

**Operation of STQC
Empanelled Test
Laboratory and Technical
Oversight**

(STQC/IT&eGov/D05)

Issue :02



IT &eGov Division,
STQC Directorate,
Ministry of Electronics & IT (MeitY),
Government of India


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AMENDMENT RECORD

Issue No.	Issue Date	Revision No.	Revision Date	Change Details
1.0	04/02/2021	--	--	First Issue
2.0	23/05/2023	--	--	Second Issue to incorporate Technical Oversight to SETLs activities

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1. Purpose:

This procedure describes validation methodology for STQC Empanelled Testing Laboratories (SETLs) engaged in testing software applications & systems for both functional and non-functional characteristics to ensure quality & security of software and systems as per respective scope of approval.

2. Scope:

The scope of the procedure is limited to following testing activities: -

Type I: Testing activity/ job for which certificate shall be issued by STQC certification schemes like IoTSCS, WQC etc.

Type II: Testing activity/job received under various Government projects for which STQC review is required, and

This document describes the process for receipt of the jobs/ project to the final delivery of certificate/ report to the client.

3. References:

STQC/IT&eGov/D00	: Quality Manual
STQC/IT&eGov/F01	: Master List of Documents
ISO/IEC 17025	: General requirements for the competence of testing and calibration laboratories

4. Definition, Symbols and abbreviated terms

SETL: STQC Empanelled Testing Laboratories

TR: Test Report

DR: Defect Report


RR: Review Report

CB: Certification Body

BDCS: Biometric Device Certification Scheme

IoTSCS: IoT Security Certification Scheme

WQCS : Website Quality Certification Scheme.

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5. Procedure

5.1 Introduction

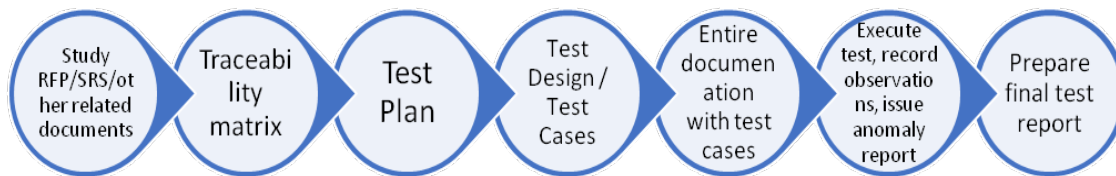
SETL testing process is quite formal and need to satisfy the requirement of applicable standards as per approved scope.

The SETL shall provide the confidence to the stakeholder that the test and assessment results of e-governance/ IT solution tested in the laboratory are reliable, reproducible and repeatable. The lab quality system and other requirements should be in line with International Standard ISO/IEC 17025.

5.2 Testing process overview

The testing process primarily consists of following distinct activities:

- a. Study of IT applications and/or infrastructure based on RFP (Request for proposal) and/ or SRS (Software Requirement Specification)/ or any other documentation and prepare traceability matrix to identify that all the requirements mentioned in RFP are completely translated.
- b. Prepare test plan.
- c. Preparing the test design and test case for IT application/ infrastructure devices/ as per the requirement.
- d. The entire documentation with test cases
- e. Execute the test and record the observation and issue the anomaly/ defect report.
- f. Prepare the final test report




5.3 Technical Oversight of Testing Process

As per the scope highlighted in section 2 above, Technical Oversight is required for Type I & Type II testing activities performed by SETLs.

For Type I activities:

STQC Certification Body (SCB) may nominate validator to review the approach and test methodology and to witness the sample test results. The overall testing

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process as defined in section 5.2 above shall be monitored by STQC validator on sample basis. The SETL is required to timely inform STQC Certification body for nomination of validator for review. The validator may visit testing site for re-testing/ additional testing and the same shall be planned at different phases of testing on mutually agreeable basis.


