Approval Scheme

for

Information Technology Testing Laboratory

- Software Applications and Systems for E-governance Solutions

Doc. No.: **STQC-AS-ITTL-02,** Version:**1.0**

Standardization, Testing & Quality Certification

Department of Electronics &Information Technology

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1.0 Introduction:

Government of India has initiated National eGovernance Programme (NeGP) to enable Governance using ICT to increase its efficiency, effectiveness and transparency. For assuring Quality of eGovernance Solutions it is required to ensure the Conformity of IT Solution characteristics with the System requirements. In order to ascertain this conformity, availability of IT Test laboratories which are established as per International Best Practices becomes necessary. Such labs are required to be approved as IT Test Laboratories of IT domain with defined scope of approval covering e-governance projects only. This will enable IT Solution provider to demonstrate compliance of its solution to the requirements of the project / RFP by providing a test report from an approved laboratory.
This scheme is promoted by STQC Directorate, Department of Information Technology and is based on International Standard ISO/IEC 17025:2005 (General requirements for the competence of testing and calibration laboratories).

The scheme is intended to recognize the competence of IT test laboratories and to provide confidence to the stakeholders that Test results of eGovernance Solutions tested in these laboratories are reliable, reproducible and repeatable. Under the scheme, after satisfactory completion of the assessment, the laboratory is issued a `Certificate of Approval' indicating conformance to specified requirements of applicable standards as specified in the scheme.

The scheme covers both private and public (Government) IT test laboratories involved in software testing of e-governance solutions with in-house and/or on-site capabilities.

2.0 Normative References:

- Conformity Assessment Requirements for e-Governance (CARE) [www.egovstandards.nic.in]
- ISO/IEC 17011:2004-Conformity assessment –General requirements for accreditation bodies accrediting conformity assessment bodies
- ISO/IEC 17025:2005-General requirements for the competence of testing and calibration laboratories
- ISO/IEC 17000:2004 Conformity assessment-Vocabulary and general principles
- IEEE STD 610-12:1990 "IEEE Standard Glossary of Software Engineering Terminology"
- IEEE 25051:2006, "Software Product Quality Requirements & Evaluation (SQuaRE) "

3.0 Applicability:

This document is applicable to the IT Test Laboratories which are involved in testing or intending to takeup testing of e-governance solutions requiring recognition as "Approved Information Technology Testing Laboratory". This document shall also be used by Approving Body and the Laboratory scheme Assessors.

4.0 Operation of the Scheme

The Scheme is operated through a `Approving Body' set up under STQC Directorate, Department of Electronics and Information Technology (DeITy), Government of India under Ministry of Communications & IT.The recognition system should be credible to ensure Testing Results are Valid, Accurate, Repeatable and Reliable.

The scheme ensures-

- Internal Control – Rules & Procedures of approving body, Refer to STQC-AS-ITTL-01
- External Control – Quality Manual & Procedures to be followed by applicant Laboratory

- Compliance with International Standard ISO/IEC 17025:2005 and Approval Criteriaas per STQC-AS-ITTL-03

The Approving body is guided by an advisory board, which has representatives from various Government and Non-Government organizations. The Assessors empanelled by the Approving body assess the applicant IT test laboratories for conformance with the criteria for approval as per STQC-AS-ITTL-03.

5.0 Liability

The Certificate of Approval ensures that the laboratory has established quality system as per the requirements of STQC IT Testing Laboratory Approval Scheme which is based on ISO/IEC 17025 and Approval Criteria doc STQC-AS-ITTL-03 and has demonstrated the competence of the laboratory to the Approval body to produce technically valid data and results. The Approval Body will not be liable for any deficiency in providing the services by the laboratory. In case of laboratory's failure to meet declared capability / contractual responsibilities / obligation, the affected party may approach the Approval Body for redressal.

5.1. Legislation

It is the responsibility of each laboratory to ensure that it complies with all relevant and applicable statutory & Regulatory requirements. Statutory & Regulatory requirements take precedence over the criteria given in this document. The laboratories must identify and hold the copies of relevant Statutory & Regulatory requirements as applicable. Approval under the scheme does not preclude laboratories complying with the applicable Statutory & Regulatory requirements.

5.2. Safety

Approval Body (STQC) does not define mandatory safety measures but does draw attention to any unsafe practices that are observed in the course of assessment. However it is the responsibility of Applicant laboratory to ensure safety of personnel, equipment & infrastructure.

5.3. Confidentiality in scheme operation

All information provided by the applicant laboratory in connection with an enquiry or an application for approval and all information obtained in connection with an assessment is stated as confidential.

Scheme assessors, Approval Committee members, Governing Board Members are bound to maintain confidentiality of information. The confidentiality clause is not valid in case of regulatory and legislative requirements.

