Software Development Plan
of<LRU/System Name>
for
<Platform Name>

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Software Development Plan **of** **<LRU/SYSTEM Name>for <Platform name>**	**<System/Project Name>** **LRU/System Part No.:** <No.> **Software Criticality Level :** DO-178C Level <A/ B/ C/ D)

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Disclaimer:

This document is a guidance document. Applicable section / table rows may be considered. Any additional details may be added. Any not applicable section/ table rows may be deleted. The template is very general and vary with process to process followed by Development Agency. The document may be fine-tuned with the TAA for finalization.

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Amendment History

Issue, Rev. No.	Issue, Rev Date	Change Request Ref.	Brief Description of Amendment	Affected Pages/ Section	Changed By	Change Effective Date
01, 00		NA	Initial Issue	NA	NA	Initial

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1. Introduction:

The Software Development Plan (SDP) is a description of the software development procedures and software life cycle(s) to be used to satisfy the software development process objectives. It may be included in the Plan for Software Aspects of Certification.

1.1 Purpose and Scope:

This document provides the standards, software life cycle & software development environment like development methods, design methods, coding methods, programming languages, coding tools, compilers, hardware platforms to be used during software development etc.

1.2 Applicable Documents

Define the list of all applicable documents in following sections:

1.2.1 External Documents

Define the list of all applicable documents of external origin, relevant for this project.

1.2.2 Internal Documents

Define the list of all applicable documents of internal origin, relevant for this project.

1.3 Part Number and Nomenclature

Define the details of all software components having unique part number and nomenclature to identify them through the software development life cycle.

1.4 Acronyms and Abbreviations

Define all the abbreviations and acronyms with their expanded names in this section.

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2. System Overview

This section provides an overview of the system, including a description of its functions.

3. Software Overview

This section provides an overview of the software, including a description of its functions.

3.1 Software Category

<Define the Categorization of the software like safety critical or mission critical or non-critical and assigned Critical Level, outcome of System Safety Analysis.>

4. Standards:

<Identify and define standards to be used for software development in the project:>

Software Requirement Standard,

Software Design Standard,

Software Coding standard,

Standard for Previously Developed Software (if applicable)

Standard for COTS software (if standards are different then above)

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4. Software Life Cycle

Define the description of the software life cycle processes to be used to form the specific software life cycle(s) to be used on the project, including the transition criteria for the software development processes.

4.1 Software Life Cycle Model

<Define the software life cycle model.>

4.2 Software Development Phases

4.2.1 Planning

The planning process will assess the certification level needed for this software. This will result in the Plan for Software Aspects of Certification (PSAC) document. Secondly, the software development plan will be developed. Other plan documents will include the Software Verification Plan, Configuration Management Plan and Software Quality Assurance Plan. The three standards namely requirements standard, design standard and coding standard will be defined.

The development shall also identify the software tools and development and deployment platform for the application.

4.2.2 Development

4.2.2.1 Software Requirement Process

The requirement process shall gather and document the requirements as per the Requirements standard. This includes functional, Interface and performance requirements.

4.2.2.2 Software Design Process

The design process shall design the software, based on the documented requirements, as per the Design standard.

4.2.2.3 Software Coding Process

The coding process shall comply with coding standards document. E.g. MISRA 'C'/ MISRA 'C++' or equivalent.

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4.2.2.4 Software Integration Process

The software integration process shall integrate the software, and prepare for functional, interface and performance testing.

4.3 Software Integral Process

4.3.1 Software Verification Process

There shall be SVP plan for quality verification activities. The software verification process shall include:

Reviews and Analysis:
- High-level requirements
- Low-level requirements
- Software Architecture
- Source Code
- Test cases, procedures and results
- Software Testing
- Requirement-based Testing
- Test Coverage

4.3.2 Software Configuration Management Process

There shall be SCMP plan for Configuration Management activities. The software configuration management process shall:

- Configuration Identification
- Establishing baselines and traceability
- Means of bug reporting, tracking and corrective action
- Change Management
- Configuration accounting status
- Archive, retrieval and release

4.3.3 Software Quality Assurance Process

This process shall govern the quality aspects of all the software processes as defined in Sec 11.5 of DO178 C. There shall be SQAP plan for quality assurance activities.

4.3.4 Software Certification Liaison Process

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This process shall concern with obtaining software certification, and includes all the activities of liaison with concerned authorities (RCMA) and Certification Liaison Group of Design Agency, as applicable.

5. Software Development Environment

Define the chosen software development environment in terms of hardware and software, including the following details:

5.1 Requirements Development Method and Tools

<Define the details of Requirements Development Method and Tools to develop the Software Requirements.>

5.2 Design method(s) and Tools

<Define the details of Requirements Development Method and Tools to develop the Software Requirements.>

5.3 Implementation

< Define coding method(s), programming language(s), coding tool(s) to be used, and when applicable, options and constraints of autocode generators.>

5.4 Compiler

<Define the details of compilers, linkage editors, and loaders to be used.>

5.5 Hardware platforms for the tools

<Define the details of hardware platforms required to run the tools which shall be used for entire Software Development Cycle>. E.g. Computer with X processor Capabilities, OS Requirements, Memory Requirements, Emulator etc

6. Others

6.1 Documentation

<Define Software Life Cycle Data (Documents, Reports etc) to be generated as per applicable phase of Software Development Cycle. These shall be released and controlled as per guidelines given in SCMP>.

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6.2 Schedules and Milestones

<Define schedules and milestones of the project, so that development team and certification authority may work together with the proposed time schedule to achieve phase wise milestones>.

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