For Type II activities:

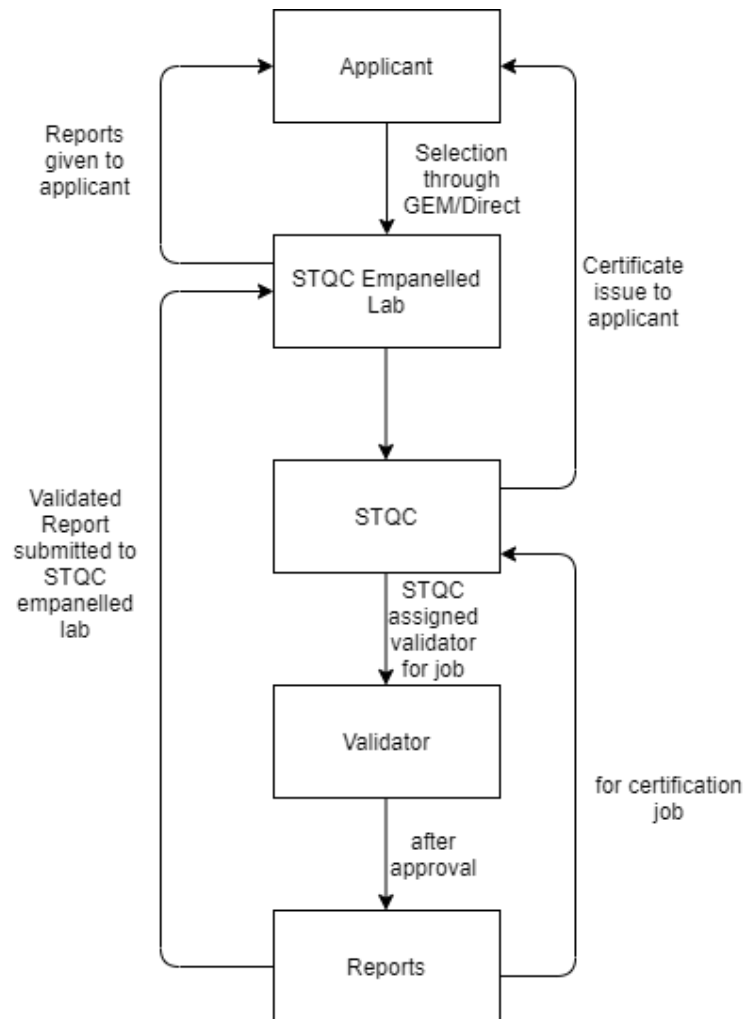
The SETL is required to timely inform STQC IT & eGov Division for requirements to review test report issued under Government Project. Accordingly, validator may be nominated to review of report as per the applicable Government Project requirements. The validator may visit testing site for re-testing/ additional testing and the same shall be planned at different phases of testing on mutually agreeable basis.

For further details ref Annexure-A for Technical Oversight.

5.4 Acceptance of Job for STQC Certification through SETL


1. The applicant (central government/ public sector/State government/ or any Pvt. Entity) may hire the testing service from SETLs directly or from the GeM.
2. Applicant or SETL will submit the application form along with requisite documents indicating the following information:
 - a. Name of the SETL to undertake the activities
 - b. Testing Category (Type I or II) with requisite details (*ref section 2 above*)
 - c. Scope of testing/audit
 - d. Type of testing etc
3. The STQC certification body may assign validator to oversee of testing process and request SETL coordinating with validator for submitting the requisite Charges (registration, validation & certification) and other formalities.
4. The SETL will take Application, certification agreement from the applicant and submit the same to SCB through validator along with test/ audit results/ reports.
5. STQC certification body registration charges and validation charges will be deposited by client or SETL as per STQC charges guideline.
6. SETL shall contact with the applicant (hiring agency/developer) and shall have pre-testing discussion about the project.
7. The process for acceptance of jobs to issue of certificate/ report is described in the diagram:

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5.5 Requirement for SETL

- a) The laboratory shall have adequate facilities and capability which may include IT infrastructure, secure storage of documents, records and software (OS and Tool).
- b) SETL shall manage a central repository to keep all documentation received from the developers, intermediate work products, communications, test evidences of a particular project and quality records like network diagrams, lab specific work instructions and procedure, system configuration, environment logs, status of antivirus measures etc. related to SETL activities. Any changes in the IT infra-structure including networking components, hardware and software, shall be done in accordance with the Change Management Procedure.

