Title:	CLUWE Web Tools Test Plan

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TITLE: CLINICAL USERS WORKING ENVIRONMENT (CLUWE) WEB TOOL TEST PLAN RELEASE 1.0

REVIEWERS

Your electronic signature indicates that you have reviewed this document and that for your area of expertise, agree it is accurate and complete.

Information Technology (IT) Subject Matter Expert (SME)

Business SME (BSME)

Quality Analyst (QA)

Business QA (BQA)

APPROVERS

System Custodian

Your electronic signature attests that:

- You understand your responsibility to provide the resources as necessary to test the system as described in the Test Plan.
- The Test Plan meets the requirements of the Computer System Testing Quality Practice.
- The appropriate subject matter experts wrote and reviewed the Test Plan.

System Owner

Your electronic signature attests that

- You understand your responsibility to provide the resources as necessary to test the system as described in the Test Plan.
- The appropriate subject matter experts reviewed the Test Plan.

Computer System Quality Assurance (CSQA) Representative

Your electronic signature attests that this document complies with Corporate Computer Systems (CCS) Lilly Quality Standards and Practices.

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PURPOSE

This document outlines the overall approach that will be used to test CLUWE Web Tool application. It addresses the levels of testing to be performed, any test tools to be used, test pre-requisites, test sequence and dependencies, test data requirements, criteria for successful completion, organizational resources, process for test problem reporting, and requirement for retaining test execution documentation.

SCOPE

The following functionalities are in scope for CLUWE Web Tool testing:

- Electronic Signature (eSignature)
- Versioning
- Job Scheduling

The following are out of scope:

- SAS Grid/ SAS GSub Command line tool
- Data Migration
- Data Conversion

ACRONYMS AND DEFINITIONS

The terms and acronyms in this document are defined at their first occurrence.

DOCUMENT REVISION HISTORY

Version #	Revision Date	Reason for Revision (Include CR# if Applicable)	Revised By, Title
0	09-Sep-2015	New Document	Santhoshi Peetha, Test lead

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1. TEST STRATEGY AND APPROACH

1.1 Extent of Testing Based on Risk Assessment

CLUWE Web Tool has been classified as Critical and GCP system. To ensure adherence to requirements and policies, testing will include:

- Unit Testing
- System Testing
- User Acceptance Testing (UAT)

The test strategy outlined in this Test Plan is based on Lilly System Engineering Framework (LSEF) Test Management Process and Lilly Quality Practice (LQP)-302-18, Testing.

1.1.1 Test Risks

Risk	Test Level (Test level the risk associated with)	Probability of Risk (Low, Medium, High)	Impact of Risk (Low, Medium, High)	Mitigation Strategy
Insufficient Testing Performed	Formal System/UAT	Low	High	Test Scripts should handle all types of scenarios including negative, functional and exception handling and should be reviewed by IT SME before formal testing begins.
Environments become unavailable	Formal System/UAT	Low/Medium	High	Work with internal group to regain functionalities.
Testing cannot be completed in scheduled timeline	Formal System/UAT	Medium	High	Use additional testers if priority necessitates.
Security – Unauthorized users may gain access to the system	Formal System/UAT	Low	High	Security will be tested during System Testing.
Testers using the same environment and deleting test data	Formal System/UAT	Low	High	Identify which test data would impact the execution prior to execution of the test and ensure using different data to perform the test in same environment.
Formal Test environment not setup to match the Production instance	Formal System/UAT	Low/Medium	High	IT SME should ensure that the design for QA and production instance should be similar.
Testers using accounts with higher permissions which might cause the applications to function differently	Formal System/UAT	Low	Medium	Test scripts to capture which account levels to be used to test the particular test case. Tool Admin should provide the necessary security roles to the testers.

1.2 Test Data

The test data will be specified in the Test Setup section of the test scripts, or will be included in the steps of the script itself.

Directory Structure and folder security of CLUWE Web Tool will be setup as is in production.

