

**CONFIDENTIAL**

**SINGAPORE ACCREDITATION COUNCIL**

**SINGAPORE LABORATORY ACCREDITATION SCHEME (SAC-SINGLAS)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Laboratory Assessment Checklist** | | | |
|  |  |  | |
| Type of Assessment | : | Preliminary / Initial / Renewal / Surveillance / Non-Routine / Verification | |
|  |  |  | |
| Laboratory | : |  | |
|  |  |  | |
| Address | : |  | |
|  |  |  | |
| Tel / Fax | : |  | |
|  |  |  | |
| Names of persons seen | : |  | |
|  |  |  | |
| Field | : |  | |
|  |  |  | |
| Date of visit | : |  | |
|  |  |  | |
| Technical Assessor(s)/Expert(s) | : |  | |
|  |  |  | |
| Lead Assessor | : |  |  |
|  |  | Name & Signature | Date |

References

ISO/IEC 17025: 2005, SAC-01, SAC-02, SAC-SINGLAS 001, SAC-SINGLAS 002, SAC-SINGLAS 006,

PROF 001

| **Clause No.** | **Description** | **Yes** | **No** | **N.A.** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **4.** | **Management Requirements** | | | | |
| **4.1** | **Organization** | | | | |
| 4.1.1 | Is the laboratory or the organization legally responsible? |  |  |  |  |
| 4.1.3 | Does the laboratory management system cover work carried out in:   * permanent facilities? * sites away from its permanent facilities? * associated temporary facilities? * mobile facilities? |  |  |  |  |
| 4.1.4 | If the laboratory is part of an organization performing activities other than testing and/or calibration:   * are the responsibilities of key personnel defined in order to identify potential conflicts of interest? |  |  |  |  |
| *(2.1, SAC-SINGLAS 002)* | *Are policies available to define how impartiality is assured for personnel with production/ marketing related responsibilities and for departments with conflicting interests?* |  |  |  |  |
| 4.1.5a | Does the laboratory have managerial and technical personnel, who have the authority and resources needed to:   * carry out their duties including the implementation, maintenance and improvement of the management system? * to identify the occurrence of departures from the management system or from procedures for performing tests and/or calibrations? * to initiate actions to prevent or minimize such departures? |  |  |  |  |
| 4.1.5b | Does the laboratory have arrangements to ensure that its management and personnel are free from:   * any undue internal and external commercial pressure? * financial pressure? * other pressures and influences that may adversely affect the quality of their work? |  |  |  |  |
| *(2.2, SAC-SINGLAS 002)* | *Is there clear policy & instruction implemented for countering these ‘pressures”?* |  |  |  |  |
|  | *Are precaution taken to ensure that there is no conflict of interest between staff and* customers*?* |  |  |  |  |
|  | *If relevant, the laboratory should have a policy written against acceptance of gifts & gratuities from* customers*?* |  |  |  |  |
| 4.1.5c | have policies and procedures to ensure:   * protection of its customers’ confidential information and propriety rights? * protecting electronic storage and transmission of results? |  |  |  |  |
| 4.1.5d | have policies and procedures to avoid involvement in any activities that would diminish confidence in its competence, impartiality, judgment or operational integrity? |  |  |  |  |
| 4.1.5e | define the organization and management structure of the laboratory:   * its place in any parent organization? * relationships between quality management, technical operations and support services? |  |  |  |  |
| 4.1.5f | specify the:   * responsibility? * authority? * interrelationships of all personnel who manage, perform or verify work affecting the quality of the tests and/or calibrations? |  |  |  |  |
| 4.1.5g | Provide adequate supervision of testing and calibration staff, including trainees, by:   * persons familiar with methods and procedures? * purpose of each test and /or calibration? * assessment of the test or calibration results? |  |  |  |  |
| 4.1.5h. | Is technical management available? |  |  |  |  |
| *(2.3, SAC-SINGLAS 002)* | *Are all technical issues relating to testing & calibration activities fully covered by the technical management?* |  |  |  |  |
| 4.1.5i. | Is a quality manager appointed?   * with defined responsibility and authority? * direct access to the highest level of management? |  |  |  |  |
| 4.1.5j. | Are deputies for key managerial personnel appointed? |  |  |  |  |
| 4.1.5k. | Are the personnel aware of the relevance and importance of their activities and how they contribute to the achievement of the objectives of the management system? |  |  |  |  |
| 4.1.6 | Does top management ensure that   * appropriate communication processes are established within the laboratory? * Communication takes place regarding the effectiveness of the management system? |  |  |  |  |
| **4.2** | **Management System** | | | | |
| *( 2.4, SAC-SINGLAS 002)* | *Is reference to approved signatories, terms of accreditation and policy on the use of the SAC-SINGLAS endorsement included in the quality documentation?* |  |  |  |  |
| 4.2.1 | Is the management system appropriate to the scope of its activities established, implemented and maintained? |  |  |  |  |
|  | Are policies, systems, programmes, procedures and instructions documented to assure the quality of the test and/or calibration results? |  |  |  |  |
|  | Is the system’s documentation:   * communicated? * understood? * available? * implemented?   by the appropriate personnel? |  |  |  |  |
| 4.2.2 | Are the management system policies, including a quality policy statement defined in a quality manual? |  |  |  |  |
|  | Are the overall objectives established and reviewed during management review? |  |  |  |  |
|  | Is the quality policy statement issued under the authority of the top management? |  |  |  |  |
| 4.2.2a | Does the quality policy statement include at least the following:  laboratory management’s commitment to good professional practice and service to customers? |  |  |  |  |
| 4.2.2b | the management’s statement of the laboratory’s standard of service? |  |  |  |  |
| 4.2.2c | the purpose of the management system related to quality? |  |  |  |  |
| 4.2.2d | a requirement that all staff within the laboratory familiarize themselves with the quality documentation and implement the policies and procedures in their work? |  |  |  |  |
| 4.2.2e | laboratory management’s commitment to   * comply with ISO/IEC 17025 ? * continually improve the effectiveness of the management system? |  |  |  |  |
| 4.2.3 | Does the top management provide evidence of commitment to:   * the development and implementation of the management system? * continually improving its effectiveness? |  |  |  |  |
| 4.2.4 | Does the top management communicate to the organization the importance of meeting customer requirements as well as statutory and regulatory requirements? |  |  |  |  |
| 4.2.5 | Does the quality manual include or make reference to the supporting procedures including technical procedures? |  |  |  |  |
|  | Does it outline the structure of the documentation used in the management system? |  |  |  |  |
| 4.2.6 | Are the roles and responsibilities of technical management and the quality manager defined in the quality manual? |  |  |  |  |
| 4.2.7 | Does the top management ensure that the integrity of the management system is maintained when changes to the management system are planned and implemented? |  |  |  |  |
|  |  |  |  |  |  |
| **4.3** | **Document Control** | | | | |
| 4.3.1 | General  Does the laboratory establish and maintain procedures to control all documents that form part of its management system? |  |  |  |  |
