

TR 81-01

Technical Requirements for the Application of SANS/ISO/IEC 17020: 1998 in the Assessment of Inspection Bodies' Application of SATS 50010: 2010 Measurement and Verification of Energy Savings

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0. Introduction

General requirements for Inspection Bodies are laid down in the International Standard ISO/IEC 17020. SATS 50010: 2010 *Measurement and Verification of Energy Savings* is the technical standard for Measurement and Verification organisations who wish to demonstrate their technical competence for accreditation purposes. These requirements are quite comprehensive and detailed but explanations provided in this document may be helpful to ensure consistent application of the Standards.

The structure of this document reflects that of ISO/IEC 17020 including titles of clauses and their numbering. To facilitate future reference to the explanations the paragraphs of this document are consecutively numbered within each commented sub-clause.

The interpretative notes are intended neither to add to nor subtract from the requirements of ISO/IEC 17020. They are intended to clarify the requirements to assist Inspection Bodies in practically implementing the Standard, SATS 50010: 2010 *Measurement and Verification of Energy Savings* and to minimise differences of interpretation.

This document should be read in conjunction with the Standard ISO/IEC 17020.

The term "shall" is used throughout this document to indicate those provisions which, reflecting the requirements of ISO/IEC17020, are mandatory. The term "should" is used to indicate those provisions, which, although they constitute a strong recommendation for the application of the requirements, is expected to be adopted by an Inspection Body. Any variation from the requirements by an Inspection Body shall be an exception. Such variations will only be permitted on a case-by-case basis after the Inspection Body has demonstrated to SANAS that the exception meets the requirements of the relevant clause of ISO/IEC 17020 and the intent of this document in some equivalent way.

In this document whenever the term Inspection Body is used it shall mean Measurement and Verification Body.

In case of dispute concerning application of this document, SANAS will adjudicate on unresolved matters.

It is intended that after a period of use, the content of this document will be revised.

1. Scope

- 1.4(a) Testing performed by Inspection Bodies may fall into two (2) categories namely functional and analytical. Functional testing is within the scope of ISO/IEC 17020. Analytical testing, for example air or metallurgical analysis, is a Laboratory activity and therefore does not fall within the scope of ISO/IEC 17020. Accredited Inspection Authorities wishing to undertake such Laboratory type analytical testing as part of an inspection will need to do so in accordance with the relevant requirements in ISO/IEC 17025.
- 1.4(b) If Accredited Inspection Bodies decisions are reliant upon analytical test results or the results of any sub-contracted specialist service, these tests or services shall, where possible, be carried out by appropriately accredited, (part of the ILAC Multilateral Arrangement), organisations and the results must be in the form of an endorsed certificate or report.

2. Definitions

For the purposes of this document, the following terms and definitions apply.

2.1 *Inspection*

- 2.1(a) Throughout this document the word “product” should be understood to include the words “product design”, “service”, “process” and “plant” as specified in clause 2.1 of ISO/IEC 17020.
- 2.1(b) In recognition of the wide range of industries represented by Inspection Bodies’ alternative terminology could be used for what is inspected.
- 2.1(c) For professional judgement to be exercised the staff member responsible for the Inspections, referred to in Clause 8.2 of ISO/IEC 17020, shall personally perform the Inspections or effectively supervise the Inspections.

2.2 *Inspection Body*

- 2.2(a) An Inspection Body shall be a legal entity, may be approved by the Regulator, and shall be accredited by SANAS in respect of the competence of its personnel, equipment, procedures and environment, in accordance with the requirements of ISO/IEC 17020: 1998 and any additional requirements that might be determined by the Regulator from time to time, if applicable.
- 2.2(b) An Inspection Body may consist of one person provided the requirements of all relevant clauses of ISO/IEC 17020 are fulfilled. An Inspection Body can be an organisation, or part of an organisation.
- 2.2(c) In this document whenever the term Inspection Body is used it shall mean Measurement and Verification Body.

2.3 *Regulations*

Means the Regulations issued by the Minister of Energy in terms of the National Energy Act, 2008 (Act No. 34 of 2008).