- For System level testing, business will provide de-identified data to IT to use as test data
- For UAT, business will use de-identified data as test data

2.   TEST PLANNING

2.1 Test Tools

Tool	Use
Hewlett Packard (HP) Application Lifecycle Management (ALM) 11.0 Domain: GMR Project: GSS_eSig	This tool will be used to create a release tree and to manage releases. Listed below are the uses of HP ALM 11.0: • Create, review and approve requirements • Create, review and approve the Requirement Traceability Matrix (RTM) • Create, review, and approve test cases • Approve test results • Provide a repository for tracking the test problem reports

2.2 Test Sequence and Dependencies

Test Phase	Tool to be used	Dependency
Unit Testing	None	Code is developed and available in Development environment.
System Testing	HP ALM 11.0	1. System Requirements Approved. 2. Formal System Testing scripts pre-approved. 3. QA available for testing.
UAT	Regulus	1. System level Testing is complete for one or more test scripts within HP ALM 11.0. 2. User requirements are approved. 3. QA is available for testing. 4. Business testers are available during the planned UAT timeline.

2.3 Test Documentation

The test scripts will be developed in HP ALM 11.0. All the test scripts will be named uniquely based on the functionality being tested. The corresponding requirements will be mapped to the test scripts. Test execution details and approved test results will be retained in HP ALM 11.0.

2.3.1 Format of the Test Documents

Each test document (i.e. test script) will be identified with a unique number.

The test document will detail the exact steps required to complete the test for a requirement. Each test step will identify any setup, precursor documents or data requirements required to execute that particular test step. During test document creation, each step in the test document will consist of the following fields as depicted in the HP ALM 11.0:

Field Name	Description
Step Name	Unique test step identifier, which references the unique requirement number.
Description	Describes the actions to perform when testing a particular facet of a requirement.
Expected	Documents what the tester should expect to see as a result of the actions described in the "Description" column.

While executing the document, the Tester will be required to fill in the details for the following additional fields:

Field Name	Description
Actual	Examples to be documented in the "Actual Results" column include, but are not limited to, • Noting a data item • Obtaining a screen shot • Printing a report or entering the actual results In addition, if a step is purely navigational, it may be appropriate to allow the tester to enter a simple PASS or FAIL to document the outcome of an executed step. NOTE: Although it may be appropriate to have individual steps confirmed with a simple pass or fail (i.e., navigational steps), it may not be appropriate for all the steps of a particular document be documented with a pass or fail answer, unless some other form of evidence is provided, such as an attached screen print. Ensure that any step that supports a requirement has documented evidence that it passed.
Overall Execution Status	Reflects the outcome of the test step based on the status selected by the test executor.

2.4 Test Environment

CLUWE Web Tool will be hosted on QA (non-production) environment for testing purposes. The QA (non-production) environment will mirror the intended production environment.

2.5 Test Roles and Responsibilities

Test Role	Responsibilities
Development Lead	• Ensures proper execution of Unit Testing • Ensures all the defects detected in System and UAT phase are fixed in time
Test Analyst	• Upload requirements into HP ALM 11.0 (not authoring) • Write and Maintain System test scripts in HP ALM 11.0

