**SERIS**

Solar Energy Research Institute Singapore



Cloud Based Realtime Analytical Monitoring of Photovoltaic Systems and Weather Parameters Project

Quality Plan

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Management summary

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| **Project objective**  The main objective of the project is to develop cloud-based real-time monitoring system for photovoltaic and weather parameters. This project involves implementation of cloud-based backend server system and front-end web application. This system will be deployed in AWS Cloud. | | | |
| **Test objective and assignment**  The objective of the test is to check and ensure that the entire software system embedded in its actual hardware environment behaves according to the requirements document.  System Testing (ST) is the highest level of testing of the software testing process. During ST, the entire system, hardware, and software and functions as specified are tested. | | | |
| **Short description of the test approach**  System Testing (ST) is the highest level of testing of the software testing process. During ST, the entire system, hardware, and software and functions as specified are tested.    System Test is a type of testing performed by an independent testing team to validate the entire system in its actual hardware environment behaves according to the requirements document.  System test is done at the end of the development on an integrated product. Its end-to-end testing conducted by the testing team before it is sent to actual users for user acceptance test (UAT). Hence it is critical that the product being tested is thoroughly validated by system test before it is sent to the customer for acceptance. The scope of system testing covers the following areas   * System functionality * System technical issues * Qualitative attributes of the system, such as   + Usability   + Security   + Response to stress   The testing team executes the designated test cases. All bugs will be logged in a testing document with relevant comments.  After all bugs have been fixed, the testing team indicates the readiness of software application to move to the next and final phase of testing, i.e. user Acceptance Test. This shows that the application performs the functionalities in its actual hardware environment. | | | |
| **Results to be realized** | | | |
| *Result*   * Well executed and finished system­ test | *Document*   * System test report | *Delivery date* <mm-dd-yyyy> |
| **Qualitative objectives**  Each test level needs to be finished on time and meet the user’s requirements and acceptance criteria. | | | |
| **Go/no-go decisions**  After each test level the test manager makes sure that a test report is drawn up. This report will, after reviewing with the project manager, be presented to the key stakeholders, who decide if it is possible to move to the next test level.  At the end of the total test project an end testing report will be drawn up, containing a risk based assessment of the test object. Based on this end report the key stakeholders make the final decision to go with UAT or not. | | | |
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8. **INTRODUCTION**

SERIS requires the development of cloud-based real-time monitoring system for photovoltaic and weather parameters .This will involve implementation of cloud-based backend server system and front-end web application. This system will be deployed in AWS Cloud. Users will be able to view, analyse, supervise and control different systems ranging from small roof-top systems to large ground-based PV power plants across different time zones.

**SE25PT7 team** will be taking care of implementation for cloud-based back-end application and front-end web applications.

This document is the project quality plan of SE25PT7 for development of back-end application and front-end web application system. The following sections describe the plan in terms of its purpose, audience, organisation and related documents.

* 1. **Purpose**

The goal of this Test Plan (TP) for System Test is to inform all who are involved in the test process about the approach, the activities and the deliverables concerning System Test for SERIS RAM project.

ST test execution will be performed by the project development team and QA Group will provide their support. Although in most cases there exists an independent testing team that is responsible for all the aspects of system testing.

This test plan describes a concrete and detailed elaboration of what has been described in the master test plan “\MGMT\QUALITY\MTP\SMTP.doc “for the System Test.

* 1. **Assignment**

1. **DOCUMENTATION**
   1. **Basis for the Test Plan**

#### Prerequisites of System Testing:

Following are the entry criteria for System Testing:

* Business Requirements must be available.
* Application Code should be fully developed
* Unit Testing & Integration Testing should be completed
* No Showstoppers, High, Medium defects in System Integration Test Phase -
* Only Cosmetic error are acceptable before System Test
* Regression Testing should be completed with no major defects
* All the reported defects should be fixed and tested before System Test
* Traceability matrix for all testing should be completed
* ST Environment must be ready
* Sign off mail or communication from Integration Testing Team that the system is ready for ST execution
  1. **Test Basis**

1. **TEST STRATEGY**
   1. **Test Strategy**
2. **APPROACH**
   1. **Test Design Table**
   2. **Description Test Approach**
3. **INFRASTRUCTURE**
   1. **Test Management**
   2. **Office Setup**

System Test is done by the intended users of the system or software. This testing usually happens at the client location which is known as Beta Testing.

1. **MANAGEMENT**
   1. **Test Management**
   2. **Defect Procedure**
2. **ESTIMATION & PLANNING**
   1. **Estimation**
   2. **Planning**