SRI LANKA ACCREDITATION BOARD
FOR CONFORMITY ASSESSMENT

SPECIFIC CRITERIA FOR GOOD LABORATORY PRACTICE (GLP)

CONTENTS

1. Introduction

1.1 The Accreditation Scheme for Good Laboratory Practice (GLP) of the Sri Lanka Accreditation Board (SLAB) is based on the requirements laid down in *OECD guidelines 1997– Requirements for Good Laboratory Practice (GLP).*

1.2 This accreditation scheme is used in accreditation or other forms of recognition (eg. registering or licensing) to ensure the quality and validity of test data produced by non-clinical studies and to promote mutual recognition of study data across international frontiers. The principles of GLP are applied to non-clinical health and environmental safety studies upon which hazard assessments are based. In contradictory to ISO/IEC 17025 which describes a management system for the competence of testing and calibration laboratories, these GLP Principles describe management system for studies. But both are quality systems for GLP.

1.3 In a GLP system, the GLP Principles are applied in research & development studies in the stage of pre-clinical safety testing before pre-approval. If the project related to the study has been approved, thereafter, Good Clinical Practices (GCP) and Good Manufacturing Practices (GMP) may proceed. In the whole process described above, ISO/IEC 17025 quality system may apply. GLP system is not aimed for assessing the validity of scientific design or generating scientific interpretations of results. Normally in a GLP study, a sponsor is involved and the facility may be regulated.

1.4 This document sets out specific technical criteria for GLP work conducted in a laboratory, greenhouse or in the field. The Principles of GLP should be applied to the non-clinical safety testing of test items including in pharmaceutical products, pesticide products, cosmetics products, veterinary drugs as well as food additives, feed additives, and industrial chemicals or any other product materials involved. These test items may be synthetic chemicals but may be of natural or biological origin or living organisms. It amplifies and interprets the requirements stipulated in Guidelines prescribed by the Organization for Economic Co-operation and Development (OECD).

A series of OECD Principles of GLP and Compliance Monitoring is given below.

i. Document Number 4 – Quality Assurance and GLP
ii. Document Number 5 – Laboratory Suppliers with GLP Principles
iii. Document Number 6 – The application of the GLP Principles to Field Studies
iv. Document Number 7 – The application of the GLP Principles to Short-term Studies
v. Document Number 8 – The Role and Responsibilities of the Study Director in GLP studies
vi. Document Number 10 – The application of the Principles of GLP to Computerized Systems
vii. Document Number 11 – The Role and Responsibilities of the Sponsor in the Application of the Principles of GLP
viii. Document Number 13 – The application of the OECD Principles of GLP to the Organization and Management of Multi-site studies
ix. Document Number 14 – The application of the Principles of GLP to in vitro Studies
x. Document Number 15 – Establishment and control of Archives that operate in Compliance with the Principles of GLP

The following OECD principles are applicable for compliance monitoring organizations (e.g. Accreditation bodies).

i. Document Number 3 – Guidance for the Conduct of Laboratory Inspections and Study Audits
ii. Document Number 9 – Guidance for the preparation of GLP Inspection Reports

1.5 In certain instances additional guidance is considered necessary to take into account of the type of scope sector, competency level of studies, classification of risk levels and the expertise required for different risk levels.

1.6 This specific criteria document has been prepared by the Technical Advisory Committee on GLP and has been authorized for adoption by the Council of the Sri Lanka Accreditation Board (SLAB). Non-clinical test laboratories or other forms of test facilities seeking accreditation are required to comply with all the requirements listed in (OECD) guidelines. This document provides guidance for the accreditation of GLP for both assessors and test facilities which seeks for accreditation.

1.7 This Specific Criteria document must be used in conjunction with (OECD) guidelines. It provides an interpretation of the latter document and describes specific requirements for those clauses of (OECD) guidelines which are of generic nature. Corresponding reference to the clauses in (OECD) guidelines is indicated in parenthesis in the text of the document. This document should be read in conjunction with the Rules and Procedures of SLAB as applicable to GLP. In addition, GLP programmes prescribed by international organizations as decided by relevant parties or regulators may also apply

1.8 The application of GLP principles requires different levels of knowledge and expertise as per the scope of coverage. The competence requirements of Study Director or the person appointed on behalf are given in Appendix B.