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- c) In order to maintain confidentiality and impartiality, the laboratory shall maintain separation between personnel conducting testing and other personnel through appropriate logical access control to the project repositories.
- d) Records evolved out of operation of SETL shall also be maintained on the central repository with appropriate access control.
- e) The repository shall be backed up regularly on a separate media as per the backup policy stated.
- f) The tester shall follow the methodology as laid down for each parameter. The tester may prepare test case sheet for recording observations for the testing purpose which will serve as background material for the preparation of defect/ testing report.

5.6 Testing Process

- a. The applicant/developer shall provide the all-relevant documents and test product. Once the document is read and test cases are derived, Execution of test done and defect report prepared and sent to the applicant/developer. The applicant/developer shall address all the issues raised in defect report and close them up to the satisfaction of the tester. Defect report may be required to put under multiple iterations till the closure of all issues. As it is expected that the developer addresses the issues raised by the tester in the defect report, suitable measures shall be taken to ensure that the previous contents of the document are not changed.
- b. The reports are the outcome of testing activities and they can take two forms;
 - (i) Defect report, and
 - (ii) Test Report

During the testing process, the defect reports shall be used a formal container for communication of deficiencies of test to the applicant/developer, while the final result of testing to be submitted to the Certification Body and to the applicant.

- c. The defect reports/final report/ test results shall be made available to the designated validator for their review and on receipt of correction, the same may be closed with the consent of Validator.
- d. The following aspects shall be maintained for the reports:
 - i. All the reports shall be reviewed before release to the validator/developer/applicant/Certification Body.

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- ii. All the reports shall be sent and maintained in soft copies along with laboratory procedure.
- iii. All the reports released by SETL will be protected using suitable technology for their contents from unauthorized changes and disclosure.

5.7 Communication

The outcome of the evaluation process is usually a document and the same shall be exchanged in encrypted format with the applicant/developer, validator and as well as with the certification body, if agreed.

5.8 Closure

Unless otherwise specified by the certification body or requirement of the applicant, the testing evidences shall be archived as per laboratory procedure and stored in the archival room. Return/retention/disposal of the clients' software and/or hardware after completion of the testing shall be done in accordance with clients'/certification body agreement.


6. Responsibilities:

6.1 Responsibility of Head, SETL/Test Manager/ Test Engineer

- a. Head, SETL shall be responsible for overall operation of SETL and shall have direct responsibility to ensure functioning of SETL.
- b. Test Manager (s), who are trained, shall be responsible for operating the test activities and reviewing the test artifacts and as well as maintenance of hardware/software /tools.
- c. Test Engineers, who are trained, shall be responsible creating the test cases, conducting the test activities and logging and preparing the test reports.
- d. Head SETL shall act as Project Manager for all practical purposes and shall be responsible for configuration management for all testing evidences.
- e. Head SETL shall supervise all testing activities and operate as peer reviewer for all outcomes.
- f. Head SETL shall also be responsible for conclusion and recommendation of the testing results.
- g. Head SETL shall submit quarterly progress report for Type I & Type II activities to STQC Certification body.

