler must provide evidence that any amended methods meet with the requirements of the sample bottle provider. This amended version of the sampling manual shall be presented to the certification body and reviewed as part of the applicant's assessment.

6. Criteria for Initial Certification and Recertification

Initial certification shall be awarded by the certification body following a successful assessment. Training is recommended prior to the initial assessment.

Recertification shall take place by reassessment after 3 years and every 3 years thereafter. An applicant may wish to undergo refresher training prior to reassessment. If an applicant fails the reassessment they shall undergo refresher training and reassessment. Certification shall not be awarded until the certification body is satisfied. If concerns are raised regarding the conduct of certificated persons, the certifying body concerned shall investigate and decide whether an individual needs

Records of certificated persons shall be kept by the certification body, and renewal reminders sent out for reassessment in advance of the current certificate expiry date. The certification bodies shall provide details of certificated persons to the scheme owner within three months of certification being awarded, and this shall allow regulators to verify the status of individuals.

Assessment shall be arranged and overseen by the certification body.

7. Assessment Methods for Initial Certification and Recertification

Certification bodies shall approve organisations to provide training as per the published syllabus.

Training bodies shall be appointed by the scheme owner to conduct training, but assessment shall be carried out by a certification body. Prior to an assessment, a sampler shall need to demonstrate that it has submitted an amended sample manual in accordance with the requirements of the scheme. This amendment is primarily to ensure that the sample manual reflects specific bottle requirements from the analysing laboratory.

Certification bodies shall be responsible for conducting assessments. Assessment methods shall consist of a written examination undertaken under exam conditions. Exams will be invigilated, and closed book. A practical assessment will also be undertaken, and this may be open book.

Exams shall consist of 24 questions, with at least 2 from each of the components of the syllabus. Each question shall address a learning outcome, and questions shall be of a form that requires a multiple choice answer. A maximum of two marks shall be awarded for each question. A successful pass of the exam shall be considered to be a mark of 80% or greater.

A copy of the examination paper with model answers shall be made available to the scheme owner and UKAS, and the completed examination papers shall be retained by the certification body for inspection by UKAS. Any changes made following reviews or updates shall be communicated to the scheme owner in a before issue. Examination papers and practical examinations must be given approval by the scheme owner prior to use.

A practical examination shall form part of the assessment. This shall involve sampling for two different parameters, one chemical and one microbiological. The assessment shall consist of the examiner observing to what extent the candidate follows procedures in the sampling manual and completes associated paperwork correctly. The storage and handling of samples shall be covered as part of the written examination. The certification body shall award up to 10 marks for sampling of each parameter. A successful pass of the practical part of the exam shall be considered to be a mark of 80% or greater.

8. Surveillance Methods and Criteria

Certificating bodies shall be required to conduct audits of certified samplers and their manual. A certificating body shall audit all of its certificated individuals at least once in a 3 year period.

A certificating body shall also reserve the right to audit where they have reason to believe individuals or organisations are not complying with the requirements of the scheme.

An audit shall include scrutiny of the local sampling manual, as well as an individual's compliance with the procedures contained within the sampling manual. The certification body shall accompany an individual on at least one sample round during a period of certification and record their observations.

A 48 hour notice period shall normally be given by the certificating body of any audit, but the certificating body shall reserve the right to audit unannounced where it deems appropriate.

The audit shall include, but not be limited to the following:

- Competence checks on the sampler
- Checks of paperwork associated with scheme e.g. sample forms, training manual
- Who is certified to undertake sampling, and who is actually undertaking it
- Dates of certification
- Any other training
- Are samples being labelled, transported and stored appropriately
- Are the sample procedures reviewed and how often?
- Does the sampler have a copy of the manual? Is it in date?
- Is the sampler following the procedure set out in the manual for the particular sample being collected?
- Is the sampler collecting a particular suite of parameters in the correct order Is the sampler applying a good standard of aseptic technique for micro samples?
- What are the general hygienic conditions of the samplers' kit and carriers?
- What are the general condition and layout of van?
- Check expiry dates on any disinfectant sprays or wipes
- Is the samplers' test kit calibrated? How often? Check records.
- What are the transport arrangements to the lab? (in and out of hours)
- Are sample bottles stored on the van in date?
- Are bottles in use in date?
- What are the sampler bottle storage arrangements on the van? E.g. are micro and chemistry samples mixed? Are raw and treated samples stored separately?
- Where are sample bottles stored? Are regular checks carried out on them? Are they recorded correctly and appropriately?
- What facilities does the sampler use for washing and cleaning whilst on the road?
- What temperature checks are carried out when samples are in transit – frequency, records?

- Is the temperature within a set standard range?
- If the sampler uses a cool box, what state is it in and are frozen ice packs in use?
- If no cool box or fridge is in use, how are samples transported and in what conditions?
- Where does the sampler place the bottles and kit during sampling – is it hygienically acceptable?
- How does the sampler record and report anomalies and concerns that may affect the result, or public health?
- Does the sampler have the necessary equipment for the job? Is it in good order and fit for use?
- When are the sample bottles labelled up? i.e. On site, at the back of the van just prior to sampling, or at the depot beforehand?