5.4. Assessment and Evaluation Personnel

For the purpose of assessment, testing and evaluation, the Approval Body makes use of empanelled assessors as per STQC-AS-ITTL-10.

6.0 Scope of Approval:

The scope of Approval Scheme covers approval of IT Testing Laboratories engaged in testing software applications & systems for both functional and non-functional characteristics to ensure quality & security of e-Governance solutions.

The scope of the IT (Software and System) Test Laboratories for approval in the field of Information Technology shall be made under three main disciplines:

- Software conformance Testing
- System conformance Testing
- Network Testing

Under these 3 disciplines, approval may be sought for different type of testing as given below:

Sl. No.	Type of Testing
01	Functional Testing
02	Performance Testing
03	Application Security Testing
04	Usability Testing
05	Code review
06	Network Security Testing
07	Vulnerability Analysis & Penetration Testing
08	Portability Testing
09	Interoperability testing
10	Accessibility testing
11	Configuration & Compatibility Testing
12	Website Testing

7.0 Approval procedure

7.1 Pre-Requisite Requirements

Laboratories interested in obtaining approval, shall have established quality system in the laboratory as per STQC Approval Criteria laid down in this document. Laboratory based on its testing capability shall define their proposed scope of approval at permanent location & at-site. For test labs which are multi-location, location-wise scope to be clearly defined while applying to the Approving body. For the scope of approval within this Approval Scheme refer to Cl. 6.0 of this document.

7.2 Approval Process

7.2.1. Preliminary Information

Upon enquiry at the STQC, organization will be provided with all relevant information on the Scheme along with application Form STQC-AS-ITTL-04 or the same can be downloaded from www.stqc.gov.in.

7.2.2. Application for Approval

Any IT testing laboratory, which is a legally identifiable organization, wishes to become an approved testing laboratory for the eGovernance solutions shall -

a) Apply to the Approval Body (STQC) giving the information required in Application form STQC-AS-ITTL-04 along with Laboratory Manual/Procedures and accompanied by application fee.

Applicable charges are levied as indicated in Schedule of charges STQC-AS-ITTL-05. Specific information on charges can be obtained from any STQC Head (IT Centre) or visiting STQC website www.stqc.gov.in.These charges are required to be paid as per the schedule of charges.

The IT testing laboratory shall indicate following information in the application form:

- The type of test it wishes to carry out on SW Applications & Systems along with Skill Matrix and IT Infrastructure.

- The location of the testing laboratory (laboratories), for which approval is sought.

In case, more than one location is applicable separate application need not be submitted, however, Quality System documentation to cover entire scope and location-wise scope to be defined unambiguously.

- At the time of application the laboratory shall ensure and make a statement that at least one internal audit and one management review has been carried out by the lab and action has been taken on all outstanding issues.

- Minimum two projects covering applied scope of testing is preferred.

- Minimum 1 Authorized Signatory

b) Undertake to allow access by the Approving Body nominated assessment team to all parts of the location relevant to the scope of approvals sought. This assessment team shall not disclose, without the prior permission of testing laboratories, any confidential information obtained in the course of their duties, and

c) Nominate a contact person with Approving body.

7.2.3. Processing Application:

After receipt application, Acceptance of Application will be acknowledged by Technical Operations Manager and allotted a unique number, which must be quoted in all future correspondence.

All applications are screened for completeness before acceptance and the Approving Body may seek more information when necessary.

During the application process the laboratory is encouraged to hold discussion with the Approving body and seek clarification from the approving body, if need arises.

7.2.4. Assessment process: Refer STQC-AS-ITTL-06 for Assessment Forms/Formats.

7.2.4.1. Evaluation of Documentation

The approving body shall nominate Lead assessor for the applicant lab. & communicate both the lab & Lead Assessor.

The Lead Assessor shall evaluate laboratory's Quality Manual along with the application for ensuring compliance with the approval scheme requirements. if there are any discrepancies or gap areas, the Laboratory is informed to carry out necessary corrections and amendments by Lead Assessor with copy to approving body.

The applicant lab.to inform closure of all observations on document & application evaluations to Lead Assessor with a copy to the Approving Body.

7.2.4.2. Stage 1 Assessment:

After ensuring adequacy of documentation evaluation, preliminary visit is organized by Lead Assessor to confirm the laboratory's readiness for assessment. The emphasis is on the verification of information given in the application, status of implementation of quality management system, processes, procedures, test methods, environmental aspects, adequacy and allocation of resources to confirm scope of approval sought. The Lead Assessor shall also decide the mandays for stage-II/final assessment.

For multi-location lab, more than one location with max.scope of approval is examined by Lead Assessor for readiness during stage-1.

Stage-1 assessment report prepared by Lead Assessor along with NCs & Observations if any is submitted to the Approval Body with copy to Laboratory in form given in STQC-AS-ITTL-06. The Laboratory shall take the corrective actions and submit closure report along with evidences to Approval body with a copy to Lead assessor.