1.9 To provide for a higher level of consistency in the interpretation of requirements of (OECD) guidelines in the assessment process and to facilitate the accreditation procedure, the scope sectors are given in Appendix A.

1.10 This document will be periodically reviewed and updated based on experience gained and developments in technology. The term ‘shall’ is used in this document to indicate those provisions which are mandatory. The term ‘should’ is used to indicate the guidance which, although not mandatory, is provided by SLAB as a recognized means of meeting the requirements of the standards.

2. Scope of accreditation

The scope sectors of accreditation based on (OECD) guidelines applicable to GLP test facilities are given in Appendix B.

3. Terms and definitions

For the purpose of this document, the terms and definitions given in (OECD) guidelines and the following apply.

3.1 client
An organization seeking a GLP statement of a laboratory from a compliance monitoring organization.

3.2 Impartiality
Actual and perceived presence of objectivity

Note: Objectivity means that conflicts of interest do not exist or are resolved so as not to adversely influence subsequent activities of the Study.

3.3 technical expert
Person who provides specific knowledge or expertise on a given technical area to the assessment team

3.4 Technical Area
Area characterized by commonalities of processes relevant to GLP

4. Test Facility Organization and Personnel (*Clause 1, Section II of* (OECD) guidelines 1997)

The management shall maintain a test facility with human and physical resources composed of a sufficient number of qualified persons, appropriate facilities, equipment including validated computerized system and materials as required in the Master Schedule of GLP studies. This Master Schedule document should include the studies performed and pertinent information about the study such as key dates, study description, study director and other persons involved, test system, test item etc. It shall be controlled and available to all who need it.

The management shall indicate how the facility operates in a quality manual and ensure that Standard Operating Procedures (SOPs) established, approved and followed. The key positions shall be shown in an organizational structure.

The management of test facility shall define responsibilities of the management itself. The management shall appoint a Study Director, Quality Assurance (QA) personnel, study personnel and an archivist for each study and delegate them responsibilities as relevant to the study. The Study Director shall be responsible for the conduct of the study. If the Study Director is replaced on temporary or permanent basis that shall be done according to an established procedure and the changes shall be documented. In a small test facility, appointing a dedicated person for quality assurance may not be practical. In such situation, the management shall appoint at least one individual permanent, even part time responsible for coordination of the QA function.

The management shall define functional responsibilities of personnel who are involved with the GLP study and issue them with job descriptions clearly mentioning the functions they are to perform. If there are multi-sites, a qualified Principal Investigator shall be appointed to supervise the delegated phase of the study.

The competence requirements of personnel shall also be defined as related to the Study Plan. The management shall identify training needs of personnel and provide them with training as relevant to the study based on a pre-determined training plan. The competence of personnel shall be assured through a procedure defined by the laboratory. The records pertaining to training shall be maintained.

All the other requirements given in Clause 1, Section II of OECD guidelines 1997 apply.

5. Quality Assurance Programme (*Clause 2, Section II of* OECD guidelines 1997)

Study Director shall make an approved copy and any amendments of study plan available to Quality Assurance (QA) personnel. The QA personnel shall monitor compliance of the study plan, assess clarity and consistency of study plan, identify critical phases of the study and plan a monitoring programme in relation to the study.

The QA personnel shall audit the final report for GLP compliance. The inspections can be of study based, facility based and process based. The QA personnel shall prepare a statement to be included in the final report.

The Study Director and/or Principal Investigator and, where relevant, management are responsible for taking corrective action to non-conformities identified by Quality Assurance personnel.

For multi-site studies, it is recommended that the mechanism for reporting the results of quality assurance inspections be documented either in a SOP or in the study plan. This would include detailing the responsibilities for reporting results to the appropriate people where this has been delegated.

The documents and records pertaining to quality assurance such as SOPs, records of reporting, checklists, auditor training records, audit reports etc. shall be maintained.