The certification body shall undertake this audit, and copies of the audit together with any recommendations or actions shall be sent to the scheme owner. The certification body shall also audit the actual sampling activity and watch at least one sample being taken. The audit report shall recommend areas for improvement, commend areas of good practice and give an overall mark of satisfactory, generally satisfactory (a few minor recommendations) or unsatisfactory (numerous infringements or fewer, serious ones). Certification should be suspended or withdrawn in the case of an unsatisfactory audit. It is noted that some parts of the audit may not fall under the responsibility of the sampler e.g. sample storage facilities, and recommendations may be made to the sampler's employer to improve facilities.

9. Criteria for Suspending and Withdrawing Certification

If personnel are found to have acted in a manner contrary to the certification requirements certification shall be withdrawn until reassessment is achieved.

Criteria for withdrawal or suspension is as follows:

Withdrawal of certification would be due to a loss of integrity e.g.

- Falsification of sample paperwork or records
- Wilful contamination of samples

Suspension of certification would be due to issues of training or competence e.g.

- An unsatisfactory audit (e.g. use of incorrect bottles, poor sample storage and transportations)
- Failure to pass reassessment

Where certification is withdrawn or suspended, the certification body shall be required to identify the extent of the action and assist in its resolution e.g. by contacting affected parties, sampler etc. In the case of withdrawal of certification, the certification body shall remove the certification records from their system and formally notify the scheme owner.

In the case of suspension, the certification body shall amend their online records to record that the individual is suspended, with the date that the suspension commenced.

A certification body shall decide whether withdrawal or suspension is appropriate. It is intended that withdrawal shall be used where there is a need for reassessment, and suspension used where it is expected that an investigation may not lead to a need for reassessment. A suspended certification may be subsequently changed to a withdrawn certification by the certification body as it sees fit to do so. Suspension is lifted by the certification body following a satisfactory investigation and reassessment.

10. Criteria for Changing the Scope or Level of Certification

The DWI as scheme owner reserves the right to change the scope of the certification. A review shall be undertaken with stakeholders following the first 12 months of the issue of the scheme, and subsequent reviews shall be undertaken every 12 months thereafter.

If the scheme changes, it is intended that individuals shall remain certificated until reassessment is required, unless certification is revoked for any of the reasons given in section 9.

If there are significant changes (eg the requirement for a new sampling method) then these changes shall be communicated via the certification body together with guidance, but shall not be formally assessed until recertification is required, unless changes are extremely significant. Timescale for implementation of changes to the scheme shall be at the discretion of the scheme owner, and shall be based on the significance of the change.

Certified samplers are encouraged to submit any suggested changes, or query any aspect of the sampling manual by a submission of a change request form by email to the scheme owner for consideration of its inclusion at each annual review of the procedures.

11. Involvement of appropriate experts in the development and review of the scheme

As scheme owners, DWI have consulted and collaborated with stakeholders including UKAS, Water companies, Water UK, Chartered Institute of Environmental Health, Public Health England, Public Health Wales, Food Standards Agency and the Standing Committee of Analysts to develop this scheme. Local authorities have been represented by the CIEH, and a pilot trial has been undertaken involving local authorities. UKAS shall need to review this as part of their assessment of the scheme development. Annual review of the scheme shall include dialogue with existing stakeholders as well as feedback from samplers, certification bodies and training organisations. This shall be demonstrated by publication of minutes from the meeting to review the scheme.

Annual meetings will be arranged by the Scheme Owner and all named stakeholders shall be invited to attend or submit comments

Records will be kept by the Scheme Owner, and final decisions on changes will be made by the Scheme Owner

A review of examination/practical test protocols will be included as part of this review.

The review will also include any other aspect of the scheme that stakeholders wish to raise.

12. Use of an appropriate structure for maintenance of the scheme

This scheme is structured according to the requirements of ISO/IEC 17024:2012

The structure for the scheme has been agreed with the scheme owner, stakeholders and UKAS. This group shall initially meet after the first twelve months of the scheme, and thereafter annually to ensure the ongoing operation of the scheme and is tasked with ensuring that the scheme is operated fairly and transparently.

For more information see also Section 1 and Figure 1.

13. Identification and Alignment of Assessment Mechanisms

Assessment of all scheme requirements in the sample manual shall be by written exam and practical assessment. These requirements may be found in Appendix 1 of this document. Assessment shall be carried out by a certification body.

The scheme also requires an individual seeking accreditation under this scheme to produce an amended sampling manual in accordance with laboratory or bottle supplier instructions. This will allow a sampler to amend or replace any methods for the taking of samples to ensure that samples are taken according to the ISO17025 method employed by the laboratory. Any other changes are not permitted. If in doubt, the sampler should contact the scheme owner for clarification about what changes are and are not permitted.