| 4.3.2  4.3.2.1 | Document Approval and Issue  Are all documents issued to personnel reviewed and approved for use prior to issue? |  |  |  |  |
|  | Is a master list or an equivalent document control procedure available to:   * identifying the current revision status? * distribution of documents in the management system established? * readily available to preclude the use of invalid and/or obsolete documents? |  |  |  |  |
| 4.3.2.2  4.3.2.2a | Does the procedure(s) adopted ensure that:  appropriate documents are available at all appropriate locations? |  |  |  |  |
| 4.3.2.2b | documents are periodically reviewed? |  |  |  |  |
| 4.3.2.2c | invalid or obsolete documents are:   * promptly removed from all points of issue or use? * assured against unintended use? |  |  |  |  |
| 4.3.2.2d | obsolete documents retained for either legal or knowledge preservation purposes are suitably marked? |  |  |  |  |
| 4.3.2.3 | Is the management system documents generated by the laboratory uniquely identified? |  |  |  |  |
|  | Do such identification include:   * date of issue and/or revision identification? * page numbering? * the total number of pages or a mark to signify the end of the document? * the issuing authority(ies)? |  |  |  |  |
| 4.3.3  4.3.3.1 | Document Changes  Are changes to documents reviewed and approved by the same function that performed the original review unless specifically designated otherwise? |  |  |  |  |
|  | Does designated staff have access to pertinent background information upon which to base their review and approval? |  |  |  |  |
| 4.3.3.2 | Where practicable, is the altered or new text identified? |  |  |  |  |
| 4.3.3.3 | If the laboratory’s document control system allows for the amendment of documents by hand pending the re-issue of the documents:   * are the procedures for such amendments defined? * are the authorities for such amendments defined? |  |  |  |  |
|  | Are these amendments clearly marked, Initialed and dated? |  |  |  |  |
|  | Is a revised document formally re-issued as soon as practicable? |  |  |  |  |
| 4.3.3.4 | Are procedures established to describe how changes in documents maintained in computerized systems are made and controlled? |  |  |  |  |
| **4.4** | **Review of Requests, Tenders and Contracts** | | | | |
| 4.4.1 | Are procedures established and maintained for the review of requests, tenders and contracts? |  |  |  |  |
| 4.4.1a | Are policies and procedures for these reviews ensure that:  the requirements, including the methods to be used, are defined, documented andunderstood? |  |  |  |  |
| 4.4.1b | the laboratory has the capability and resources meet the requirements? |  |  |  |  |
| 4.4.1c | the appropriate method is selected and capable of meeting the customers’ requirements? |  |  |  |  |
| *(2.5, SAC-SINGLAS 002)* | *NB: During contract review, calibration laboratories should specifically discuss their measurement uncertainty with their* customers *to ensure they can meet the* customers’ *specifications.* |  |  |  |  |
|  | Are differences between the request / tender/ contract resolved before any work commences? |  |  |  |  |
|  | Is each contract acceptable to both the laboratory and customer? |  |  |  |  |
| 4.4.2 | Are records of these reviews and any significant changes maintained? |  |  |  |  |
|  | Are records of pertinent discussions relating to the customer’s requirements or the results of the work during the period of contract maintained? |  |  |  |  |
| 4.4.3 | Does the review cover any work that is subcontracted by the laboratory? |  |  |  |  |
| 4.4.4 | Is the customer informed of any deviation from the contract? |  |  |  |  |
| 4.4.5 | If a contract needs to be amended after work has commenced:   * is the same contract review process repeated? * are any amendments communicated to all affected personnel? |  |  |  |  |
| **4.5** | **Subcontracting of Tests and Calibrations** | | | | |
| 4.5.1 | When a laboratory needs to subcontract work, is this work placed with a competent subcontractor? |  |  |  |  |
| *(2.6, SAC-SINGLAS 002)* | *Are policies and procedures documented for engaging subcontractors?* |  |  |  |  |
|  | *Are result reported by the subcontractor covered by an accredited report?* |  |  |  |  |
| *(2.6.1, SAC-SINGLAS 002)* | *For non-accredited subcontractor, does laboratory record its assessment of that subcontractor’s capability to meet ISO/IEC 17025 requirements?* |  |  |  |  |
| *(2.6.1, SAC-SINGLAS 002)* | *Are the results of the subcontracted work expressed in a SAC-SINGLAS accredited report?* |  |  |  |  |
| 4.5.2 | Does the laboratory:   * advise the customer of the arrangement in writing? * when appropriate, gain the approval of the customer, preferably in writing? |  |  |  |  |
| 4.5.3 | Is the laboratory responsible to the customer for the subcontractor’s work, except in the case where the customer or a regulatory authority specifies which subcontractor is to be used? |  |  |  |  |
| 4.5.4 | Does the laboratory maintain a:   * register of all subcontractors that it uses for tests and/or calibrations?   record of the evidence of compliance with ISO/IEC 17025 for the work in question?*(accreditation status should be current)* |  |  |  |  |
| *(2.6.2, SAC-SINGLAS 002)* | *NB: Accreditation status of subcontractors should be regularly reviewed to ensure currency* |  |  |  |  |
| **4.6** | **Purchasing Services and Supplies** | | | | |
| *(2.7, SAC-SINGLAS 002)* | *NB: when purchasing calibration services, laboratories should refer to the SAC-SINGLAS 006 to ensure that traceability requirements are met.* |  |  |  |  |
| 4.6.1 | Are policy and procedure(s) available for   * selection? * purchasing of services and supplies it uses?   that affect the quality of the tests and/or calibrations. |  |  |  |  |
|  | Do procedures exist for the:   * purchase? * reception? * storage?   of reagents and laboratory consumable materials relevant for the tests and calibrations. |  |  |  |  |
| 4.6.2 | Are purchased supplies/ reagents/ consumable materials inspected before use? |  |  |  |  |
|  | Are records of inspections / verifications maintained? |  |  |  |  |
| 4.6.3 | Do purchasing documents for items contain data describing the services and supplies ordered? |  |  |  |  |
|  | Are these purchasing documents reviewed and approved for technical content prior to release? |  |  |  |  |
| 4.6.4 | Does the laboratory evaluate:   * suppliers of critical consumables? * supplies and services which affect the quality of testing and calibration?   maintain approved list and records of these evaluations? |  |  |  |  |
| **4.7** | **Service to the Customers** | | | | |
| 4.7.1 | Is the laboratory willing to cooperate with customers or their representatives in:   * clarifying the customer’s request? * monitoring the laboratory’s performance in relation to the work performed? |  |  |  |  |
|  | Ensure confidentiality to other customers |  |  |  |  |
| 4.7.2 | Does the laboratory seek feedback, both positive and negative, from its customers? |  |  |  |  |
|  | Is the feedback used and analyzed to improve the management system, testing/calibration activities and customer service? |  |  |  |  |
| *(2.8, SAC-SINGLAS 002)* | *If applicable, are the feedback from the internal clients sought?* |  |  |  |  |
|  |  |  |  |  |  |
| **4.8** | **Complaints** | | | | |
|  | Are policy and procedure for the resolution of complaints received from customers or other parties available? |  |  |  |  |