3. Administrative Requirements

- 3.1(a) The Inspection Body shall be a registered juristic person (corporate body). Company name, address, names of directors, contact numbers and registration number shall be made available to SANAS
- 3.1(b) Certificate
- Upon obtaining accreditation, a certificate that contains the name and location(s), of the Inspection Body, the name of the responsible person (however named), approved signatories, and the inspection categories (scope) shall be issued.
The certificate of accreditation from SANAS shall be prominently displayed at all times.
- 3.2(a) An organisational diagram is the most common means of illustrating the position of the Inspection Body in relation to a larger organisation. Diagrams showing relationships with related companies or organisations and relationships between departments within the same organisation are useful support for claims of independence.
- 3.3(a) SANAS present the scope of activities for which accreditation of Inspection Bodies is granted in a formal statement, called the Accreditation Schedule that accompanies the Accreditation Certificate. The Accreditation Schedule is produced by SANAS in consultation with the assessor(s) involved in the assessment of the Inspection Body. It is based on information provided by the Inspection Body in connection with the application for accreditation (see Annexure A) and the demonstrated and verified competence of the Inspection Body.
- 3.3(b) The scope of accreditation should be defined in the schedule in sufficiently precise terms that potential customers may establish accurately and unambiguously the general field of inspection, the type and range of inspection and, where applicable, the Regulations, Standards or Specifications containing the requirements against which the inspection will be performed.
- 3.3(c) Contracts or work orders for inspection should ensure that there is a clear and demonstrable understanding between the Inspection Body and its customer of the scope of the inspection work to be undertaken by the Inspection Body. In many inspection areas (e.g. in-service inspection based on national regulations) individual contracts are not signed with customers. In these cases, the work order must be contained in some underlying documentation, e.g. regulations issued by regulatory authorities.
- 3.4(a) Compliance with this clause depends on the definition of “adequate”. It is not the role of SANAS to approve the level of insurance cover held by their customer for the purpose of accreditation “adequate liability insurance” will be interpreted as that level of cover, which is agreed between the Inspection Body and its customer for each job. Documentary evidence of agreement shall be available during accreditation Inspections.
- 3.4(b) The Inspection Body is expected to be able to show what factors have been taken into account when determining the necessary level of the contracted insurance. One of the factors that should be taken in to account is the risk associated with the performance of the Inspection activities.
- 3.4(c) The types of liability covered by insurance, for example, may include employers’ liability, public liability and professional indemnity.
- 3.5(a) The conditions referred to here are contractual conditions not physical conditions of Inspection Body’s sites.
Items, which are commonly included in these conditions, include:
- access to documented equipment inspection history;
 - responsibility for safe site access;
 - availability of key personnel;

- preparation of items for inspections;
- response to adverse weather conditions;
- level of reporting;
- terms of payment.

3.6(a) It is not the role of accreditation bodies to judge the adequacy of the financial accounts.

4. Independence, Impartiality and Integrity

4.1 General

Explicit guidance shall be documented by the Inspection Body to ensure that its staff do not experience undue pressure from any source, internal or external, which could influence the results of Inspections. Such pressures could include threats, inducements, unreasonable time pressures, bonus schemes, productivity incentives, etc. Records of any unreasonable pressure experienced by an inspector and the Inspection Body's response to it should be retained.

4.2 Independence

4.2(a) The categorisation of Inspection Bodies as Type A, B and C is essentially a measure of their independence. Demonstrable independence of an Inspection Body may strengthen the confidence of the Inspection Body's customers in the body's ability to carry out inspection work with impartiality and objectivity.

4.2(b) It is the Inspection Body's responsibility to provide convincing evidence to justify its chosen category A or B. The final decision on the Type A or B status shall rest with SANAS based on the information provided.

Note: *Irrespective of the Type, A or B, of an Inspection Body, if practical impartiality or objectivity cannot be convincingly demonstrated to the satisfaction of SANAS this should be grounds for withholding accreditation.*

Type A an Inspection Body, being 'independent of the parties involved', are clearly third party.

4.2.1(b) There are two (2) variations of a Type A Inspection Body:

- (1) A completely separate legally identifiable organisation;
- (2) Part of a legally identifiable organisation.

The independence of (1) is clear and that of (2) is explained below.

A Type A Inspection Body may be a part of a legally identifiable organisation (see clause 3.1 of ISO/IEC 17020). An Inspection Body shall not be accredited as a Type A Inspection Body if another part of the organisation is directly involved in the design, manufacture, supply, installation, assessment, repair or maintenance of the items inspected.

The Chief Executive (or equivalent) of the organisation of which the Inspection Body is a part, shall define and document its policy for maintaining the Type A status of the Inspection Body.

SANAS shall, as far as is practicable, examine evidence of implementation of this policy in respect of ownership interests, constitution of board of directors, means of financing, decision making methods and other such factors that may have an

influence on the impartiality, independence and integrity of a Type A Inspection Body.

