

Test Plan Background

The purpose of a Test Plan is to provide a structural framework for defining the efforts and the tools that will be required for validating the applicability and suitability of a software product before hand-off and deployment. It ensures that the product being developed is thoroughly tested for errors and defects; resulting in the successful implementation of new and improved functionalities, and processes. It is developed during the planning phase of the project or a specific build and identifies the methodology the software team will use to conduct the tests. The test plan also identifies the hardware, software, and tools required for testing the features and functions that will be tested; and the technical environment where testing will be conducted. A well defined test plan document takes into account any risks factors that may impact testing as well as the testing schedule; and include contingency plan(s) for each risk factor identified. A test plan differs from test procedures in that a test plan is created ahead of the software development and refined during development. Test procedures will have more specific instructions on how to test the software.

The Office of Hydrologic Development Test Plan document shall describe the objectives, scope, approach, and focus of the software testing effort with test objectives traceable to the requirements and products to be delivered. It should contain the appropriate level of details that are necessary for testing the project, project components and/or features that are being built. It should be developed by the Project Team as early in the process as possible. During Stage 2, the project team may consider how project features will be tested; and complete the test plan document in Stage 3 together with the planning and scheduling of Operational Development (Stage 4) activities. During Stage 4, the test team may update and revise the test plan document as needed. The completed test plan should include physical and logical data elements, and process elements of the system as well as reference material that support the project and testing effort. This information and other relevant details for the test plan document may be obtained from the Concept of Operations (CONOPS), Statement of Need (SON) or Project Plan.

Operational software developed and tested by the OHD Hydrologic Software Engineering Branch (HSEB) for implementation in the Advanced Weather Interactive Processing System (AWIPS) and the Next Generation Radar (NEXRAD) will undergo further testing by other organizations operating within the National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS) before they are deployed nationally. Consequently, each organization will be responsible for developing its own test plan and test process to manage their testing efforts and resources. The test plan information contained in the test plan document will only address testing activities that will be performed and managed by HSEB and contractors hired by the OHD to perform such tasks. The HSEB team on a project-by-project basis will make references to other NOAA/NWS organizations involved with testing when and where applicable. In cases where coordinated development and testing between OHD and another NOAA/NWS developing organization(s), i.e. SEC, GSD etc., is required for a project or functionality, the HSEB project team will document the specific product or project feature to be tested – including organizational roles, type(s) of testing and activities that will be performed by each organization.

The Test Plan is a HOSIP document and a deliverable for stages 3 and 4 and for all software developed for the AWIPS and NEXRAD systems; and for large projects developed for the Hydrometeorological Automated Data System (HADS). Small enhancements and bug fixes done by the HSEB will not require a test plan. However, depending on the level of complexity or amount of work required, the Project Area Leader (PAL) along with the HSEB Chief will determine if a test plan is warranted.

*******The test plan template is available on the HOSIP Web page below*******

https://bestpractices.nws.noaa.gov/contents/hosip/Pages/Document_Templates/index.php