| *(2.9, SAC-SINGLAS 002)* | *Does the laboratory inform SAC-SINGLAS when a complaint involving any technical competency or integrity of test/calibration result relating to the scope of accreditation is not resolved within 90 days from the date of receipt of the complaint?* |  |  |  |  |
|  | Are records maintained for all complaints and of the investigations and the corrective actions taken by the laboratory? |  |  |  |  |
| **4.9** | **Control of Non-Conforming Testing and/or Calibration work** | | | | |
| 4.9.1 | Are policy and procedures implemented when the results do not conform to its own procedures or the agreed requirements of the customer? |  |  |  |  |
| 4.9.1a | Do the policy and procedures ensure that:  responsibilities, authorities and actions are defined and taken? |  |  |  |  |
| 4.9.1b | an evaluation of the significance of the nonconforming work is made? |  |  |  |  |
| 4.9.1c | correction and decisions are taken immediately about the acceptability of the nonconforming work? |  |  |  |  |
| 4.9.1d | Where necessary, the customer is notified and work is recalled? |  |  |  |  |
| 4.9.1e | the responsibility for authorizing the resumption of work is defined? |  |  |  |  |
| 4.9.2 | Does evaluation reveal possible recurrence?  If YES, see 4.11 for compliance. |  |  |  |  |
| **4.10** | **Improvement** | | | | |
|  | Does the laboratory continually improve the effectiveness of its management system through the use of the   * quality policy and objectives? * audit results? * analysis of data? * corrective and preventive actions? * management review? |  |  |  |  |
| *(2.10, SAC-SINGLAS 002)* | *Is the laboratory able to show evidences on how continuous improvement are sought in the workplace?* |  |  |  |  |
| **4.11** | **Corrective Action** | | | | |
| 4.11.1 | Does the laboratory establish a policy and a procedure and designate appropriate authorities for implementing corrective action? |  |  |  |  |
| 4.11.2 | Is cause analysis done to determine the root cause(s) of the problem? |  |  |  |  |
| 4.11.3 | Where corrective action is needed, does the laboratory:   * identify potential corrective actions? * select and implement the action(s) to prevent recurrence? |  |  |  |  |
|  | Are corrective actions appropriate to the magnitude and risk of the problem? |  |  |  |  |
|  | Does the laboratory document and implement any required changes resulting from the above corrective action? |  |  |  |  |
| 4.11.4 | Are corrective actions monitored for effectiveness? |  |  |  |  |
| 4.11.5 | Are the appropriate areas of activity audited in accordance with 4.14 when there is a doubt(s) on the laboratory’s compliance? |  |  |  |  |
|  |  |  |  |  |  |
| **4.12** | **Preventive Action** | | | | |
| 4.12.1 | Are needed improvements and potential sources of non-conformances identified? |  |  |  |  |
|  | If preventive action is required, are action plans developed, implemented and monitored to take advantage of the opportunities for improvement? |  |  |  |  |
| 4.12.2 | Are procedures for preventive actions effective? |  |  |  |  |
| **4.13** | **Control of Records** | | | | |
| 4.13.1  4.13.1.1 | General  Does the laboratory establish and maintain procedures for:   * identification * collection * indexing * access * filing * storage * maintenance * disposal   of quality and technical records? |  |  |  |  |
| 4.13.1.2 | Are all records:   * legible? * stored and retained? * to prevent damage or deterioration? * to prevent loss? |  |  |  |  |
|  | Is retention time of records established? |  |  |  |  |
| 4.13.1.3 | Are all records held secure and in confidence? |  |  |  |  |
| 4.13.1.4 | Are procedures available to:   * to protect? * back-up records stored electronically? * to prevent unauthorized access to or amendment of these record? |  |  |  |  |
| 4.13.2  4.13.2.1 | Technical Records  Does the laboratory for a defined period retain records of:   * original data? * derived data? * sufficient information to establish an audit trail? * calibration records? * staff records? * copy of test / calibration report? * identity of personnel responsible for   - Sampling?  - Performance of each test  /calibration?  - Checking of results? |  |  |  |  |
|  | Do the records for each test or calibration contain sufficient information to:   * identification of factors affecting the uncertainty? * enable the test or calibration to be repeated under original conditions? |  |  |  |  |
| 4.13.2.2 | Are observations, data and calculations recorded at the time they are made and identifiable to the specific task? |  |  |  |  |
| 4.13.2.3 | When mistakes occur in records, is each mistake:   * crossed out? * not erased? * made illegible or deleted, and the correct value entered alongside? * signed or initialed by the person making the correction? |  |  |  |  |
|  | Are equivalent measures taken for records stored electronically? |  |  |  |  |
| **4.14** | **Internal Audits** | | | | |
| 4.14.1 | Are internal audits conducted periodically and in accordance with a predetermined schedule? |  |  |  |  |
| *(2.12.1, SAC-SINGLAS 002)* | *Is this cover over a twelve-month period?* |  |  |  |  |
|  | Are all elements of the management system, testing and/or calibration activities addressed? |  |  |  |  |
| *(2.12.1, SAC-SINGLAS 002)* | *NB: The audit should determine if*   * *procedures described in the management system are being followed;* * *objectives (as defined in the management system) are being achieved;* * *designated duties are being carried out satisfactorily and* * *there are opportunities for improvements.* |  |  |  |  |
| *(2.12.2, SAC-SINGLAS 002)* | *Is an audit checklist used? Are all evidences of areas audited recorded?* |  |  |  |  |
|  | Are such audits carried out by trained and qualified personnel who are, however resources permit, independent of the activity to be audited? |  |  |  |  |
| 4.14.2 | When audit findings cast doubts, does the laboratory take:   * timely corrective action? * where necessary, notify customers in writing? |  |  |  |  |
| 4.14.3 | Are the following recorded:   * the area of activity audited? * the audit findings? * corrective actions that arise from them? |  |  |  |  |
| 4.14.4 | Are follow-up audit activities verified for the implementation and effectiveness of the corrective action taken recorded? |  |  |  |  |
| *(2.12.3, SAC-SINGLAS 002)* | *Are the corrective actions verified and accepted by the relevant internal auditor?* |  |  |  |  |
| **4.15** | **Management Reviews** | | | | |
| 4.15.1 | Are management reviews conducted periodically by the top management and in accordance with a predetermined schedule? |  |  |  |  |
| *(2.13, SAC-SINGLAS 002)* | *Is this carried out at least once every twelve months?* |  |  |  |  |
|  | Does the review take account of:   * the suitability of policies and procedures? * reports from managerial and supervisory personnel? * the outcome of recent internal audits? * corrective and preventive actions? * assessments by external bodies? * the results of inter-laboratory comparisons or proficiency tests? * changes in the volume and type of the work? * Customers feedback? * complaints? * Recommendations for improvement? * other relevant factors? (e.g. quality control activities, resources and staff training) |  |  |  |  |
| 4.15.2 | Are findings and actions from management reviews recorded and carried out within an appropriate and agreed time scale? |  |  |  |  |
| **5.** | **Technical Requirements** | | | | |
| **5.2** | **Personnel** | | | | |
| 5.2.1 | Ensure the competence of all who   * operate specific equipment, * perform tests / calibrations * evaluate results * sign test reports / calibration certificates |  |  |  |  |