4.2.2(a) The two characteristics by which Inspection Body can be identified as *Type B Inspection Body* are the following:

- Type B Inspection Body form a demonstrably separate and identifiable part of an organisation that is involved in the design, manufacture, supply, installation, use or repair/maintenance of items that they inspect;
- Type B Inspection Body provides services only to its parent organisation.

A Type B Inspection Body may form a part of a *user* organisation or of a *supplier* organisation.

When a Type B Inspection Body that forms a part of a supplier organisation inspects items that are manufactured by or for its parent organisation and are to be supplied to the market or to any other party, it carries out first party inspections.

When a Type B Inspection Body that forms a part of a user organisation inspects items to be supplied for use by its parent organisation, by a supplier organisation that is not its parent organisation and not related to it, it carries out second party inspections.

4.2.3(a) Type C Inspection Bodies as defined in 4.2.3 of ISO 17020 are not covered by SANAS accreditation or this technical requirement document.

5. Confidentiality

5(a) The Inspection Body shall have a policy, documented in its quality system, concerning the observance of the confidentiality requirements of the customer by the Inspection Body and by any contractors or sub-contractors engaged by it taking into account any relevant legal requirements. The procedures should set out who, besides the customer, and in what circumstances, is entitled to have access to the results. Where the inspection body is required by law to release confidential information to a third party, the inspection body, unless regulated by law, shall notify the client in advance of the information provided.

6. Organisation and Management

6.1(a) In this clause the term organisation is understood as including the size, structure and composition of an Inspection Body which taken together should be suitable for the competent performance of the tasks with which the Inspection Body is concerned.

6.1(b) A one person 'organisation' may be accredited provided all relevant clauses of ISO/IEC 17020 are effectively implemented and maintained.

6.2(a) To meet the requirements of this clause the Inspection Body should maintain an up-to-date organisational chart clearly showing the functions and lines of authority for staff within the Inspection Body and the relationship, if any, between the inspection functions and other activities of the organisation. The position of the technical manager and quality manager (however named) should be clearly shown in the chart.

6.2(b) For each position in the organisation that could have an effect on the quality of inspections, or records of inspections, details of responsibility should be included in the quality system documentation. This may include clerical staff

- 6.2(c) The degree of complexity of documentation and the extent to which staff members can hold several functions will depend upon the size of the organisation.
- 6.3(a) More than one person may share the role of technical manager. The functions of the technical manager include, but may not be limited to, authorisation of new inspections methods, technical support for inspectors and acceptance of overall responsibility for the technical quality of inspections and inspections reports. Where no single person acts as the technical manager, the specific responsibilities of each person must be defined and documented.
- 6.3(b) The manager (however named) of the Inspection Body shall:
- a) be responsible for ensuring compliance with all requirements of the relevant Standards and Regulations;
 - b) be knowledgeable about the hazards, procedures and equipment associated with the inspections;
 - c) be certified by the Council of Measurement and Verification Professionals of South Africa (CMVPSA) as a full member or registered as a professional in a quantitative discipline;
 - d) be familiar with the general requirements as appropriate to the approval granted, of Standards and Regulations;
 - e) not be impaired by the execution or responsibilities of duties extraneous to the operation of the Inspection Body; and,
 - f) be named on the certificate of approval of the Inspection Body.

The approved signatories shall be competent in respect of the duties they have to perform and shall be evaluated on an ongoing basis by the SANAS assessment teams.

- 6.4(a) The Inspection Body should be able to demonstrate that it is organised in such a way that the work of the staff performing inspections is supervised by personnel who are familiar with the objectives of the inspections, the inspection methods and procedures being used and the assessments of the inspection results. The extent, nature and level of supervision exercised should take in to account the qualifications, experience, training and technical knowledge of the inspection staff and the inspections being undertaken.
- 6.4(b) Effective supervision of inspections can be claimed only in situations where a supervisor is able to review, if required, actual observations and inspection decisions or otherwise personally verify that inspection decisions are reliable.
- 6.4(c) Supervision of inspection personnel may include, but not be limited to, the regular review of inspections reports to ensure that they are in accordance with relevant legislation, Inspection Body's procedures and as necessary, contractual obligations agreed with the customer. (See also Clause 10.5c & d of ISO/IEC 17020)
- 6.4(d) Monitoring of performance of inspections should include on-site witnessing of inspections. On-site witnessing of inspections should be carried out by technically competent personnel, who are sufficiently independent to carry out the witnessing of inspections objectively.
- 6.4(e) The inspection body's programme for witnessing inspectors should be designed so that a representative sample of inspectors is witnessed. As a minimum, every inspector should be witnessed at least once during the normal accreditation cycle (typically 3 – 4 years) performing each field of inspection for which they are authorised by the inspection body. Records of observed inspections shall be kept.
- 6.5(a) The intent of this clause is to ensure that anyone who deputises must be appropriately qualified and experienced to make technically valid decisions. A documented policy defining the

selection and appointment process would therefore be an acceptable alternative to a list of named individuals. In such cases records shall be maintained of who deputises on a case-by-case basis.