All the other requirements given in Clause 2, Section II of OECD guidelines 1997 apply.

6. Facilities (*Clause 3, Section II of* OECD guidelines 1997)

The test facility shall include the premises and the operational units necessary to conduct the study. If the study is performed with different phases at different study locations or test sites, they shall be clearly described in the study plan.

The test facility may be separated physically or organization-wise by operations, studies, test items or test systems or combinations thereof. The risk of test system due to environmental factors, if any like temperature, air flow, light, noise etc. shall be reduced, controlling mechanisms shall be established and any contamination shall be prevented.

A GLP study may be performed in multi-sites. A multi-site study is any study that has phases conducted at more than one GLP site. A phase is a defined activity or set of activities in the conduct of a study. A multi-site can be geographically remote and/or organizationally distinct. Whenever organizationally distinct, the Study Director shall be with the test facility and a Principal Investigator may be in the multi-site with the test study. In a geographically remote environment, the Study Director shall be with the test facility (Head Office) and a Principal Investigator and a Quality Assurance person may be in the test sites (multi-sites).

If GLP study is subcontracted to site(s), the contractor shall adhere to client's policies, procedures, SOPs etc. and be audited by client's quality assurance personnel. If the sub-contractors activities cannot be included in the facilities GLP compliance statement, it must be clearly detailed in the Study Director's or Principal Investigator's statement(s) in the final study report.

The environmentally hazardous waste if any from the study shall be disposed as per the Central Environmental Authority Regulations.

The documents and records pertaining to facilities such as SOPs, floor plans, environmental records, certificates, service reports etc. shall be maintained.

All the other requirements given in Clause 3, Section II of OECD guidelines 1997 apply.

7. Apparatus, Material and Reagents (*Clause 4, Section II of OECD guidelines 1997)*

Equipment including computerized software shall be suitable to the study and meet the qualification requirements of equipment before starting the study. Equipment of which measurements do affect the reliability of study results shall be calibrated initially and on a regular basis as prescribed in the calibration schedule. Traceability (where appropriate to national or international standards of measurements) is required for equipment used for the preparation of test items, reference items or where temperature is critical to the studies (eg. stability studies). Where traceability is not required, apparatus must be checked prior to use and at regular intervals to demonstrate suitability. The calibration status of equipment shall be assured through intermediate checks.

Commercial off-the-shelf software (eg. word processing, database and statistical programmes) in general use within their designated application range may be considered to be sufficiently validated. However, laboratory software configuration modifications are to be validated.

The management shall ensure that test facility suppliers meet requirements appropriate to their use in a study. In case of supplies, the information from supplier on the characterization of test systems (animals, plants and other organisms) should fulfill the requirements given in the study plan. Animal feed should be analyzed at regular intervals to establish its composition to avoid any potential interference with the test system. Water and bedding should also be analyzed to ensure that contaminants are not present at levels capable of influencing the results of a study. Sterilized materials shall be provided with evidence that materials are sterilized by irradiation or other means or agents are free from sources of infection or undesirable residues from sterilization agents.

The documents and records pertaining to equipment maintenance and calibration such as SOPs, equipment inventory, calibration and maintenance schedules, maintenance and validation records, calibration certificates, service reports etc. shall be maintained.

All the other requirements given in Clause 4, Section II of OECD guidelines 1997 apply.

8. Test Systems (*Clause 5, Section II of OECD guidelines 1997)*

In a physical system, the apparatus used for the generation of data must be of appropriate design and capacity and from which integrity of data shall be assured.

In an animal test system, the required conditions for storage, housing, handing and care and the quantities to be used shall comply with the study plan. The study plan shall include species, strain, supplier, number, weight, age range, sex etc. The above conditions shall be as per the regulations prescribed by the Department of Animal Production. When animals are inspected on arrival, the information such as health status, sex, number delivered vs. number ordered, weight, age should be taken. Any deviation in specifications listed in the study plan shall be recorded. The acclimatization period shall be as per the study plan and when animals are randomized that should be non-biased.