6.2 Responsibility of STQC Validator for Type I activities


- a. Ensure that all conclusions regarding a testing, and the evidence supporting those conclusions are consistent with the high-level documentation and requirements of the CB, if any

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- b. Ensure that the standard / approved techniques and practices are employed by evaluation facility so as to lead to the correct conclusions
- c. Provide necessary guidance to the test engineer/ manager in respect of the clarifications sought by the testing facility regarding testing process and requirements of the CB, if any.
- d. Ensure that the testing report (TR) issued by the testing facility includes the testing results, duly substantiated and consistent with the findings during the testing process; and
- e. Prepare a Review Report (RR) that is consistent with the testing results documented in the TR.
- f. Present the case to Certification Committee of respective scheme for recommendations and issuance of certificate as per the laid procedure.

6.3 Responsibility of STQC Validator for Type II activities


- a. Ensure that all conclusions regarding a testing, and the evidence supporting those conclusions are consistent with the requirements under corresponding Government projects for which STQC review is required, if any
- b. Ensure that the standard / approved techniques and practices are employed by evaluation facility so as to lead to the correct conclusions
- c. Ensure that the testing report (TR) issued by the testing facility includes the testing results, duly substantiated and consistent with the findings during the testing process; and
- d. Prepare a Review Report (RR) that is consistent with the testing results documented in the TR on sample basis at least 10 % of test cases respective to each test type as per the approved SETL scope. (Ref Annexure –A for further details)
- e. Issuance of Review report with the information to SETL and STQC approval Body within two weeks from receipt of TR.

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Annexure – A: Technical Oversight for Type I and Type II Activities

Technical Oversight for Type I Activities being performed by SETLs

Sr. No.	STQC Certification Scheme	SETL	Validator	Remarks
1	Website Quality Certification Scheme (WQCS)	<ol style="list-style-type: none"> SETL should have scope covering WQC requirements. Test shall be performed as per the requirement of WQC scheme and GIGW requirements CB should be timely informed for the activity undertaken for allotment of Validator Timely inform validator for technical oversight of activity. SETL shall prepare TR covering all the requirements. 	<ol style="list-style-type: none"> Validator should perform technical oversight diligently Validator should review minimum 10% test cases randomly under each category requirements. Prepare RR and present the case to CC for recommendations . 	<ol style="list-style-type: none"> SETL can issue test report ONLY. Certificate shall be issued by Certification Body upon recommendations of certification committee (CC)
2	IoT System Certification Scheme (IoTSCS)	<ol style="list-style-type: none"> SETL should have scope covering IoTSCS requirements. Test shall be performed as per the requirement 	<ol style="list-style-type: none"> Validator should perform technical oversight diligently Validator should review minimum 10% test cases randomly under 	<ol style="list-style-type: none"> SETL can issue test report ONLY. Certificate shall be issued by Certification


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		<p>of IoTSCS requirements</p> <p>3. CB should be timely informed for the activity undertaken for allotment of Validator</p> <p>4. Timely inform validator for technical oversight of activity.</p> <p>5. SETL shall prepare TR covering all the requirements.</p>	<p>each category as per the requirements.</p> <p>3. Prepare RR and present the case to CC for recommendations .</p>	<p>Body upon recommendations of certification committee (CC)</p>
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Technical Oversight for Type II Activities being performed by SETLs


Sr. No.	Testing Activity performed by SETL for which STQC review is required/desired	SETL	Validator	Remarks
1.	Functional Testing	1. SETL should have approved scope under empanelment. 2. Test shall be performed as per the requirement Government project undertaken 3. STQC IT &eGov Division should be timely informed for the activity undertaken for allotment of Validator 4. Timely inform validator for technical oversight of activity.	1. Validator should perform technical oversight diligently 2. Validator should review at least 10% test cases including critical test cases, randomly of the application. 3. Issuance of Review report with the information to SETL and STQC approval Body	1. SETL can issue test report ONLY. 2. SETL test report with STQC logo shall only be issued by review of Validator.
2.	Performance Testing	1. SETL should have approved scope under empanelment.	1. Validator should perform technical oversight diligently	1. SETL can issue test report ONLY. 2. SETL test report with