6.5(b) In a small organisation, where the absence of a key person causes the cessation of work, the requirement for deputies may be waived.

6.6(a) Positions, which could affect the quality of inspections services, include managerial and inspectors as well as clerical staff shall be described.

7. Quality System

7.1(a) Policy statements are intended to demonstrate senior management commitment to the quality system. Objectives should include measurable targets, which are reviewed at least annually. Training records shall show that all staff is familiar with the quality system.

7.3(a) For easy reference, it is recommended that the Inspection Body's quality manual indicate where in the Quality System the requirements of ISO/IEC 17020 are addressed, e.g., a cross reference table may be included in the Quality Manual.

7.4(a) The position of the quality manager (however named) shall be clearly shown in the organisational chart referred to in clause 6.2. The quality manager shall be free from any influences that may affect the quality of their work.

7.5(a) In cases where an Inspection Body has a number of offices at different locations, responsibility for the practical maintenance of the quality system in each office should be assigned to a named, local, individual.

7.6(a) The elements of the document control system must be documented. A statement that "documents will be controlled" is not sufficient.

7.6(b) There must be a clear and authoritative means for all employees to identify the currently authorised revision of any controlled document.

7.6(c) Effective systems must be in place to ensure that every relevant employee has received and understood updates to any document which could affect the conduct, outcome or reporting of an inspection.

7.6(d) If a single person is not responsible for all technical documents, it must always be possible to identify the individual who is responsible for the technical validity of any specific technical document.

7.7(a) The purpose of internal quality audits is to verify that the documented operational procedures and technical requirements of the Inspection Body are being implemented as documented. Quality audits are normally planned and organised by the quality manager (however named) and carried out in accordance with a pre-determined schedule that encompasses all aspects of the quality system, including the performance of inspections. The scopes, dates and the detailed scheduling of audits should be planned and conducted in accordance with a documented procedure. Competent outside bodies may carry out internal audits. As a rule, internal audits should be arranged so that every aspect of the quality system and technical personnel is examined at least once per year.

7.7(b) Where an Inspection Body has more than one operational site clause 7.7 and the requirements in 6.4e and 7.7a shall be applied to each and every operational site.

Note: In this context an “operational site” is an office (other than the head office), which keeps records of inspections work and of the local implementation of the quality system independently of the head office

7.8(a) Feedback includes internal feedback for the purpose of improvement as well as complaints and preventive action.

7.8(b) Procedures for feedback and corrective action should normally include but not be limited to:

- Description of the issue
- Investigation of the cause
- Description of immediate action
- Description of action to be taken to prevent recurrence
- Identification of the person responsible for corrective action
- Target date for completion of corrective action
- Monitoring of progress of corrective action
- Sign off of completed corrective action

7.9(a) Management reviews should take account of any relevant information, such as reports from supervisory and managerial staff, the outcome of recent internal quality audits and external assessments, complaints from customers, changes needed in the quality system, the adequacy of current human and equipment resources, future plans, estimates for new work, and additional human resources, as well as the need for training of both new and existing staff. The Inspection Body, taking account of the results from internal audits and previous reviews and reports from SANAS, should determine the frequency of management reviews. Once a year is normally considered acceptable.

7.9(b) The outcome of a management review should include the setting of objectives for the coming period, proposed improvements to the quality system or a positive statement that no improvements are required.

8. Personnel

8.1(a) Permanent personnel are those who are employed by or under contract to the Inspection Body. They may be employed either on a full-time basis or on a part-time basis. Where it is necessary to use personnel for temporary situations, such personnel should be formally contracted for the period that the Inspection Body uses them. The Inspection Body should ensure that such personnel are effectively supervised (see 6.4b) and competent and that they work in accordance with the Inspection Body’s quality system.

8.1(b) The Inspection Body shall have a sufficient number of permanent competent personnel having the education, training, technical knowledge, skills and experience necessary for handling the category, range and volume of the work performed.

8.2(a) An accredited Inspection Body should define and document the qualifications, training, experience and the level of knowledge required for the inspections to be carried out (see also clause 6.6 of ISO/IEC 17020). SANAS will assess the appropriateness of such qualifications, training, experience and the level of knowledge for the scope of inspections to be accredited.