| (3.1, SAC-SINGLAS 002) | NB: Criteria for evaluation should be based on the range, complexity and frequency of performing of calibrations/tests for which accreditation is sought |  |  |  |  |
|  | Are staff undergoing training supervised? |  |  |  |  |
|  | Does the laboratory have qualified personnel for the required:   * education? * training? * experience and/or demonstrated skills? |  |  |  |  |
| 5.2.2 | Does the laboratory formulate goals with respect to:   * education? * training? * skills?   of the staff? |  |  |  |  |
|  | Does the laboratory have policies and procedures for:   * identifying training needs? * providing training of personnel? |  |  |  |  |
|  | Does the laboratory evaluate the effectiveness of the training actions taken? |  |  |  |  |
| *(3.1.1, SAC-SINGLAS 002)* | *Does the laboratory has proper procedures for training new technical personnel and for developing the expertise of existing technical personnel in new or rarely used techniques?* |  |  |  |  |
|  | *Are criteria defined, records available and validity of results monitored?* |  |  |  |  |
| 5.2.3 | If contracted staff are used, are they:   * evaluated for competency? * supervised? |  |  |  |  |
| 5.2.4 | Are current job descriptions available? |  |  |  |  |
| 5.2.5 | Has the management authorised specific personnel to:   * perform particular types of sampling? * perform test and/or calibration? * issue test reports and calibration certificates? * give opinions and interpretations? * operate particular types of equipment? |  |  |  |  |
| *(3.1.4, SAC-SINGLAS 002)* | *Does the personnel responsible for giving opinions and interpretation have in-depth knowledge of the relevant technical discipline?*  *NB: They should comply with Note 2 of Clause 5.2.1 of ISO/IEC 17025.* |  |  |  |  |
| *(3.1.5, SAC-SINGLAS 002)* | *NB: Site laboratory should be under adequate technical control.* |  |  |  |  |
|  | Does the laboratory maintain records of:  * relevant authorization(s)? * competence? * educational and professional qualifications? * training? * skills and experience of all technical personnel, including contracted personnel? * date on which authorization and/or competence is confirmed? |  |  |  |  |
| **5.3** | **Accommodation and Environmental Conditions** | | | | |
| 5.3.1 | Are the following environmental conditions fulfilled:   * energy sources? * accommodation e.g. lighting? * others? |  |  |  |  |
|  | Do the following laboratory environmental conditions invalidate the results or adversely affect the required quality of any measurement:   * during sampling? * at site laboratories? * others? |  |  |  |  |
| *(3.2, SAC-SINGLAS 002)* | *NB: Testing sites should be chosen to minimise the effects of environmental conditions and contamination. All relevant environmental conditions should be recorded and retained with other data.* |  |  |  |  |
|  | Are the technical requirements for accommodation and environmental conditions that can affect the results of tests and calibrations documented? |  |  |  |  |
| 5.3.2 | Does the laboratory monitor, control and record environmental conditions? |  |  |  |  |
|  | When the environmental conditions jeopardize results of the tests and/or calibrations has the testing and/or calibration activities stopped? |  |  |  |  |
| 5.3.3 | Is there effective separation between neighbouring areas where incompatible activities are performed? |  |  |  |  |
|  | If No, are appropriate measures taken to prevent cross-contamination? |  |  |  |  |
| 5.3.4 | Is access to and use of areas affecting the quality of tests and/or calibration controlled? |  |  |  |  |
|  | Is the extent of control determined? |  |  |  |  |
| 5.3.5 | Are measures taken to ensure good housekeeping? |  |  |  |  |
|  | Are special procedures prepared, where necessary? |  |  |  |  |
| **5.4** | **Test and Calibration Methods and Method Validation** | | | | |
| 5.4.1 | General  Is the laboratory using appropriate methods and procedures for:   * all tests/calibration within its scope? * sampling? * handling? * transport? * storage and preparation of items? * where appropriate, an estimation of measurement uncertainty? * statistical techniques for analysis of test and/or calibration data? |  |  |  |  |
|  | Does the laboratory have instructions on the:   * use and operation of relevant equipment? * handling and preparation of items for testing/calibration? |  |  |  |  |
|  | Are all instructions, standards, manuals and reference data relevant to the work of the laboratory:   * kept up-to-date? * made available to personnel? |  |  |  |  |
| *(3.3, SAC-SINGLAS 002)* | Is there a formalized system to issue, review and update methods and specifications? |  |  |  |  |
|  | When deviations from test/calibration methods occur, are these:   * documented? * technically justified? * authorised? * accepted by customer? |  |  |  |  |
| *(3.3.1, SAC-SINGLAS 002)* | *NB: Laboratory may be required to show records of test/calibration which are done infrequently to demonstrate the competence of the laboratory’s staff. Laboratory is required to set up a regular schedule of performance checks to verify and demonstrate their continuing competence.* |  |  |  |  |
| 5.4.2 | Selection of methods  Is the laboratory using test/calibration methods (including sampling) which meet the needs of the customer? |  |  |  |  |
|  | Is the laboratory using the latest valid edition of the test method? |  |  |  |  |
|  | Is the laboratory selecting appropriate methods published from:   * international, regional, national standards * reputable technical organization * relevant scientific text/journals * manufacturer’s specifications |  |  |  |  |
|  | Are laboratory-developed methods or non-standard methods, adopted by the laboratory used?   * are they appropriate for their intended use? * are these methods validated? * is the customer informed? |  |  |  |  |
|  | Are the standard methods confirmed before use? |  |  |  |  |
| *(3.4, SAC-SINGLAS 002)* | *NB: Confirmation of methods may include verification of performance of equipment, availability of the required reference materials/standard, suitability of the laboratory environment, skills and competence of staff, ability to achieve required precision detection limit, proficiency testing.* |  |  |  |  |
| 5.4.3 | Laboratory-developed Methods  Does the laboratory ensure that the methods developed (for its own use) is:   * a planned activity? * assigned to qualified personnel with adequate resources to manage this planned activity? * updated on its developmental plans and this is communicated? |  |  |  |  |
| 5.4.4 | Non-Standard Methods  When methods not covered by standard methods are used, then:   * is the purpose identified? * are the methods developed validated before use? * is customer agreement obtained and this shall include customer specifications? |  |  |  |  |
| 5.4.5  5.4.5.2 | Validation of Methods  Does the laboratory validate the methods to confirm their fit for the intended use? |  |  |  |  |
|  | Are the following documented:   * results of the validation? * procedure used for validation? * statement as to whether the method is fit for its intended use? |  |  |  |  |
| 5.4.5.3 | Are the range and accuracy of the values obtained relevant to the customer’s needs? |  |  |  |  |
| 5.4.6  5.4.6.1 | Estimation of Uncertainty of Measurement Does the laboratory perform its own calibrations? |  |  |  |  |
|  | Are procedures applied for estimation of measurement uncertainty for all calibrations? |  |  |  |  |