After acceptance of closure report by Lead assessor the assessment team is formed by the Approval body for stage-II assessment. The constitution of team is based on the recommendations of Lead Assessor. Technical Expert or Observer also may be part of the team on need basis & will be communicated to lab. In advance.Consideration is given to possible concerns about conflict of interest in selecting assessors. Lead assessor will make Stage-II assessment plan location-wise & communicate to applicant lab.

7.2.4.3. Stage II Assessment

The assessment shall cover all the locations as per the plan & the lab. shall demonstrate to the assessment team that:

- It meets the requirements of STQC Approval criteria STQC-AS-ITTL-03 based on ISO/IEC17025 and other Terms & Conditions of Approval Agreement STQC-AS-ITTL-07.
- The laboratory competence & capability is witnessed & assessed by assessors with the relevant test artefacts for each type of testing covering the applied scope.
- The performance of the representative no. of staff is also being witnessed to provide assurance of technical competency covering the scope of approval.
- The competence of Authorized signatory is witnessed for recommendation in form given in STQC-AS-ITTL-06.

Authorized Signatory must have to demonstrate a sound knowledge of:

- Planning & designing of tests, analysis & reporting of test results
- Knowledge of standards or specification, Test Methods & techniques
- The laboratory quality system;
- Minimum qualification Bachelor/Master degree in Engineering, MCA or MSc in Computer Science/IT/Electronics with 3 year relevant experience. He/she shall be working fulltime with the laboratory.
- Responsible for technical validity and accuracy of all information contained in the Test Report.

All laboratory staff involved in at-site testing shall participate in assessments. Where necessary an assessment of site facility will be carried out and additional fee charged as specified in schedule of charges STQC-AS-ITTL-05.

Approval Criteria Checklist form given in STQC-AS-ITTL-06is used for assessing the Conformity & Competence of the laboratory.

The assessment team shall analyse all relevant information & evidences gathered during Stage-II Assessment to derive the recommendations. Accordingly the Stage-II assessment report is prepare by Lead Assessor along with the following enclosures as per form in STQC-AS-ITTL-13 like Assessment Plan, Assessor Observation Sheets, Tests Witnessed, Duly filled Compliance Criteria Checklist, NCs, list of Authorized Signatory, Summary of Assessment and any other supportive documents

The complete Stage II report shall be forwarded to the Approval body & the same will be communicated to the laboratory during closing meeting.

Attendance is taken during both Opening & Closing Meeting in form given in STQC-AS-ITTL-06.

The recommendations of the team may be one of the following:

1. If No NCs, the lab is recommended for approval for the scope recommended.
2. In case of minor NCs the lab. is recommended for approval subject to closure of NCs with evidences of corrective actions within the agreed time frame.
3. In case of major NCs the approval is not recommended. The laboratory is revisited to confirm the closure of major NCs. After satisfactory verifications of closure of major NCs during the revisit the laboratory is recommended for approval.
4. In case the laboratory is not able to demonstrate the competence w.r.t applied scope it is recommended to Re-assess the laboratory.

7.2.5. Post Assessment Activities

The assessment report is scrutinized by the approval body for the completeness of the enclosures & contents of the report. After closure of NCs with evidences of corrective actions & with no further clarifications from the assessment team or the laboratory, the report is submitted to the Approval Committee.

Approval Committee thoroughly scrutinizes all the records & recommendations. Querries if any will be sought from the Applicant Laboratory/Lead Assessor/Technical Assessors as relevant through Approving Body.

Approval Committee if satisfied with the assessment records will recommend Approval of IT Testing Laboratory & authorize issue of Certificate of Approval.

7.2.6. Granting approval

Approving body (STQC) grants approval following authorization by the Approval committee. The lab.is formally informed of the granting of the approval and issued with a certificate of approval STQC-AS-ITTL-08 containing the scope. The Scope of approval containing the type of test, test method/procedure & standard applicable of all approved laboratories will be published on STQC website. The approval shall remain valid for 2 years.

7.2.7. Authorization of Test Report & Use of Logo

Approved Laboratory shall use Approving body logo as per doc. STQC-AS-ITTL-11
Test Reports will be approved by authorized signatory as recommended by Assessment Team. Minimum one Authorized signatory is required to maintain approval of the laboratory. The Authorized signatory status is not transferrable from one approved lab to another approved laboratory.

8.0. Post Approval Activities:

8.1 Modification to Scope of Approval

During the period of validity of Approval the Laboratory may apply for the modification to the scope of approval which may be of one or more of the following-

1. Changes to Test standards
2. Addition of type of tests
3. Deletion of type of tests
4. Change of location

5. Change of legal identity

In such cases the laboratory is required to inform the Approval body to retain their approval.
If the changes to scope of approval are immediate requirement of the laboratory without waiting for Surveillance/Re-assessment, then approval body can arrange for assessment for updation of scope. If the need for change is not urgent, then it may be verified at the time of subsequent surveillance/ reassessment.