Note: Achievement of qualifications and completion of training and experience is not a guarantee of practical competence in inspection or the development of sound professional judgement.

8.3(a) Inspection Bodies may use competent external organisations for staff training.

- 8.3(b) Identification of training needs for each person should normally take place at least once per year. This review should result in documented plans for further training or a statement that no further training is required for the individual at present. The purpose of these records is to demonstrate the competency of each member of the staff to perform specific inspection tasks and, where relevant, to use specific equipment.
- 8.3(c) Training records should normally be signed by the individual and the reviewer. (If training needs records are not signed, they must include the identity of the reviewer.) A statement that no further training is needed shall be interpreted as an endorsement, by the organisation, of the person's competence in all aspects of their role at the date of the review.
- 8.4(a) The purpose of these records is to demonstrate that the Inspection Body management declared each member of staff to be competent to perform specific inspections tasks and, where relevant, to use specific equipment.
- 8.4(d) Where records indicate that a member of staff has not maintained current involvement in a particular skill area, the Inspection Body must have documented procedures for managing the progressive reduction of current knowledge. Procedures must also be in place for monitoring continuous professional development and for providing refresher training where required.
- 8.5(a) This guidance may be in the form of a code of conduct. It may include issues relating to work ethics, impartiality, personal safety, relationship with customers, company rules and any other issues needed to assure the proper conduct of Inspection Body staff.
- 8.6(a) The purpose of this clause is to reduce the potential for Inspections results to be compromised by financial pressures.
- 8.6(b) In a small Inspection Body there is often a direct connection between the number of inspections carried out and the income of the organisation and hence its staff. In such cases it is essential that records be kept of the time taken for each inspection. SANAS shall assess whether or not the times are reasonable.

Table 1. – Qualifications Requirements

The table below sets out minimum qualifications and experience requirements that are deemed such to ensure competence to the required functions of an Inspection Body.

TITLE	EDUCATIONAL QUALIFICATIONS	PRACTICAL EXPERIENCE	TRAINING
Technical Manager / Measurement and Verification Professional (however named).	Hold at least a General education and Training Certificate Grade 12 or equivalent and further studies in e.g. engineering, energy management and / or business related to their scope of accreditation	5-Years Measurement, Verification & Reporting and Energy Management related experience.	* Specific courses / training in the field of accreditation.
Quality Manager (However named)	Specific courses / training in the field of Inspection Body management systems	experience in the field of Inspection Body management systems	Specific courses / training in the field of Inspection Body management systems
Inspector / Specialist / Measurement and Verification Professional (however named)	Hold at least a General education and Training Certificate Grade 12 or equivalent and further studies in e.g. engineering, energy management and / or business related to their	3-Years measurement verification & reporting and energy management related experience.	* Specific courses / training in the field of accreditation.

	scope of accreditation		
<p>* Must demonstrate knowledge competence in the work instructions of the Approved Inspection Body, ISO/IEC 17020, National Energy Act (Act 34 of 2008 as Amended) and Energy Regulations as applicable to Inspection activities. Attended courses (internal or external) to support their scope of accreditation e.g. Energy Act and Regulations, Measurement and Verification Techniques, Energy Management, Electrical Safety, Hazard Identification, Hazard Analysis, Consequence Analysis etc.)</p>			
<p>Note: All registrations prior to publication of this document will remain valid until such time an equivalence of qualification structure is in place to certify equivalence of the qualification required above.</p>			

9. Facilities and Equipment

- 9.1(a) The Inspection Body need not be the owner of the facilities or equipment that it uses. Facilities and equipment may be borrowed, rented, hired, leased or provided by another party (e.g. the installer of the equipment). In all cases access to the equipment must be defined and meet the requirements of ISO/IEC 17020. However, the responsibility for the suitability and the calibration status of the equipment used in inspection, whether owned by the Inspection Body or not, lies solely with the Inspection Body.
- 9.1(b) If controlled environmental conditions are needed and premises outside those of the Inspection Body are used, the Inspection Body should monitor the environmental conditions in these premises with calibrated equipment, record the results and note if conditions are outside the limits within which inspection can be performed.
- 9.2(a) Use of facilities and equipment by unauthorised persons shall not be permitted. If any item is found to have left the Inspection Body's direct control, measures must be taken to confirm its continuing suitability before its return to use for accredited work. Typical measures would include visual inspections, functional checks and/or re-calibration/validation.
- 9.4(a) Unique identification of items of equipment is important even when the organisation has only one example of a particular item. This enables tracking when items are replaced for whatever reason.
- 9.6(a) All equipment used for measurements and tests, where the results of such measurements and tests have a significant influence on the results of the inspection, i.e. the conclusion about conformance with requirements, shall be traceably calibrated.
- 9.6(b) Where equipment not under the direct control of the Inspection Body is used, the Inspection Body shall verify that the equipment meets all relevant requirements of ISO/IEC 17020 before using it for inspection. The verification procedure shall be documented and verification records shall be kept. Where such verification is not practical, the report shall not be issued under accreditation or, where accreditation is mandatory, this fact shall be prominently stated in the inspection report and the customer shall be informed of it.
- 9.7(a) Equipment identified under the criteria in 9.6, as clarified in 9.6a, must be traceably calibrated to national or international standards where possible. For additional guidance on measurement traceability, refer to SANAS TR25 available on www.sanas.co.za
- 9.7(b) Where the calibrations are performed in-house, traceability to national standards should be assured by using reference standards of measurement for which the Inspection Body holds a current calibration certificate or equivalent from a competent body. The certificate or equivalent should detail an uncertainty of measurement that is appropriate for the equipment that is to be calibrated from the reference standard. For further information on uncertainty of measurement, see ILAC. G8.