| *(3.5, SAC-SINGLAS 002)* | *Is ISO GUM being used by calibration laboratory to determine measurement uncertainties? (NB: SAC-SINGLAS Technical Guide 1 may be used for guidance)* |  |  |  |  |
| *(3.6, SAC-SINGLAS 002)* | NB: The laboratory should have suitable qualified personnel, procedures, equipment and a traceability programme available to perform its in-house calibration. |  |  |  |  |
|  | Are the following requirements being met?   1. *Methods or procedures employed for the purpose of in-house calibration should be either published standards or**consensus methods which are fit for their intended purpose.* 2. *Measurement uncertainty shall be reported in the in-house calibration report.*     *c. To ensure the technical competence of*  *staff performing in-house calibration.*    *d. The in-house calibration report shall include information where appropriate as listed in clause 5.10.2 and clause 5.10.4 of ISO/IEC 17025. It shall include detailed information on but not limited to:*   1. *The intended use of the calibrated equipment* 2. *The specification limits of the calibrated equipment* 3. *The measurement range of the calibrated equipment* 4. *A statement of compliance of the calibrated equipment whether it meets the specified requirements.* 5. *The traceability of the reference standard to International System of Units (SI)* |  |  |  |  |
| 5.4.6.2 | For Testing Laboratories Only Are procedures available for estimating uncertainty of measurement in test results? |  |  |  |  |
| *(3.7, SAC-SINGLAS 002)* | *Are measurement uncertainty estimated for all quantitative tests?* |  |  |  |  |
| *(3.5.1, SAC-SINGLAS 002)* | *NB: Testing laboratories may use ISO GUM, ISO 5725, SAC-SINGLAS Technical Guide 2 or other international documents such as Eurachem Guide to estimate measurement uncertainty.* |  |  |  |  |
|  | Are test methods precluded from the calculation of uncertainty of measurement justified? |  |  |  |  |
|  | If Yes, then has the laboratory attempted to:   * identify all the components of uncertainty? * make a reasonable estimation? * ensure that the reporting of the result does not give the wrong impression of the uncertainty? * make use of previous experience and validation data? |  |  |  |  |
| *(3.7.1, SAC-SINGLAS 002)* | *Are measurement uncertainty reported for borderline results where the uncertainty may affect compliance to a specification limit?* |  |  |  |  |
| 5.4.6.3 | Are all uncertainty components of importance taken into account? |  |  |  |  |
| (3.7.3, SAC-SINGLAS 002) | Are all sources of uncertainty evaluated and recorded? |  |  |  |  |
| *(3.7.4, SAC-SINGLAS 002)* | *Does the applicant laboratory work towards estimation of measurement uncertainty for all parameters under its scope?* |  |  |  |  |
|  |  |  |  |  |  |
| **5.4.7** | **Control of Data** | | | | |
| 5.4.7.1 | Are calculations and data transfers checked? |  |  |  |  |
| 5.4.7.2 | Are computers or automated equipment used for acquisition, processing, recording, reporting, storage, retrieval, of test/calibration data? |  |  |  |  |
| 5.4.7.2a. | Does the laboratory ensure that the computer software developed by the user is documented and validated? |  |  |  |  |
| 5.4.7.2b. | Are procedures established and implemented for protection of data? |  |  |  |  |
| 5.4.7.2c. | Are the computers and automated equipment maintained in the appropriate environmental and operating conditions? |  |  |  |  |
| **5.5** | **Equipment** | | | | |
| 5.5.1 | Are all the appropriate equipment and its software (including that outside the laboratory’s permanent control) required for all testing and/or calibration activities:   * available and functioning properly? |  |  |  |  |
| 5.5.2 | * achieving the accuracy required? * comply with specifications relevant to the test and/or calibrations concerned? * are calibration programmes established? (where key quantities or values of the instruments have a significant effect on the results) * calibrated and checked before being placed in service? * calibrated and checked before use? |  |  |  |  |
| *(3.8.1, SAC-SINGLAS 002)* | *Is there a monitoring system in operation to alert the laboratory staff on the due dates of calibration, verification and maintenance for all items of equipment?* |  |  |  |  |
| *(3.8.2, SAC-SINGLAS 002)* | *Is the laboratory able to show that the calibration reports are reviewed after calibration of equipment?* |  |  |  |  |
| 5.5.3 | * Equipment operated by authorised personnel? * having up-to-date instructions on the use and maintenance? |  |  |  |  |
| 5.5.4 | * Equipment is uniquely identified (where practicable)? |  |  |  |  |
| 5.5.5  5.5.5a. | Are the following records of each item of equipment and its software maintained:  Identity of the item of equipment and its software? |  |  |  |  |
| 5.5.5b. | Manufacturer’s name, type identity, and serial number or other unique identification? |  |  |  |  |
| 5.5.5c. | Check of equipment for compliance with specification (see 5.5.2)? |  |  |  |  |
| 5.5.5d. | Current location, where appropriate? |  |  |  |  |
| 5.5.5e. | Manufacturer’s instructions, if available, or reference to their location? |  |  |  |  |
| 5.5.5f. | Dates, results and copies of reports and certificates of all calibrations, adjustments, acceptance criteria (e.g. NDT) and due date of next calibration? |  |  |  |  |
| 5.5.5g. | Maintenance plan, where appropriate, and maintenance carried out to date? |  |  |  |  |
| 5.5.5h. | Any damage, malfunction, modification or repair to the equipment? |  |  |  |  |
| 5.5.6 | Are procedures to ensure proper functioning and to prevent contamination or deterioration of measuring equipment available for:   * safe handling? * transport? * storage? * use and planned maintenance? |  |  |  |  |
| 5.5.7 | Are equipment giving suspected results or defective or outside specified limits due to overloading or mishandling:   * taken out of service? * isolated? * clearly labeled? * marked as being out of service? |  |  |  |  |
|  | Has the laboratory examined the effect of the defect or departure from specified limits on previous tests and/or calibrations? |  |  |  |  |
|  | If Yes, is the procedure for the “Control of nonconforming work” implemented (see 4.9) |  |  |  |  |
| 5.5.8 | Are all equipment under the control of the laboratory and requiring calibration identified to:   * indicate the status of last calibration and next calibration? * expiration criteria when recalibration is due? |  |  |  |  |
| 5.5.9 | When equipment goes outside the direct control of the laboratory, does the laboratory ensure that the function and calibration status of the equipment are checked and shown to be satisfactory before the equipment is returned to service? |  |  |  |  |
| 5.5.10 | Where intermediate checks are needed to maintain confidence, are these checks carried out in accordance to a defined procedure? |  |  |  |  |
| 5.5.11 | Where calibrations give rise to a set of correction factors, does the laboratory have procedures to ensure that copies (wherever used) are correctly updated? |  |  |  |  |
| 5.5.12 | Are test and calibration equipment (including both hardware and software) safeguarded from adjustments, which would invalidate the test or calibration results? |  |  |  |  |
|  |  |  |  |  |  |
| **5.6** | **Measurement Traceability** | | | | |
| 5.6.1 | General  Is all equipment including equipment for subsidiary measurements having a significant effect on the accuracy or validity of the result of the test, calibration or sampling calibrated before being put into service? |  |  |  |  |
|  | Is a programme and procedure for the calibration of its equipment established? |  |  |  |  |
