KRATOS

Lanham, Maryland

PROCEDURE
Engineering, QA/CM

Title: Project Software Engineering and Verification Date: 10/28/22

APPROVED BY Author, Owning Manager, BMS Management Representative, and Document Controller

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STATUS

Revision F updates QMS to BMS and updates the Author and BMS Manager.

OVERVIEW

The purpose of the Project Software Engineering and Verification phase is to create and/or evolve project specific or Mission Unique Software (MUS), as necessary, to meet project requirements.

A brief summary of the authorities and responsibilities of the various parties involved in Product Engineering and Verification is provided in Table 1.

Table 1. Authorities and Responsibilities for MUS Engineering and Verification

FUNCTION	AUTHORITY AND RESPONSIBILITY
Project Manager	Responsible for identification of Mission Unique Software (MUS) and for allocation of requirements to the MUS
Project Team	Perform development and unit testing of the MUS. Prepare Factory Acceptance Test procedures to verify requirements.

PROCESS

The Project Engineering and Verification procedure is illustrated in Figure 1.

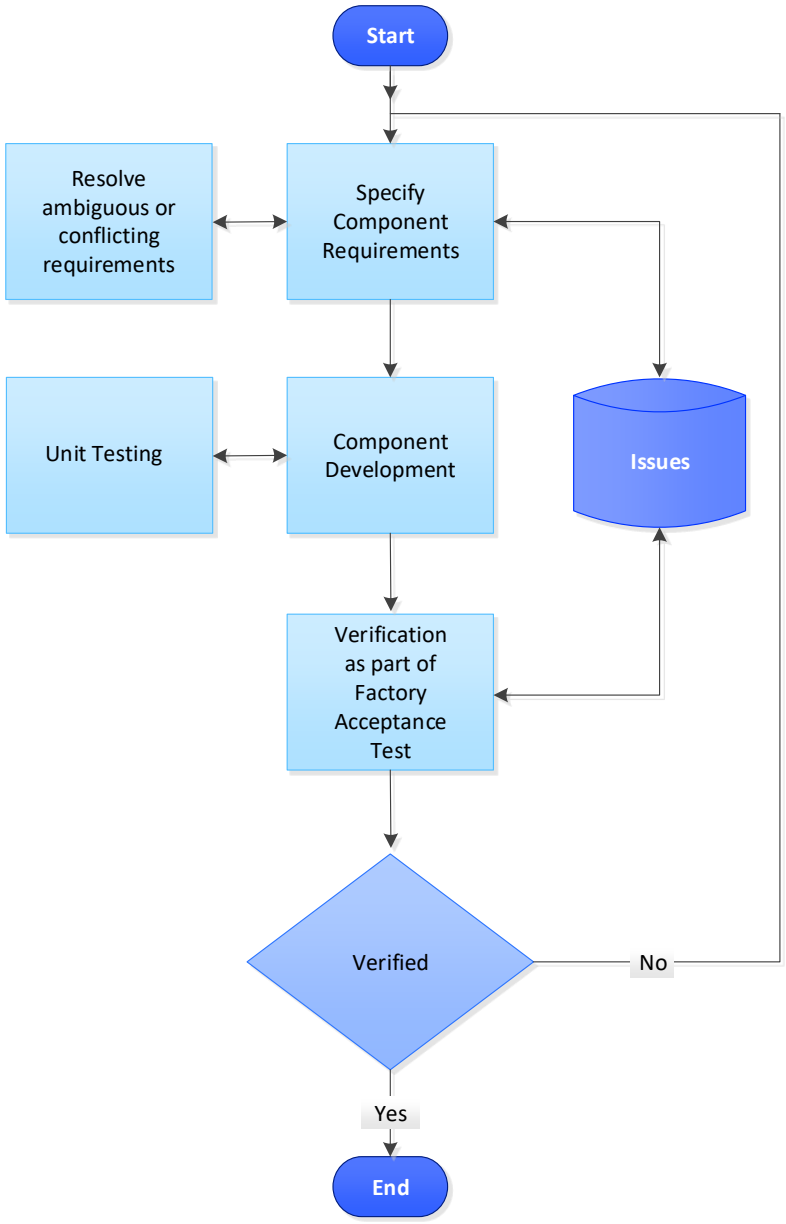

Figure 1. Project Component Engineering and Verification Process

A. Specify Component Requirements

The Project Team reviews the project requirements and determines which requirements can be met by the currently available functionality and which requirements require further development.

For those requirements that require further development, the Project Team discusses with the Product team which requirements are generic enough that they would be appropriate for an enhancement to the product itself. In this case, the Product Team proceeds with the implementation using product processes.

For those requirements that are not met by the current product, and which will also not be made by product enhancements, the Project Team defines software components that will be implemented as project specific software. This is also referred to as Mission Unique Software (MUS).

For all MUS, the Project Team then specifies:

a) requirements allocated to the MUS

b) interfaces between the MUS and product software or other MUS

c) resources assigned to the implementation

d) schedule for the implementation in order to meet the project milestones

e) project Factory Acceptance Test (FAT) procedures in which the MUS will be verified

B. Component Development and Unit Testing

The MUS is developed by the assigned personnel.

Unit testing is performed by the same personnel responsible for the development.

The Project Manager is responsible for reviewing the status of completion of the MUS.

When the development and unit testing is completed then the unit is made available to the project team for integration into the project and verification through the running of FAT procedures

C. Project Integration and FAT Verification

In order to proceed with verification, the MUS is integrated into the project system which is used for FAT.

The FAT procedures which will be used to verify the MUS will have been identified at step A. In this step the FAT procedures must be documented. This includes the construction of test data, documentation of the test steps and the review of the output.

The FAT procedures allocated for the MUS verification will go through several iterations and will be reviewed by the Project Manager. Prior to being submitted to the customer the FAT procedure will also be run with internal Kratos QA witness, as required.

The MUS versions that will be used for FAT will be put into Configuration Management System software.

During the FAT, any issues with the MUS performance or adherence to the requirements will be raised and then reviewed. If it is decided that corrective action is needed to the MUS, then a

modification will be made and the FAT tests re-done with results submitted to the customer for approval.

Once the MUS is approved through the Factory Acceptance Testing (FAT) then it will be acceptable for the MUS to be delivered to the customer site for for Site Acceptance Testing (SAT).

RECORDS

Table 2 lists the output records associated with this procedure.

Table 2. Output Records

NAME	LOCATION	RESPONSIBILITY	MINIMUM BACKUP FREQ.	MINIMUM RETENTION PERIOD
MUS Specification	Project/Electronic Records Area	Project Manager	Weekly	3 Years
Factory Acceptance Test Procedure	Project/Electronic Records Area	Project Team	Weekly	3 Years
Factory Acceptance Test Results	Project/Electronic Records Area	Project Team	Weekly	3 Years

Table 3. Revision History

REVISION LETTER	DATE	DESCRIPTION
E	01/08/20	Revision E updates procedure to focus on project specific software
E	02/05/21	Removed reference to ISI and updated header logos. Replaced “persons” with “resources”. Too minor to change Rev.
F	10/28/22	Removed reference to QMS and updated to BMS. Updated the Author and BMS Manager.

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