Note: "Calibrations" performed in this way are not traceable according to the internationally accepted definition and cannot be used as references for further calibration. Instruments "calibrated" in this way shall not normally be used for measurements critical to Inspections decisions.

- 9.7(c) Measurement traceability can be provided only by the National Metrology Institute Laboratory of South Africa (NMIISA) or a calibration laboratory appropriately accredited to ISO/IEC 17025. Calibration certificates from these sources will include statements of uncertainty.

Equivalent calibration laboratories from other countries may also be used, provided that they have an established traceability of measurement. Such traceability of measurement is provided by national metrology institutes participating in internationally recognised inter-institute comparisons and by laboratories accredited by bodies that are signatories to the ILAC multilateral agreement on calibration.

10. Inspection Method and Procedure

- 10.1(a) The requirements against which the inspection is performed are normally specified in Standards, Specifications or Regulations. Specifications may include customer or in-house requirements.

When the inspection methods and procedures are not defined in Standards, Specifications or Regulations the Inspection Body itself shall define and document the methods and procedures for inspection.

- 10.1(b) In certain circumstances the Inspection Body's customer may supply information for the Inspection Body to take into consideration when performing its inspection. If the Inspection Body uses such information supplied by any other party as part of the Inspection Body's determination of conformity, then it should be able to demonstrate the measures taken to verify the integrity of such information.

- 10.3(a) A standard inspection method is one that has been validated: published, for example, in International, Regional or National Standards or by reputable technical organisations or by co-operation of several Inspection Bodies or in relevant scientific text or journals. This means that methods developed by any other means, including by the Inspection Body itself or by the customer, are considered to be non-standard methods.

- 10.5(a) Where appropriate (see note) each contract or request should be reviewed by the Inspection Body to ensure that:

1. the customer's requirements are adequately defined, documented and understood;
2. the Inspection Body has the capability to meet the customer's requirements;
3. contract conditions are agreed;
4. special equipment needs are identified;
5. personnel training needs are identified;
6. statutory requirements are identified;
7. special safety requirements are identified;
8. the extent of subcontracting arrangements required are identified;
9. documentation needs are identified; and
10. the final contract or request accepted by the Inspection Body agrees with the original version that was reviewed as in (1), (2) and (3) above.

Records of contract review shall be retained.

Note: For routine or repeat work requests, review may be limited to consideration of time and human resources and an acceptable record in such cases would be a signed acceptance of the contract by an appropriately authorized person.

- 10.5(b) In situations where verbal agreements are acceptable, the Inspection Body should keep a record of all requests and instructions received verbally, dates and the identity of the customer's representative.
- 10.6(a) Worksheets, notebooks etc used to record observations during inspections shall be retained for reference for a defined period
- 10.8(a) The Inspection Body shall have documented instructions for carrying out inspection safely.

11. Handling Inspection Sample Items

No interpretation required, as per the requirements of ISO/IEC 17020.

12. Records

No interpretation required, as per the requirements of ISO/IEC 17020.