Depending upon the nature of changes requested by the laboratory Approval body can decide either full assessment or partial assessment or based upon the documentary evidences.

The validity of Approval remains unchanged with the change of scope.

8.2. Maintenance of Certification of Approval

Certificate of Approval will be followed by Surveillance visit after 12 months of assessment/ reassessment to ensure continuity to comply with Approval requirements.

For maintenance of certificate of approval, laboratory is required to remit an annual fee as outlined in schedule of charges.

8.3. Renewal of Certificate of Approval

The certificate of approval is valid for a period of two years. For renewal of certificate of approval the laboratory shall apply for reassessment at least six months before the expiry of validity. The applicable charges of renewal of certification of approval are given in schedule of charges.

8.4. Suspension of Certificate of Approval

Approval may be suspended for a limited period by the Approving body under the following circumstances:

- If surveillance/reassessment indicates major/minor discrepancies/NCs which are not cleared even after lapse of initial time period with appropriate corrective action.
- If improper use of Certificate of Approval or Wrong representation of scope of approval or misuse of logo of approving body
- Any activity which effects the integrity of the laboratory & compromises on competency of the laboratory
- Non-cooperation with the Approval body.
- Misleading reporting of facts in the Test Report
- If there has been any other contravention of the applicable requirements or rules and procedure of the scheme.
- Brings Approval body into disrepute in any manner.
- When lab has not paid approval fees & assessment expenses beyond 3 months liability.
- Any serious complaint on the approved laboratory is proven after investigation.
- Violation of Terms & Conditions as in Approval Agreement

Upon fulfilment of indicated conditions in the suspension notice within specified period, the suspension will be withdrawn.Refer STQC-AS-ITTL-14 for Dealing with Applicant/Approved Testing Laboratory by Approving body.

8.5. Withdrawal / Cancellation of Approval

Withdrawal of Certificate of Approval and authorization for the use of STQC logo and cancellation of approval will be resorted to, under the following circumstances:

- If the laboratory under suspension fails to rectify non-conformance within 3 months.
- If the laboratory either will not or cannot ensure conformance to the rules and procedures of Approving body.

- Failure to meet the financial obligations to Approving Body.
- At the formal request of the laboratory
- Any other serious contravention which brings disrepute to the Approval body.

Refer STQC-AS-ITTL-14 for Dealing with Applicant/Approved Testing Laboratory by Approving body.

8.6. Appeals

Under the Scheme, there is a provision for applicants or laboratory to appeal against any decision relating to grant/suspension/ cancellation/withdrawal of Certificate of Approval. In the event of an applicant or laboratory wishing to appeal, he shall lodge a notice of appeal with Approving Body within two weeks of the decision. Incase of no response from Approving body, the appeal may be sent directly to the Chairman, Governing Body within four weeks giving his case for going ahead with the appeal along with applicable charges as indicated in Schedule of Charges.

After this a three member committee, two of which being acceptable to each party to the dispute, will be constituted. The appellant can appear himself or nominate his representative(s) to appear on his behalf before the date of hearing. He is required to submit all written evidences at least one week before the date of hearing. The decision of chairman, Advisory Board shall be final and binding on both parties.

Refer STQC-AS-ITTL-14 for Dealing with Applicant/Approved Testing Laboratory by Approving body.

8.7. Obligations of the Laboratory

An organization holding a valid Certificate of Approval shall:

a) Comply in all respect with the applicable requirements.

b) The Terms & Conditions laid down by Approval body in the Approval Agreement STQC-AS-ITTL-07.

c) Not make any major change to the quality manual which formed the basis for grant of Approval and which prevents compliance with the requirements.

d) Notify the Approving Body of any change in the name or ownership of the laboratory, key personnel in relation to management and technical functions or Senior Management, Authorized signatory and any significant change in the function of the laboratory within 15 days.

e) Give access to the assessment team appointed by Approving Body for the purpose of assessment/surveillance/reassessment;

f) Keep records of all complaints and corresponding remedial measures related to quality system;

g) Upon suspension or cancellation/withdrawal of Certification of Approval, discontinue use of Certificate of Approval and logo in all advertising material and other matters which contain any reference thereto; and

g) Pay all financial dues to Certification Body as prescribed. Laboratory is not entitled to any refund of charges paid or cost incurred in the event of non- renewal, suspension, withdrawal, cancellation, modification of certificate of registration.

h) Approved lab. shall only claim the scope of approval as in the Certificate of Approval & does not use its approval status in a manner which brings disrepute to the Approval body.

8.8 Handling complaints refer to STQC-AS-ITTL-12.