Test Role	Responsibilities
	• Obtains test script(s) pre-approval and post-approval
	• System Test Script Execution
	• System Testing Defects Logging and Tracking in HP ALM 11.0
	• Creation of Requirements Traceability Matrix
	• Involve in creation of Test Summary Report
Test Lead	• HP ALM 11.0 Setup
	• HP ALM 11.0 Admin role to manage HP ALM 11.0 related activities
	• Manages the overall testing lifecycle and scope
	• Ensures that all testing activities are occurring in accordance to this plan
	• Creates the Test Plan, RTM and Test Summary Report
	• Ensures that the requirements in HP ALM 11.0 are reviewed and approved
	• Ensures that the Test Scripts and Test Runs are approved
	• Manages folders in test plan module, manage folders and test sets in Test Lab module, add tests to test set in Test Lab
	• Assigns the test scripts to the testers
	• Manages Test Execution Reporting
	• Manages resolution of defects reported in HP ALM 11.0, ensuring appropriate defect status is assigned to all defects for a testing effort
	• Coordinates the creation of the test environments
	• Ensure test analysts are trained on tool usage and procedures
	• Reviews changes that impact testing scope, timeline and costs
	• Responsible for acquiring testing resources
	• Communicates testing status at daily and/or weekly team meetings
	• Provide support to UAT for logging/maintaining defects in HP ALM 11.0
IT SME	• Reviews system requirements to ensure approval readiness
	• Reviews and approves RTM, Design Elements
	• Participates in system testing and UAT
	• Reviews Test Plan, Test Scripts, and Test Summary Report
	• Approves System Test scripts prior to Formal Test Execution
	• Approves Formal System Test Runs after Formal Test Execution
	• Reviews changes that impact scope, timeline and costs
Test Results Reviewer	• Reviews executed Test documents
Business SME	• Reviews User requirements to ensure approval readiness
	• Performs UAT
	• Reviews Test Plan, UAT Scripts, and Test Summary Report
	• Approves UAT test results uploaded into Regulus. This approval is for Post approval of the UAT testing results

Test Role	Responsibilities
System Custodian	• Approves Requirements in HP ALM 11.0 • Approves Test Plan • Approves Test Summary Report
System Owner	• Approves Requirements in HP ALM 11.0 • Approves Test Plan • Approves Test Summary Report
QA	• Reviews Test Plan and Test Summary Report • Verify the testing deliverables adhered to LQPs and Lilly Quality Standards (LQSs)
CSQA	• Approves Requirements in HP ALM 11.0 • Approves Test Plan and Test Summary Report
BQA	• Approves Requirements in HP ALM 11.0 • Reviews Test Plan and Test Summary Report

3. TEST LEVELS

3.1 Unit Level Testing

The development team is responsible for Unit testing and no formal documentation is required. Unit testing will occur continuously throughout system development, and issues or defects encountered during this period will not be tracked in HP ALM 11.0.

3.2 System Level Testing

3.2.1 Approach

Formal System testing will be executed in the qualified Quality Assurance (non-production) environment. This testing will cover the complete set of requirements in scope for the release. Integration testing will be performed as part of System level testing. Associated documentation will be stored in HP ALM 11.0.

3.2.2 Objectives

The objective for System testing is to demonstrate that the computer system meets its intended use. Refer to Testing, LQP 302-18 for additional information on System testing.

3.2.3 Entry Criteria

- Code is locked and moved to qualified environment
- All requirements for the release have been Unit tested
- Testers have read the Test Plan and have access with right security setup to the qualified Environment
- Test data is created
- Requirement and design documentation are approved
- Test cases or scripts are approved
- RTM is approved

3.2.4 Exit Criteria

- All System test scripts have been completely executed
- All problems identified during testing have been fixed, closed, or accepted and deferred by the System Owner
- Test Runs are approved
- Results and defects are documented in the Test Summary Report

3.3 Acceptance Test Activities

UAT will be defined and executed by the business and/or representatives of the business. The UAT is in addition to the system level testing and provides for business knowledge to be applied in exercising the various CLUWE functions. Defects as well as any associated corrective actions will be documented in HP ALM 11.0 and within the Test Summary Report. UAT has concluded when the business is satisfied the system is fit for use and all defects have an appropriate disposition. The final run of UAT results will be uploaded into Regulus and approved by the business.

3.3.1 Approach

- The Business testers will run the user acceptance tests on QA environment and record the results
- Business will execute UAT outside HP ALM 11.0
- If defects are identified during testing, they will be logged in HP ALM 11.0

3.3.2 Objectives

The objective of UAT is to ensure that the completed system is fit for business use.

