

# Minimum Standards for Testing and Reporting



## 1. Background

The provision of a source testing service in the UK is characterised by a wide diversity in quality. This is partially due to a lack of specification in the legislation as well as confusion as to which of the many foreign standards can be used. This situation has been made worse by there being no organisation from which potential service purchasers could obtain relevant information on the quality of the service which they need to contract.

The price competition between service providers, attempting to operate at different ends of the quality spectrum has only increased the downward pressure on quality. It would be fair to say that although there are only a minority of truly stupid or unscrupulous service providers it is the majority which have suffered. There are also many genuine examples of organisations that are attempting to carry out professional work but have been hampered by the number of methods in existence.

It is with this in mind that the STA has set out the minimum criteria for testing and reporting to which its members must meet.

## 2. Minimum Criteria for Testing

### 2.1 Correct Method

This must be established. Will the method actually allow the test to be carried out with the accuracy required. The service provider has two options.

- a) Use an existing method and or CEN / ISO standard.
- b) Design and validate their own method.

### 2.2 Correct Equipment

Equipment that is fit for purpose must be used in all tests. Published methods define a criteria for the equipment to be used. If these methods are to be used then the equipment must demonstrably meet these criteria. Specific equipment is available for the USA, BS, CEN and ISO sampling methods. The use of non specific equipment must be validated against the standard method that will be used

### 2.3 Calibration

All the equipment used in the test must be in current calibration.

### 2.4 Competent Personnel

The manner in which the test is conducted is important as any other components listed in this section. There are ways by which the competence of personnel can be assured.

Training is not the only factor involved in achieving competent personnel in source testing. There are several other factors:

- a) Experience gained prior and post receipt of commercial or on the job training.
- b) The levels at which that training is offered and the amount that the trainee has absorbed.
- c) Examination of personnel by an independent body that is recognised and approved by both industry, government and the regulator.

- d) Continuous service in the area(s) of expertise that personnel have been certificated in.

### 2.5 Documented Protocols and Methods

The operation of the method, the length of sampling time, what records of plant performance will be taken must all be documented before the test is conducted. This is the only way in which the quality of the operation can be assessed and controlled.

### 2.6 Correct Operation

The objective is to carry out the test correctly. Site work is difficult, unpleasant and often rushed, mistakes will occur. These must be recorded. In most cases the deviation from protocol once assessed will turn out to have not invalidated the test but the assessment can only be done if the deviation is recorded. The conducting of regular audits on testing will allow for the development of protocols and encourage the confidence of personnel.

### 2.7 Quality System

Members carrying out testing shall have in place systems, procedures and checks to ensure the high quality of their work. Quality assurance (QA) procedures shall include project design, records and documentation, training, equipment, subcontracting, reporting and auditing. Quality control (QC) procedures shall cover methodology, traceability, sample identification, handling/storage, equipment operation, calibration and maintenance.

### 2.8 Risk Assessment and Health & Safety.

It is the responsibility of all members to carry out risk assessment of all operations pertaining to on site and laboratory stack testing. All personnel involved must be aware of the risk and risk control and the health and safety policy of their company. Guidance is available from the STA publication Hazards, Risk and Risk Control in Stack testing Operations, document HS1014-98 or later revisions.

## 3.0 Minimum Criteria for Reporting

The report must be complete and an accurate account of the test(s) carried out and should include as a minimum;

- a) The objectives of the test.
- b) The method used
- c) The operational protocol followed
- d) Any deviations from the standard method with reasons and consequences.
- e) Identify the equipment used by unique reference system.
- f) Persons who carried out the test.
- g) The relevant conditions in the duct when the test was carried out e.g. temperature, pressure, velocity, moisture, oxygen etc.
- h) The plant operating conditions at the time of the test.
- i) The result along with associated accuracy and confidence expressed in the correct SI units at the correct conditions.
- j) Copies of the essential supporting data
- k) Details of the quality system followed

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