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		<ol style="list-style-type: none"> 2. Test shall be performed as per the requirement Government project undertaken 3. STQC IT &eGov Division should be timely informed for the activity undertaken for allotment of Validator 4. Timely inform validator for technical oversight of activity. 	<ol style="list-style-type: none"> 2. Validator should verify Test report and review parameters such as Processor Usage, memory usage, BW, Response Time, throughput, maximum active session etc. available in SLA. 3. Issuance of Review report with the information to SETL and STQC approval Body 	STQC logo shall only be issued by review of Validator.
3.	Application Security Testing A. Web Application Security Testing B. Mobile Application Security Testing C. API Security Testing	<ol style="list-style-type: none"> 1. SETL should have approved scope under empanelment. 2. Test shall be performed as per the requirement Government project undertaken 3. STQC IT &eGov Division should be timely informed for 	<ol style="list-style-type: none"> 1. Validator should perform technical oversight diligently 2. Validator should review closure of critical & high severity application security issues identified in first round of security testing. Review application for at least one type of 	<ol style="list-style-type: none"> 1. SETL can issue test report ONLY. 2. SETL test report with STQC logo shall only be issued by review of Validator.

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		<p>the activity undertaken for allotment of Validator</p> <p>4. Timely inform validator for technical oversight of activity.</p>	<p>vulnerability under applicable OWASP standard.</p> <p>3. Issuance of Review report with the information to SETL and STQC approval Body</p>	
4.	Vulnerability Analysis & Penetration Testing	<p>1. SETL should have approved scope under empanelment.</p> <p>2. Test shall be performed as per the requirement Government project undertaken</p> <p>3. STQC IT &eGov Division should be timely informed for the activity undertaken for allotment of Validator</p> <p>4. Timely inform validator for technical oversight of</p>	<p>1. Validator should perform technical oversight diligently</p> <p>2. Validator should review closure of critical & high severity vulnerabilities identified in first round of VA&PT. Review of justification provided by developer for non-closure issues. Review of open ports.</p> <p>3. Issuance of Review report with the information to SETL and STQC approval</p>	<p>1. SETL can issue test report ONLY.</p> <p>2. SETL test report with STQC logo shall only be issued by review of Validator.</p>

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		activity.	Body	
5.	Interoperability testing	<ol style="list-style-type: none"> 1. SETL should have approved scope under empanelment. 2. Test shall be performed as per the requirement Government project undertaken 3. STQC IT &eGov Division should be timely informed for the activity undertaken for allotment of Validator 4. Timely inform validator for technical oversight of activity. 	<ol style="list-style-type: none"> 1. Validator should perform technical oversight diligently 2. Validator should verify Test report and review the scenarios for interoperability and check the critical scenario or any addition. 3. Issuance of Review report with the information to SETL and STQC approval Body 	<ol style="list-style-type: none"> 1. SETL can issue test report ONLY. 2. SETL test report with STQC logo shall only be issued by review of Validator.
6.	Accessibility testing	<ol style="list-style-type: none"> 1. SETL should have approved scope under empanelment. 2. Test shall be performed as per the requirement 	<ol style="list-style-type: none"> 1. Validator should perform technical oversight diligently 2. Validator should verify Test report and review the parameters for 	<ol style="list-style-type: none"> 1. SETL can issue test report ONLY. 2. SETL test report with STQC logo shall only be issued by review of

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		Government project undertaken 3. STQC IT &eGov Division should be timely informed for the activity undertaken for allotment of Validator 4. Timely inform validator for technical oversight of activity.	Accessibility and check the critical parameters or any addition suggested by validator. 3. Issuance of Review report with the information to SETL and STQC approval Body	Validator.
7.	Website Testing as per GIGW	Ref Sr. No. 1 of Annexure-A for Technical Oversight for Type I Activities being performed by SETLs		
8.	Hardware Security	Ref Sr. No. 2 of Annexure-A for Technical Oversight for Type I Activities being performed by SETLs		
