Book C. Topics

This section contains special features and topics which contain material that is broader than any one Software Engineering requirement. Many take the form of how-to's and tutorials for those wishing to learn about the state of software engineering within NASA.

7.1 - History and Overview of the Software Process Improvement (SPI) Effort - addresses the history of the NASA software improvement efforts to provide a background for the development of this electronic handbook

7.2 - Classification Tool and Safety-Critical Assessment Tool - interactive tools to aid those responsible for determining the software classification and the software safety criticality

7.3 - Acquisition Guidance - guidance for implementing acquisition, intended for all persons responsible through the process, from the planning stages through contract closeout

7.4 - Flowdown of NPR Requirements on Contracts and to Other Centers in Multi-Center Projects - provides suggestions to the software lead for levying the Agency-level requirements contained in NPR 7150.2 to contracts and multi-center projects

7.5 - Work Breakdown Structures That Include Software - provides guidance on the development of a work breakdown structure (WBS) for software on projects

7.6 - Software Test Estimation and Testing Levels - provides guiding principles and best practices pertaining to software test estimation and a description of the typical "levels" of testing performed for a software project

7.7 - Software Architecture Description - recommends the kinds of content that should appear in a software architecture description for NASA projects

7.8 - Maturity of Life Cycle Products at Milestone Reviews - provides current guidance approved by the NASA Office of the Chief Engineer (OCE) for software engineering life cycle products and their maturity level at life cycle reviews

7.9 - Entrance and Exit Criteria - focused on the responsibilities of the software engineering community throughout the project life cycle reviews, in the areas of Entrance Criteria, Exit Criteria, and Materials for Review

7.10 - Peer Review and Inspections Including Checklists - describes the role of Peer Reviews and Inspections in d etecting potential product defects and evaluating defects and tracking solutions integration into the product

7.11 - Model Based Development and Auto-generated Code - addresses guidance for projects that desire to use model based development (MBDS)

7.12 - Qualification of Flight Software - provides guidance in completing the qualification of flight software according to Agency-level requirements contained in the NPR 7150.2

7.13 - Transitioning to a Higher Class - addresses guidance for projects that desire to transition software from a lower to a higher classification

7.14 - Implementing Measurement Requirements and Analysis for Projects - guidance on software measurement throughout the lifecycle, from the planning stages through implementation stages of collection, analysis and reporting

7.15 - Relationship Between NPR 7150.2 and NASA-STD-7009 - discusses the relationship to NASA-STD-7009 (Models and Simulation)

7.16 - Traceability of 7150.2 to Other NPRs and NASA-STDs - Mapping of 7150.2 to 7120.4D, 7123.1A, 7 120.5D, NASA-STD-8739.8, NASA-STD-8719.13B

7.17 - 7150.2A Appendices (Definitions, References, etc.) - content from the Appendices of NPR 7150.2A