| 5.6.2  5.6.2.1.1 | Specific Requirements  Calibration  Are calibrations and measurements traceable to the International System of Units (SI)? |  |  |  |  |
|  | Where the laboratory is using external calibration services, is traceability of measurement assured by these external calibration laboratories? (*refer to SAC-SINGLAS 006*) |  |  |  |  |
|  | Do the external calibration certificates contain:   * measurement results, including the measurement uncertainty? * and/or statement of compliance with an identified metrological specification? |  |  |  |  |
| 5.6.2.1.2 | Where traceability of calibrations that cannot be strictly made in SI units, is confidence in measurement established by use of:   * certified reference materials (CRM)? * specified methods and/or consensus standards that are clearly described and agreed by all parties concerned? |  |  |  |  |
| (3.9.1, SAC-SINGLAS 002) | NB: It is the responsibility of the laboratory to ensure that traceability of the reference materials or reference standards is established. |  |  |  |  |
|  | Is participation in a suitable inter-laboratory comparison carried out (where possible)? |  |  |  |  |
| 5.6.2.2  5.6.2.2.1 | Testing  For testing laboratories, the requirements in 5.6.2.1 apply for measuring and test equipment unless it can be established that the associated contribution from the calibration contributes little to the total uncertainty of the test result. |  |  |  |  |
| *(3.10, SAC-SINGLAS 002)* | *Are reference standards and equipment calibrated over the intended range and to the appropriate level of accuracy specified in the relevant test methods?* |  |  |  |  |
|  | Does the laboratory ensure that the equipment used can provide the uncertainty of measurement needed? |  |  |  |  |
| 5.6.2.2.2 | Note: Where traceability of measurements to SI units is not possible and/or not relevant, the same requirements for traceability to are required as for calibration laboratories (Refer to 5.6.2.1.2.) |  |  |  |  |
| *(3.10.1, SAC-SINGLAS 002)* | *NB: A laboratory performing its own calibration will also be subjected to technical assessment to ensure all the relevant requirements of ISO/IEC 17025 are met.* |  |  |  |  |
| 5.6.3  5.6.3.1 | Reference Standards and Reference Materials Reference StandardsDoes the laboratory have a programme and procedure for the calibration of its reference standards? |  |  |  |  |
|  | Are these reference standards calibrated by a body that can provide traceability as described in 5.6.2.1? |  |  |  |  |
|  | Are these standards of measurement:   * only used for calibration? * If standards are used for other purposes then the laboratory has to show that the performance as reference standards is not invalidated? |  |  |  |  |
|  | Are the reference standards calibrated before and after adjustment? |  |  |  |  |
| 5.6.3.2 | Reference Materials  Are all reference materials (where possible) traceable to:   * SI units of measurement? * Certified reference materials? |  |  |  |  |
|  | Are internal reference materials (where possible) checked periodically? |  |  |  |  |
| *(3.11, SAC-SINGLAS 002)* | *NB: For laboratories using reference materials, all precautions have to be taken to match the matrices of the reference materials to those encountered in the laboratory’s test samples.*  *Are the effects of any non-matching matrices determined?* |  |  |  |  |
| 5.6.3.3 | Are intermediate checks carried out in according to defined procedures and schedules on:   * reference, primary standards, transfer or working standards? * reference materials? |  |  |  |  |
| 5.6.3.4 | Are there procedures to prevent contamination /deterioration/ to protect integrity for the following:   * safe handling? * transport? * storage? * use of reference standards and reference materials? |  |  |  |  |
| **5.7** | **Sampling** (Note: This clause is applicable when the laboratory (staff) does the sampling) | | | | |
|  | *Is laboratory fully or partially involved in the sampling process?* |  |  |  |  |
| 5.7.1 | Are a sampling plan and procedures for sampling available? |  |  |  |  |
|  | Are sampling plan and procedures available at the location where sampling is undertaken? |  |  |  |  |
|  | Are the sampling plans based on appropriate statistical methods (wherever reasonable)? |  |  |  |  |
|  | Does the sampling process address factors that need to be controlled in order to ensure validity of the test and calibration results? |  |  |  |  |
| 5.7.2 | Where the customer requires deviations, additions or exclusions from the documented sampling procedure, then does the laboratory:   * record in detail the appropriate sampling data? * Include this information in all documents containing test or calibration results? * communicated to the appropriate personnel? |  |  |  |  |
| 5.7.3 | Does the laboratory have procedures for recording relevant data and operations relating to sampling that forms part of the testing or calibration that is undertaken? |  |  |  |  |
|  | Do these records include the following:   * sampling procedure used * identification of the sampler * environmental conditions (if relevant) * identification of sampling location * statistics used in the sampling procedures |  |  |  |  |
| *(3.12.1, SAC-SINGLAS 002)* | *When the laboratory has partial or no control over sampling, are the following issues addressed?*   1. *Test records shall include details of the supplier of the sample and other relevant historical information such as condition on receipt, reported date of sampling. If a sample has a characteristic that cast doubt on its validity, but is not possible to reject the sample, a clear statement of the perceived deficiency shall be made on the report.* 2. *When* customer*, suppliers or factory personnel take samples, they should be provided with written sampling instructions. It may be necessary for the laboratory to supply appropriate clean and labeled sampling containers and/or training in sampling technique. Sample containers shall be free from any source of contamination;* 3. *If a test method specifies the use of a particular sampling method, and the laboratory has no evidence as to whether the sampler followed the method, this fact shall be acknowledged on the report.* |  |  |  |  |
| **5.8** | **Handling of Test and Calibration Items** | | | | |
| 5.8.1 | Does the laboratory have procedures for:   * Transportation * Receipt * Handling * Protection * Storage * Retention * disposal of test/calibration items |  |  |  |  |
|  | Does the laboratory have the necessary provisions to protect the:   * integrity of the test or calibration item? * interests of the laboratory and the customer? |  |  |  |  |
| 5.8.2 | Does the laboratory have a system for identifying test and/or calibration items both physically and in the records and accommodate subdivision of groups of items, if applicable? |  |  |  |  |
| 5.8.3 | Upon receipt, are abnormalities or departures recorded? |  |  |  |  |
|  | If there is doubt as to the suitability of an item or does not conform to the description provided or the test/calibration is not specified in sufficient detail does the laboratory consult the customer for further instructions before proceeding? |  |  |  |  |
|  | Is the customer consulted and the discussion recorded? |  |  |  |  |
| 5.8.4 | Does the laboratory have procedures and appropriate facilities for:   * avoiding deterioration? * loss or damage to the test /calibration item during storage? * handling and preparation? |  |  |  |  |
|  | Does the laboratory follow the handling instructions provided with the item? |  |  |  |  |