13. Inspection Reports and Inspection Certificates

- 13.1(a) The terms "report" and "certificate" are used synonymously in this clause. However, in this document it is assumed that "reports" are detailed descriptions of the inspection and its results whereas "certificates" are generally short formal statements of conformity with requirements issued, for example, in connection with mandatory inspection.
- 13.1(b) Where the Inspection Body issues an inspection certificate; it may not be possible to cover all of the work carried out by the Inspection Body in the certificate itself. In those circumstances it would be acceptable to maintain separate documentation to demonstrate the work carried out by the Inspection Body, provided such documentation can be traceable to the correct inspection certificate.
- 13.2(a) The fact that the customer does not require a detailed report does not remove the requirement for detailed inspection records to be kept.
- 13.2(b) The content of an inspection report or inspection certificate may vary depending on the type of inspection and legal requirements. Appendix 2 contains a list of elements to be included in inspection reports and inspection certificates. These elements are considered to be the minimum requirements and are mandatory.
- 13.2(c) Where inspection is for regulatory purposes regulatory requirements shall be applicable.
- 13.2(d) Under its accreditation the Inspection Body may issue inspection reports or certificates, indicating accreditation status, for inspection activities described in generic terms in the accreditation, provided that such reports or certificates are issued for a defined type of inspection using a defined technical procedure and that they are referring to a defined field of inspection.
- 13.3(a) In all cases it must be possible to identify the person accepting responsibility for the verification and release of the inspection report or certificate.
- 13.3(b) An example of an "otherwise approved" inspection report or inspection certificate is one approved by secure electronic authorisation or by seal. In such cases the Inspection Body must be able to demonstrate that authorisation is secure and access to the electronic storage medium is strictly controlled.

- 13.4(a) It must not be possible for ambiguity to exist between a report or certificate with an error and the corresponding corrected report. This is most commonly avoided by issuing a replacement report or certificate with words such as “this report/certificate replaces report/certificate No: XYZ.”

14. Sub-contracting

- 14.1(a) Sub-contracting of inspections, which are within the Inspection Body’s scope of accreditation, may take place only when any of the following conditions apply:
1. It is necessary because there has been an unforeseen or abnormal overload, key inspection staff members are incapacitated or key facilities or items of equipment are temporarily unfit for use.
 2. A small part of the contract from the customer involves inspection not covered by the Inspection Body’s accreditation or is beyond the capability or resources of the Inspection Body. This does not prevent the Inspection Body sub-contracting testing.
- 14.1(b) Whenever work, which forms part of an inspection, is carried out by sub-contractors, the responsibility for determination of conformity of the inspected item with the requirements always remains with the Inspection Body
- 14.2(a) Where the Inspection Body engages individuals or employees of other organisations to provide additional resources or expertise, these individuals are not considered to be sub-contractors provided they are formally contracted to operate under the Inspection Body’s quality system and have equivalent training and records to permanent employees. (See also clause 8.1)
- 14.2(b) Competence of a sub-contractor may be demonstrated either:
- by the sub-contractor having accreditation to ISO/IEC 17020 or ISO/IEC 17025 for the relevant inspections/tests and providing endorsed reports or certificates; or
 - by the Inspection Body itself assessing the competence of the sub-contractor to the requirements of ISO/IEC 17020 or ISO/IEC 17025, as applicable.
- 14.2(c) Where the assessment of the sub-contractor is carded out by the Inspection Body, it should be able to demonstrate that the assessment team is technically competent and knowledgeable in the application of ISO/IEC 17020 or ISO/IEC 17025.
- 14.3(a) If the competence of the sub-contractor is based partly or in full on its accreditation, the scope of its accreditation shall cover the activities to be sub-contracted and the Inspection Body shall have records available to show that it has checked the status of the sub-contractor.

If the sub-contracted bodies are not accredited according to the relevant standard for the specific activities to be sub-contracted, the Inspection Body shall provide appropriate evidence of the sub-contracted body’s competence, such as records of evaluation performed by qualified personnel according to appropriate procedures

15. Complaints and Appeals

- 15.1(a) Causes of complaints should be analysed as part of management review so that common causes can be identified and appropriate action taken to minimise such complaints in future
- 15.2(a) It should be noted that Appeals procedures are required only if the Inspection Body is appointed to undertake work by a national authority.

16. Co-operation

- 16(a) The purpose of this clause is to encourage Inspection Bodies to exchange knowledge, subject to commercial sensitivities and confidentiality, and learn from each other to improve the general standard and consistency of accredited inspection results

Annexure A: References

Document	Location
National Energy Act No 34 of 2008	http://www.dme.gov.za/pdfs/energy/acts/Energy%20Act%202008.pdf
Income Tax Act No 58 of 1962	http://www.acts.co.za/tax/index.htm
SANS/ISO/IEC 17020: 1998	http://www.iso.org & https://www.sabs.co.za/
ILAC/IAF A4: 2004	www.ilac.org or www.iaf.nu
SABS SATS 50010: 2010	https://www.sabs.co.za/
SANAS R & TR-documents	www.sanas.co.za
CMVPSA Governance Handbook	www.CMVPSA.org.za