The amended sampling manual shall be submitted to the certification body in who shall assess it against the requirements of the scheme. This amended manual shall be based on the manual published by the scheme owner. The chief differences shall be that some proformas may need to be changed to reflect organisational sampling practice or laboratory requirements. There may also be different types of bottles used for analysis. It is not expected that there shall be significant differences. The certification body shall use the manual to assess an individual's performance and also during any subsequent audit of performance of certified individuals.

14. Job or Practice Analysis

The suitability of the scheme shall be assessed by feedback from training bodies, certified samplers, certification bodies and other stakeholders. As detailed in section 11 stakeholder meetings shall be held annually, and the scheme shall be assessed reviewed at these meetings.

As part of the development of this scheme, pilot trials have been undertaken with some samplers.

The suitability of the scheme has been assessed by consideration of the points below:

- Identifying the tasks for successful performance;
- Identifying the required competence for each task;
- Identifying prerequisites (if applicable);
- Confirming the assessment mechanisms and examination content;
- Identifying the recertification requirements and interval

15. Documented Procedures for Implementation of Recertification

Recertification of individuals shall be undertaken every 3 years from date of certification. Recertification shall consist of successfully passing both the written and practical parts of the examination.

When recertification is due, the certification body shall contact individuals in a timely manner to allow individuals to arrange for recertification before the expiration of the previous certification period.

An individual can request refresher training at any time if it is deemed necessary.. The individual shall then undergo training.

When the individual successfully passes the exam, and practical the certification body shall update their records accordingly and issue a new certificate.

If an individual does not successfully pass the exam, then they shall have their certification withdrawn and undergo training before taking the exam again. They should not undertake sampling until recertification has been achieved.

A successful pass of the exam shall be considered to be a mark of 80% or greater for each part of the exam (the written part and the practical part).

16. Recertification requirements

Certification is valid for 3 years from date of issue.

Recertification is achieved through assessment by written examination and practical assessment.

It shall not normally be necessary to insist that a sampler to update their certification within the period of certification.

Any changes to the scheme would mean that when samplers come to recertify at the end of their 3 year certification period, they would be required to meet the revised requirements of the scheme.

17. Recertification considerations

In accordance with the certification scheme, recertification by the certification body shall consider the results of any audits in the previous certification period and the candidate should undertake and pass a practical assessment and a written examination set and administered by an approved certification body.

Appendix 1: Syllabus

Unless stated otherwise, the detail of the syllabus may be found in the Private Water Supplies Sampling Procedures Manual (the “Scheme Manual”)

Component	Detail	Learning outcomes
Scope of scheme	Standard sampling arrangements Requirements of PWS regulations Scheme manual and local manual	Understand sampling arrangements in the manual Understand requirements for sampling and records for scheme and how it fits into regulation Understand difference between scheme manual and local manual Role of technical managers
Background	Legislative background to scheme	Understand why scheme is required and how it allows LA to demonstrate compliance with Regs and DWD Understand different roles of people within scheme
Maintaining sample integrity	How cross contamination can occur Segregation of chemicals Sample labelling Sample storage	Understand ways in which samples can become contaminated or unrepresentative Correct storage of chemicals/ reagents Understand how sampling order can affect sample integrity Understanding of the importance of correct transportation and sample refrigeration.

	<p>conditions</p> <p>Raw and treated water sampling</p> <p>transportation</p>	
Sample vessels (Bottle types)	<p>Types of bottles</p> <p>Methods of filling</p> <p>Use of preservatives</p> <p>Expiry dates</p> <p>Local manual requirements</p>	<p>Understand different types of bottles used for certain samples</p> <p>Understand how to fill, whether to rinse, whether to leave an air gap etc</p> <p>Understand what part of scheme manual needs adapting to form local manual</p>
Procedure for preparing a stock chlorine solution for the disinfection of sample taps	<p>procedure for making chlorine solution</p>	<p>Understand procedures for making chlorine solution, shelf lives and methods of disinfecting taps</p>
Training and competency to sample	<p>Requirements of the scheme</p>	<p>Understanding of how scheme training works</p> <p>Inductions for new starters</p> <p>Role of sample manual in training and competency</p> <p>Understanding of how competence is demonstrated and assessed.</p>
Order of Sampling	<p>Unflushed/ Stagnation samples</p> <p>Tap preparation</p> <p>Flushed samples</p> <p>Bacteriological</p>	<p>Understanding of the usual order of sampling, and how following the order helps to ensure samples are representative</p>

	samples	
Sampling methods and technique	Common sampling methods for specific determinands as described in the scheme manual.	Understanding of sample requirements
Storage and Transportation of Samples	Procedures for storage and transportation of samples	<p>Understanding of use of chain of custody sheets, sample crate security</p> <p>Understanding of use of refrigerators, thermometers and cool-boxes</p> <p>Requirements of accredited laboratories to inform sampler about bottle, storage and transportation requirements to allow sample manual to be amended</p>

Appendix 2: Glossary