Specimens shall be derived from test system for examination and analysis and retained as per the study plan. They shall be clearly and permanently identified with study code, animal identity, date and time collected, study time and storage conditions.

The sampling procedures shall be documented and available where activity is taking place. The specimens shall be correct representative, identifiable and preserved. The transportation conditions shall be appropriate to maintain the integrity of specimen and avoid deterioration, contamination or damage.

There shall be a description of all circumstances that may have affected the quality and integrity of all data of the test system environment.

The documents and records pertaining to test systems such as SOPs, collection details, environmental conditions, chain of custody, specimen list and persons responsible etc. shall be maintained.

All the requirements given in Clause 5, Section II of OECD guidelines 1997 apply.

9. Test and Reference Items (*Clause 6, Section II of OECD guidelines 1997)*

The management shall ensure that all manufactured reference items meet GLP requirements for identity, composition, purity and stability for each batch of material. If characterization information is not provided, or is insufficient, the characterization of the test item and reference items cannot be considered compliant with GLP Principles. The characterization is often provided as certificate of analysis.

When test items are prepared, records should show the traceability of preparation through test item used, correct concentration, date prepared, equipment used for preparation and the procedure. The procedure should address receipt, storage, preparation, delivery to the point of use and disposal of test item.

When evaluating the bulk test item and dose formation, analytical results should be used. The data from the analysis shall be reliable and should preferably be generated under GLP conditions. This information shall be available to the Study Director as soon as possible.

The documents and records pertaining to test and reference items such as SOPs, certificates of analysis, storage records, records of receipt, use and disposal, and persons responsible etc. shall be maintained.

All the other requirements given in Clause 6, Section II of OECD guidelines 1997 apply.

10. Standard Operating Procedures (*Clause 7, Section II of OECD guidelines 1997*)

SOPs are considered one of the most important management techniques for controlling facility operations, and are related directly to the routine elements of the test conducted by the facility. The test facility shall have written SOPs relating to all important aspects of operations. There shall be SOPs for periodic inspection, cleaning, maintenance and calibration of apparatus. The responsibility to approve technical SOPs may be delegated by management.

The SOPs shall be available for the areas given in this clause in addition to study plans, archiving and conduct of multi-site studies. A SOP should be complete and should include necessary information for not able to be misinterpreted. It may consider but not limited to the user, objective/outcomes required, description and formatting, no. of pages, media of communication etc.

When GLP study data is computerized, the computerized system must be compliant with the Principals of GLP. In a computerized system, in addition to documentation and training, maintenance, disaster recovery, security (physical, logical and back-up), validation, data and archiving should be addressed in a SOP. In the validation process, the system should be qualified for installation, operation and performance. The system must retrospectively be assessed to ensure that it is in compliance with what has been validated. The documents and records pertaining to computerized system such as SOPs, inventory of hardware and software, change control requests and approval, software validation certificates, validation plan and report etc. shall be maintained.

All the other requirements given in Clause 7, Section II of OECD guidelines 1997 apply.

11. Performance of the Study (*Clause 8, Section II of OECD guidelines 1997)*

Whereas GLP has been regularized, the facility should check with the relevant regulator as to whether the sponsor and test facility management are required to sign the study plan.

The documented agreement for Principal Investigators that are part of the same organization as the Study Director can be demonstrated by the employment contract, position description or similar documents. Principal Investigators from test sites that are organizationally distinct from the test facility will, however, need to document their agreement to conduct the delegated phase in accordance with the Principles (eg. by signing the study plan prior to the commencement of the delegated phase).

The Test Guidelines which shall be used under OECD GLP Principles as test methods are available in the OECD website. For each study, a study plan shall be available. The study plan communicates the rules of the study to study personnel, states study objectives, and sets out study design.

Raw data shall allow the study to be re-constructed. Raw data shall be traceable, complete, correct, clear and retained. In case of computerized systems, records must be traceable to person responsible for data entry. Data entry must be checked and verified against the raw data.

All the other requirements given in Clause 8, Section II of OECD guidelines 1997 apply.