Annexure B: Example of Schedule of Accreditation

SCHEDULE OF ACCREDITATION
 Inspection Authority Accreditation Number: INSP *****

TYPE A

<p><u>Permanent Address of Inspection Authority:</u> I'M ALWAYS RIGHT AIA 25 Popular Street Tree Park Port Southern Africa X001</p> <p>Tel : 555-394-3779 Fax : 555-394-4779 Email : dolittle@mweb.co.za</p>		<p><u>Postal Address:</u> P O Box 22222 Port Southern Africa X000</p> <p>Issue No. : 12 Date of issue : 29 May 2009 Expiry date : 29 May 2013</p>
<p><u>Nominated Representative:</u> Mr XXX</p> <p><u>Quality Manager:</u> Mr XXXX</p>	<p><u>Technical Manager:</u> Mr XXX</p>	<p><u>Inspectors:</u> Inspector 1 Inspector 2 Inspector 3</p>
Field of Inspection	Service Rendered	Codes and Regulations
<p>The supply of services as an Inspection Body for the Measurement, Verification and Reporting of Energy Efficiency Savings in Systems, Processes or Facilities.</p> <p>Explanatory note on selection and use of the Energy Efficiency Schedule of Accreditation: The Measurement and Verification Body must start with selecting the applicable competence Sector/s i.e. Residential, Commercial, Industrial etc. as their main activity for accreditation. The next step will be to select the applicable Energy type/s i.e. Electricity, Liquid fuel, Fossil fuel etc. linked to the sector selection Next select the associated Technologies i.e. Lighting, Pumping, Control systems etc.</p>	<p>Note: This list is not exhaustive Measurement Methodology as defined by SATS 50010: 2010 in relation to: Sector:</p> <ol style="list-style-type: none"> 1. Residential, load management and/or energy efficiency 2. Commercial, load management and/or energy efficiency 3. Industrial, load management and/or energy efficiency 4. Transportation, load management and/or energy efficiency. <p>Energy type:</p> <ol style="list-style-type: none"> a. Electricity b. Liquid fuel c. Fossil fuel d. Bio-fuel e. Renewables f. Other to be specified <p>Technologies:</p> <ul style="list-style-type: none"> - Lighting - Pumping - Control systems - Renewables <ul style="list-style-type: none"> ➤ Solar ➤ Wind ➤ Other. - Processes - Motors - Other to be specified. 	<p>Inspection methods and procedures as per Inspection Body's Field of Activity.</p> <ol style="list-style-type: none"> 5. Retrofit Isolation <ol style="list-style-type: none"> a) Key parameter measurement b) All parameter measurement. 6. Whole Facility 7. Calibrated Simulation

Original date of accreditation: XX 2008

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Field Manager

APPENDIX C: Elements of Inspection Reports and Inspection Certificates

Note: Once the SANEDI requirements have been published this section will be revised and updated to include any additional SANAEDI requirements.

- 1* Designation of the document, i.e. as an inspection report or an inspection certificate, as appropriate
- 2* Identification of the document, i.e. date of issue and unique identification
- 3* Identification of the issuing body
- 4* Identification of the Customer
- 5* Description of the inspection work ordered
- 6* Date(s) of inspection
- 7* Identification of the object(s) inspected and, where applicable, identification of the specific components that have been inspected and identification of locations where e.g. NDT methods have been applied
- 8* Information on what has been omitted from the original scope of work
- 9* Identification or brief description of the inspection method(s) and procedure(s) used, mentioning the deviations from, additions to or exclusions from the agreed methods and procedures
- 10 Identification of equipment used for measuring/testing.
- 11 Where applicable, and if not specified in the inspection method or procedure, reference to or description of the sampling method and information on where, when, how and by whom the samples were taken
- 12* If any part of the inspection work has been subcontracted, the results of this work shall be clearly identified
- 13 Information on where the inspection was carried out
- 14 Information on environmental conditions during the inspection, if relevant
- 16* The results of the inspection including a declaration of conformity and any defects or other non-compliances found (results can be supported by tables, graphs, sketches and photographs)
- 17 A statement that the inspection results relate exclusively to the work ordered or the object(s) or the lot inspected
- 18 A statement that the inspection report shall not be reproduced except in full without the approval of the inspection body and the Customer
- 19 The inspector's mark or seal
- 20* Names (or unique identification) of the staff members who have performed the inspection and in cases when secure electronic authentication is not undertaken, their signature, (see also clause 13.3 of ISO/IEC 17020)