|  | When items have to be stored, are these conditions monitored, maintained and recorded? |  |  |  |  |
|  | Where a test or calibration item or a portion of an item is to be held secure, does the laboratory have arrangements for:   * storage and security to protect the condition? * integrity of the secured items or portions concerned? |  |  |  |  |
| **5.9** | **Assuring the Quality of Test and Calibration Results** | | | | |
| 5.9.1 | Does the laboratory have quality control procedures for monitoring the validity of tests and calibrations undertaken? |  |  |  |  |
|  | Is the resulting data recorded in such a way that trends are detectable? |  |  |  |  |
|  | Where applicable, are statistical techniques applied to the reviewing of the results? |  |  |  |  |
|  | Is the monitoring planned and periodically reviewed? |  |  |  |  |
| 5.9.1a. | Tick the appropriate quality control activity used by the laboratory?  Regular use of certified reference material and/or internal quality control using secondary reference materials; |  |  |  |  |
| 5.9.1b. | Participation in interlaboratory comparison or proficiency-testing programmes; |  |  |  |  |
| 5.9.1c. | Replicate tests or calibrations using the same or different methods; |  |  |  |  |
| 5.9.1d. | Retesting or recalibration of retained items; |  |  |  |  |
| 5.9.1e. | Correlation of results for different characteristics of an item; |  |  |  |  |
| 5.9.2 | Is quality control data analyzed?  If they are found to be outside pre-defined criteria, is planned action taken to correct the problem and to prevent incorrect results from being reported? |  |  |  |  |
|  | *Does the laboratory comply with the requirements stated in PROF 001 on*   * *participation?* * *investigation of outlier?* |  |  |  |  |
| **5.10** | **Reporting the Results** | | | | |
| 5.10.1 | Are the results accurately, clearly, unambiguously and objectively reported in accordance with any specific instructions in the test or calibration methods? |  |  |  |  |
|  | If the results are in a simplified form, is the information listed in 5.10.2 to 5.10.4 available in the laboratory? |  |  |  |  |
| 5.10.2  a)  b)  c)  d)  e)  f)  g)  h)  i)  j)  k) | Test reports only  Does the laboratory have at least the following information in the test report:  A title (e.g. “Test Report” )  Name and address of the laboratory, and the location where the tests are carried out, if different from the address of the laboratory  Unique identification of the test report (such  as serial number) and on each page an  identification in order to ensure that the page is recognised as a part of the test report, and a clear identification of the end of the test report  Name and address of the customer  Identification of the method used  A description of, the condition of, and unambiguous identification of the item(s) tested  The date of receipt of the test item(s) where this is critical to the validity and application of the results, and the date(s) of performance of the test  Reference to the sampling plan and procedures used by the laboratory or other bodies where these are relevant to the validity or application of the results  The test results with, where appropriate, the units of measurement  The name(s), function(s) and signature(s) or equivalent identification of person(s) authorising the test report  Where relevant, a statement to the effect that the results relate only to the items tested |  |  |  |  |
|  |  |  |  |
| *(3.14.2, SAC-SINGLAS 002)* | *Does the laboratory seek approval by writing to SAC-SINGLAS on the use of photographic, electronic and mechanical means of reproduction of signatures or names of signatories?* |  |  |  |  |
|  | *Is the system safeguarded and the identity of the person taking responsibility for the report clearly identified?* |  |  |  |  |
|  | *NB: Unaccredited reports and the associated work on tests/calibration within the terms of accreditation are expected to be of the same standard as accredited reports.* |  |  |  |  |
| 5.10.3.1  a)  b)  c)  d)  e) | In addition to 5.10.2, does the test report have also the following, when necessary for the interpretation of the test results:  Deviations from, additions to, or exclusions from the test method, and information on specific test conditions such as environmental conditions  Where relevant, a statement of compliance/non-compliance with requirements and/or specifications  Where applicable, a statement on the estimated uncertainty of measurement; information on uncertainty is needed in test reports when it is relevant to the validity or application of the test results, when a customer instruction so requires, or when the uncertainty affects compliance to a specification limit  Where appropriate and needed, opinions and interpretations (see 5.10.5)  Additional information which may be required by specific methods, customer or group of customers. |  |  |  |  |
| 5.10.3.2  a)  b) | In addition if the test report contains the results of sampling, does the test report have the following, when necessary for the interpretation of the test results:  Date of sampling  Unambiguous identification of the substance, material or product sampled (including the name of the manufacturer, the model or type of designation and serial numbers as appropriate) |  |  |  |  |
|  |
| c)  d)  e)  f) | Location of sampling, including any diagrams, sketches or photographs  A reference to the sampling plan and procedures used  Details of any environmental conditions during sampling that may affect the interpretation of the test results  Any standard or other specification for the sampling method or procedure, and deviations, additions to or exclusions from the specification concerned |  |  |  |  |
| 5.10.2 / 5.10.4  a)  b)  c)  d)  e)  f)  g)  h)  i)  j) | Calibration Certificates Only Does the laboratory have at least the following information in the calibration report A title (e.g. “Calibration Certificate”) Name and address of the laboratory, and the location where the calibrations are carried out, if different from the address of the laboratory  Unique identification of the calibration report (such as serial number) and on each page an identification in order to ensure that the page is recognised as a part of the calibration report, and a clear identification of the end of the calibration report  Name and address of the customer  Identification of the method used  A description of, the condition of, and unambiguous identification of the item(s) calibrated  The date of receipt of the calibration item(s)  where this is critical to the validity and application of the results, and the date(s) of performance of the calibration  Reference to the sampling plan and procedures used by the laboratory or other bodies where these are relevant to the validity or application of the results  The calibration results with, where appropriate, the units of measurement  The name(s), function(s) and signature(s) or equivalent identification of person(s) authorising the calibration report |  |  |  |  |
|  |
| k) | Where relevant, a statement to the effect that the results relate only to the items calibrated |  |  |  |  |
| 5.10.4.1  a)  b)  c) | In addition, does the calibration report have also the following, when necessary for the interpretation of the calibration results:  The conditions (e.g. environmental) under which the calibrations were made that have an influence on the measurement results  The uncertainty of measurement and/or statement of compliance with an identified metrological specification or clauses thereof  Evidence that the measurements are traceable (see note 2 in 5.6.2.1.1) |  |  |  |  |