12. Reporting of Study Results (*Clause 9, Section II of OECD guidelines 1997)*

The study report should be a complete, true and accurate representation of the study. It should address study management aspects, scientific aspects, GLP compliance statement and Quality Assurance statement as given in 9.2 of Clause 9.

The corrections or additions to report should be in the form of report amendments. These amendments should be reviewed by Quality Assurance personnel.

Where relevant (eg. crop studies), the actual amount of test item applied is to be detailed in final reports, not the target volume.

In case of multi-site studies, there shall be one final report. Principal Investigators may provide phase reports or transfer data for inclusion in the final report.

All the other requirements given in Clause 9, Section II of OECD guidelines 1997) apply.

13. Storage and Retention of Records and Materials (*Clause 10, Section II of OECD guidelines 1997)*

The management and operation of the archive shall be done by an archivist. All raw data and records; both study and facility specific which are needed to support the conduct of the study should be retained. There should be a procedure to manage access control, record login, and retrieval and prevent loss, damage or deterioration of records. There shall be procedures for disaster recovery.

Original records should, where possible be archived. If original data cannot be archived by the facility the copied record is to be certified as the same as the original prior to archiving or transferring to another archive.
Unless otherwise prescribed by regulatory or contractual obligation, retention period will not less than four years or, in case of equipment records, the maximum recalibration interval of equipment, whichever is the longer period.
The records and materials such as SOPs, study archive checklists, archive request forms, storage conditions, archive login and removal loss etc. shall be retained.

All the other requirements given in Clause 10, Section II of OECD guidelines 1997 apply.

Appendix A

Scopes of Accreditation

	Technical area	Category covered by technical area
1.	Pharmaceutical products	
2.	Veterinary drugs	
3.	Food additives	
4.	Feed additives	
5.	Chemical-Physical, Mechanical and Biological testing	• Cosmetics products • Analysis for active constituents and/or impurities • Characterization of test items • Stability studies
6.	Industrial chemicals	•
7.	Toxicity studies	• Acute studies • Sub-acute studies and chronic toxicity studies • Reproductive toxicity studies • Cytotoxicity studies • Target species safety studies
8.	Mutagenicity studies	• Genetoxicity studies
9.	Environmental toxicity studies on aquatic and terrestrial organisms	
10.	Bioaccumulation	
11.	Residue studies	• Crop studies • Veterinary studies • Transfer feeding studies
12.	Studies on the effects of mesocosm and natural ecosystems	• Plant metabolism • Soil metabolism • Rotational crop uptake • Soil dissipation
13.	Target animal safety studies	
14.	Worker exposure studies	
15.	Analytical and clinical pathology and histology associated with GLP studies	• Histopathology • Clinical pathology • Analytical chemistry • Dose formulations • Electron microscopy
16.	Field studies	• Photo-degradation • Effects on non-target organisms

Appendix B

Competence Requirements of GLP Study Personnel

Study Director	
Education	Engineering or B Sc degree or other qualification decide by the management
Work experience	At least five years' work experience in
Principal Investigator	
Education	Degree or above in an Engineering or Science discipline from a recognized University or equivalent qualification
Work experience	Minimum three years full time work experience in relevant technical areas including one year work experience in the related sector
Training	06 to 12 month related sector
Study personnel	
Education	Degree or above in an Engineering or Science discipline from a recognized University or equivalent qualification or raw graduate under the supervision of principal investigator
Work experience	Minimum one year full time work experience including at least one year work experience in the related sector
Training	06 to 12 month related sector
Technical expert	
Education	Post secondary education in the discipline prescribed by relevant sector
Work experience	At least three years work experience in the relevant field
Training	Familiar with test procedures, standards, systems operated at or on behalf of the test facility.
QA personnel	
Education	Knowledgeable and sufficiently experienced on the specific area and conversant with the reviewing criteria
Work experience	At least three years work experience in the relevant field

Appendix C

Composition of the Technical Advisory Committee

Dr. H.D.Gunawardana, 341/22Kotta road, Waliboda, Rajagiriya	Chairperson	Mr. H P P S Somasiri Principal Research Scientist Industrial Technology Institute No 363, Bauddhaloka Mawatha Colombo 07	Member
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