3.3.3 Entry Criteria

- Functionalities have been System tested and test runs are approved
- Requirements are approved in HP ALM 11.0

3.3.4 Exit Criteria

- The intended objective(s) of tested functionalities have been met and tested successfully
- All the issues have been Fixed, Closed or Accepted by the Business as deferred
- The user determines the acceptable level of risk for passing an Acceptance test if all criteria of the requirement do not test successfully
- The final run of UAT results are uploaded into Regulus and approved by the business

4. PROCESS FOR DOCUMENTING TEST EXECUTION

Every run of a particular test document will be executed in HP ALM 11.0. Each test document represents a complete test of a single requirement or a set of requirements; therefore, any single test document must be executed in its entirety unless otherwise documented in the Test Summary Report. When executing any test document, all testers will follow good documentation practices as follows,

- Each test document is composed of one or more steps. The specifics of what is included in a test document can be found in the section titled Format of Test Documents of this document. If the actual results for any test step do not match the expected results, the Tester will indicate the actual results in the appropriate column, mark the step as 'Fail' and the problem will be documented as a defect

- If a step in a test document requires the Tester to produce some sort of hardcopy printout, the printout will be scanned and imported into HP ALM 11.0 attached to the appropriate test step

- If the Tester encounters a spelling or grammatical error during testing, the Tester may pass the test document with Execution status as "Pass Script Error" and raise a defect in HP ALM 11.0. For all other errors, including non-obvious typographical errors, the test step should be failed and tester should log a defect in HP ALM 11.0

- Once the test document has been completely executed, the Tester will send it for review. If the test document failed, the tester will log a defect in HP ALM 11.0

- After the Tester has completed the test document, a Reviewer will review the test document to ensure that it has been executed appropriately. The Reviewer will then indicate their acceptance or rejection of the results of the test document, note any appropriate comments (if required), and electronically sign the test document

- If required, the Test Lead may generate graphs and reports from HP ALM 11.0

5. TEST PROBLEM MANAGEMENT

5.1 Scripting Errors

In case of navigational error during execution of any script a decision will be taken by Test Lead to restart or rerun the failed script. Rationale to partially run a script will be documented in the Test Summary Report.

Script Changes that will be made to resolve script errors will be documented in the '*Actions Taken to Fix*' column of the defect in HP ALM 11.0.

5.2 Problem Identification

Testing's primary goal is to identify defects in the system (i.e. not meeting requirements) for resolution or acceptance prior to global roll out to users. Any system defects from informal testing will be recorded on the system's project development collaboration site. A review of these defects will be done by BSMEs and IT SMEs to verify their status as a system defect. The Project Execution Lead or Lead BSME will report the defects to the developers for correction. Any formally executed test documents will be re-executed once known issues from informal testing has been resolved. Any new issues identified during formal testing will be recorded in HP ALM 11.0.

5.3 Problem Resolution

Defects, Script Errors, and suggestions for enhancements identified during the testing process will be recorded on the system's project development collaboration site from informal testing, and HP ALM 11.0 during formal testing. The project execution lead and System Owner will review the issues to identify if they are defect (i.e. not meeting requirements), script error, or suggestion. All defects will be directed to the developers for correction followed by re-execution of the test document. Although the goal is to resolve all defects before release into production, the System Owner has the option to accept the system with a known defect. Acceptable known defects will be minor in nature such as spelling, labeling, help text, navigational etc. with no impact to the results.

6. TEST SUMMARY REPORT

After all of the test documents have been executed, reviewed, and electronically signed by the reviewer in HP ALM 11.0, the appropriate test execution data will be generated from HP ALM 11.0 for inclusion in the Test Summary Report. At a minimum, the Test Summary Report may include the following information:

- Overall test results
- Test levels executed and summary of the results of each test level executed
- List of all test cases and scripts executed
- List of all test problem reports and the problem statuses and justification for any problem not fixed
- Documentation of system configuration used for system and acceptance (if executed) level testing
- Departure from the test plan to include description and justification of departure

All executed test documents must be listed in the Test Summary Report including all failed runs.

7.   REFERENCES

A current list of system-specific documents stored in Regulus can be generated using Regulus. The documents are stored in the IT Library Regulus repository at IT_Library > LRL IT > Systems C to D > CLUWE.

Requirements and testing documents are stored in HP ALM 11.0 under Domain: GMR, Project: GSS_eSig.