| 5.10.4.2 | Does the calibration certificate relate only to the quantities and the results of functional tests? |  |  |  |  |
|  | If a statement of compliance with a specification is made, are the clauses of the specification identified? |  |  |  |  |
|  | If a statement of compliance with a specification is made omitting the measurement results and associated uncertainties does the laboratory record and maintain the results for possible future reference? |  |  |  |  |
|  | When statements of compliance are made, does the laboratory take into account the uncertainty of measurement? |  |  |  |  |
| 5.10.4.3 | Does the laboratory report the calibration results before and after adjustment or repair of the instrument for calibration (if available)? |  |  |  |  |
| 5.10.4.4 | Does the calibration certificate (or calibration label) contain any recommendation on the calibration interval? |  |  |  |  |
|  | If Yes, then has this been agreed with the customer? (Note this requirement may be superseded by legal regulations) |  |  |  |  |
| *(3.15, SAC-SINGLAS 002)* | *Are the measurement uncertainties associated with the measurand reported with the expanded uncertainty, coverage factor k and level of confidence of approximately 95%?* |  |  |  |  |
| *(3.15.1, SAC-SINGLAS 002)* | *NB: The numerical value of the uncertainty of measurement shall be given to at most two significant figures.* |  |  |  |  |
| *(3.15.2, SAC-SINGLAS 002)* | *NB: The numerical value of the measurement result should in the final statement normally be rounded to the least significant figure in the value of the expanded uncertainty assigned to the measurement result.* |  |  |  |  |
| 5.10.5 | Opinions and Interpretations Does the laboratory document the basis on which the opinions and interpretations have been made? (see 5.2.1 and Note 2) |  |  |  |  |
|  | Are these opinions and interpretations clearly marked as such in the test report? |  |  |  |  |
| 5.10.6 | Testing and Calibration Results Obtained from Subcontractors Are the results in the test reports performed by subcontractors clearly identified? |  |  |  |  |
|  | Does the subcontractor report the results in:   * writing * electronically |  |  |  |  |
|  | Does the laboratory performing the work where the calibration has been subcontracted, issue a calibration certificate to the contracting laboratory? |  |  |  |  |
| 5.10.7 | Electronic Transmission of Results Does the laboratory meet the requirements of this International Standard when transmitting test or calibration results by telephone, telex, facsimile, or other electronic or electromagnetic means? |  |  |  |  |
| 5.10.8 | Formats of Reports and Certificates  Does the design of the format accommodate each type of test or calibration carried out and minimizes the possibility of misunderstanding or misuse? |  |  |  |  |
| 5.10.9 | Amendments to Test Reports and Calibration Certificates Does the laboratory make amendments to the test reports or calibration certificates after issue in the form of a further document or data transfer which includes the statement “Supplement to Test Report [or Calibration Certificate], serial number …[or as otherwise identified, or an equivalent form of wording? |  |  |  |  |
|  | Do these amendments meet the requirements of ISO/IEC 17025? |  |  |  |  |
|  | When a completely new test report or  calibration certificate is to be issued, does  the laboratory uniquely identify and make a  reference to the original that it replaces? |  |  |  |  |
|  | **Requirements** | | | | |
| **A**  1.  2.  *3.* | Existing Approved Signatory  Do the signatories still occupy appropriate positions in the staff structure to be responsible for the adequacy of test or calibration results?  Do the signatories still retain sufficient contact time with testing/calibration procedures to maintain the ability for critical evaluation of results?  For approved signatories including nominees, are the requirements stated in Clause 5 of SAC-SINGLAS 001 being met? |  |  |  | SAC-SINGLAS 001, Clause 5 |
| **B.**  1.  2.  3.  4. | New Nominees for Signatory Approval  Does/Do the nominee(s) occupy appropriate positions in the staff structure to be responsible for the adequacy of test or calibration results?  Does/Do the nominee(s) spend sufficient time in the laboratory in order to exercise adequate supervision?  Is/are the nominee(s) familiar with the quality system as documented in the quality manual and SINGLAS requirements?  Comments from technical assessor on the  nominee(s) technical qualification, experience, knowledge of test/calibration methods, competency in making critical evaluation of test/calibration results (See requirements in A.3) |  |  |  | SAC-SINGLAS 001, Clause 5 |
| **C.**  3.1(a)  3.1 (b)  (i)  (ii)  (iii)  (iv)  (v)  (vi)  (vii)  (viii)  3.1(c)  3.1(e)  3.1(f)  3.1(g)  3.1(h)  3.1(i)  3.1 (j)  3.1 (k) | **Obligations of the accredited laboratory**  Offer to all customers a standard of service consistent with the SAC terms and conditions and maintain impartiality and integrity in all operations;  Immediately notify SAC-SINGLAS on:  Any change in its legal, commercial or organisational status;  Any changes in organisation, top management and key personnel e.g. key managerial staff, management representative and approved signatories who could affect the performance or competence of the laboratory;  Plans to conduct any accredited activities outside the Republic of Singapore;  Change of resources and premises,  Any lawsuit or criminal investigation of the laboratory or its staff;  Any changes to the scope of accreditation;  Any significant changes in main policies;  Any other matters that may affect the ability of the laboratory to fulfil requirements for accreditation;  Adhere to the rules for the use of the SAC Accreditation Marks and reference to accreditation status as stipulated in SAC 02;  *Is the laboratory using Combined ILAC MRA Mark on accredited report?*  Not to use the accreditation status in such a manner as to bring SAC into disrepute and not make any statement related to the accreditation which SAC may consider misleading or unauthorized;  Provide reasonable facilities, such as accommodation, cooperation, and access to documentation, test/calibration standards, personnel and calibration/testing areas for assessors and SAC staff to discharge their duties throughout assessments and resolution of complaints;  Make prompt payment to SAC of all necessary fees levied by SAC;  Upon the withdrawal of accreditation forthwith discontinue its use of reference to accreditation and withdraw all advertising materials which contains any reference to accreditation;  Make a clear and unequivocal statement in all contacts with its customers that a certificate of accreditation in no way implies that the product or service is approved by SAC; and  Not represent or hold itself out as being the agent or partner of SAC or make any representations on behalf of SAC.  Ensure the standard of service and integrity of reports are maintained during relocation. Accredited reports can continue to be issued prior to SAC verification of continual compliance at the new location.  (NB: Should subsequent findings from SAC during the reassessment show the accreditation requirements are compromised, this may warrant for recall of reports issued.) |  |  |  | SAC 01, clause 3.1 |

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| D. | Follow up on last year findings |
| E. | Other Observation and Comments  Safety (SAC-SINGLAS 001, Clause 8) |
| F. | Additional Notes |