DATA ITEM DESCRIPTION
Title: PLAN FOR SOFTWARE ASPECTS OF CERTIFICATION (PSAC)

Number: DI-SESS-82336
AMSC Number: N10227
DTIC Applicable: No
Preparing Activity: AS
Applicable Forms: N/A

Approval Date: 20210329
Limitation: N/A
GIDEP Applicable: No
Project Number: SESS-2021-006

Use/Relationship: The Plan for Software Aspects of Certification (PSAC) document describes the methodology used and the evidence created for the Government certification of software compliance within similar civil performance standards for RTCA/DO-178C "Software Considerations in Airborne Systems and Equipment". The PSAC is the primary means used by the certification authority for determining whether an applicant is proposing a software life cycle that is commensurate with the rigor required for the level of software being developed.

This DID contains the format, content, and intended information for the data product resulting from the work task described in the contract statement of work (SOW).

Requirements:

1. Reference Documents: The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions shall be as specified in the contract.

2. Format: The PSAC shall be in the Contractor's format.

3. Content: The PSAC shall be compliant with the guidance in RTCA DO-178C Section 11.1 as documented in 3.1. The PSAC shall identify:

3.1. The means of compliance with RTCA DO-178C that is agreed upon to satisfy the certification basis.

3.2. The software level(s) proposed by the contractor that are consistent with the outputs of the system safety assessment process and other system life cycle data.

3.3. PSAC.

3.3.1. System overview: This section shall provide an overview of the system, including a description of its functions and their allocation to hardware and software, the architecture, the processor(s) used, the hardware and software interfaces, and safety features.

3.3.2. Software overview: This section shall briefly describe the software functions with emphasis on the proposed safety and partitioning concepts. Examples include resource sharing, redundancy, fault tolerance, mitigation of single event upset, and timing and scheduling strategies.

3.3.3. Certification considerations: This section shall provide a summary of the certification basis, including the means of compliance RTCA DO-178C 11.1, as relating to the software aspects of certification. This section also shall state the proposed software level(s) and summarize the justification provided by the system safety assessment process, including potential software contributions to failure conditions.

3.3.4. Software life cycle: This section shall define the actual software life cycle to be used and include a summary of each of the software life cycle processes for which detailed information is defined in their respective software plans. The summary explains how the objectives of each software life cycle are satisfied, and specifies the organizations to be involved, the organizational responsibilities, and the system life cycle processes and certification liaison process responsibilities.

3.3.5. Software life cycle data: This section shall specify life cycle data that is produced and controlled by the software life cycle process. This section also shall describe the relationship of the data to each other and to other data defining the system, the software life cycle data to be submitted to the certification authority, the form of the data, and the means by which the data is made available to the certification authority.

3.3.6. Schedule: This section shall describe the means the contractor uses to provide the certification authority with visibility of the activities of the software life cycle process so reviews can be planned.

3.3.7. Additional considerations: This section shall describe specific considerations that may affect the certification process. Examples include alternative methods of compliance, tool qualification, previously developed software, option-selectable software, user-modifiable software, deactivated code, Commercial off the shelf (COTS) software, field-loadable software, parameter data items, multiple-version dissimilar software, and product service history.

3.3.8. Supplier oversight: This section shall describe the means of ensuring that supplier processes and outputs comply with plans and standards.

End of DI-SESS-82336