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Systems and software engineering — Life cycle management —

Part 7:
Application of systems engineering on defense programs

Ingénierie des systèmes et du logiciel — Gestion du cycle de vie —

Partie 7: Application de l'ingénierie des systèmes aux programmes de défense

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IEEE Standard for Application of Systems Engineering on Defense Programs

Sponsor

Software & Systems Engineering Standards Committee
of the
IEEE Computer Society

Approved 10 December 2014

IEEE-SA Standards Board

Abstract: The requirements for the application of ISO/IEC/IEEE 15288, System Life Cycle Processes for defense systems engineering needs are provided in this standard. This standard implements ISO/IEC/IEEE 15288 for use by United States Department of Defense (DoD) organizations and other defense agencies in acquiring systems or systems engineering support. While primarily supporting the acquirer-supplier agreement mode, this standard also can be used to support the other modes: use by organizations, projects, and process assessors. This standard provides the basis for selection, negotiation, agreement, and performance of necessary systems engineering activities and delivery of products, while allowing flexibility for both innovative implementation and tailoring of the specific systems engineering process(es) to be used by system suppliers, either contractors or government system developers, integrators, maintainers, or sustainers.

Keywords: 15288, acquisition, agreement processes, allocated baseline, attributes, defense program, Department of Defense, functional baseline, IEEE 15288.1™, information management, life cycle processes, organizational project-enabling processes, outputs, process activities, process outcomes, process tasks, product baseline, project assessment, system life cycle, systems engineering, technical management processes, technical processes

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Introduction

This introduction is not part of IEEE Std 15288.1-2014, IEEE Standard for Application of Systems Engineering on Defense Programs.

For effective and efficient application of ISO/IEC/IEEE 15288 on defense programs, additional application requirements are needed. ISO/IEC/IEEE 15288 is written in a general manner to address all types of systems and different modes of application. Thus, it does not have requirements specific to the use by defense projects that facilitate effective implementation of an acquirer-supplier agreement, such as use in defense contracts.

This standard implements ISO/IEC/IEEE 15288 for application on defense programs, providing the defense-specific language and terminology to help ensure the correct application of acquirer-supplier requirements for a defense program. This standard includes the expected/required outputs and associated attributes.

Contents

IEEE Standard for Application of Systems Engineering on Defense Programs

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1. Overview

1.1 Scope

This standard establishes the requirements for systems engineering activities to be performed on projects of the United States (US) Department of Defense (DoD) and other defense agencies across the entire system life cycle, including the planning, acquisition, modification, and sustainment of defense systems. It provides the foundation for systems engineering within the context of ISO/IEC/IEEE 15288[1] and the acquisition environment of DoD and other defense agencies at all levels of system hierarchy. This standard provides detailed requirements for the application of the life cycle processes, activities, and tasks of ISO/IEC/IEEE 15288 for use on any defense system and includes the effective integration of agreement processes, technical processes, technical management processes, and essential specialty engineering requirements.

1.2 Purpose

This standard provides requirements for the application of ISO/IEC/IEEE 15288 for defense systems engineering needs. This standard implements ISO/IEC/IEEE 15288 for use by DoD organizations and other defense agencies in acquiring systems or systems engineering support. While primarily supporting the

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[1]Information on normative references can be found in Clause 2.

acquirer-supplier agreement mode, this standard also can be used to support the other modes: use by organizations, projects, and process assessors. This standard provides the basis for selection, negotiation, agreement, and performance of necessary systems engineering activities and delivery of products, while allowing flexibility for both innovative implementation and tailoring of the specific systems engineering process(es) to be used by system suppliers, either contractors or government system developers, integrators, maintainers, or sustainers.

1.3 Conformance

1.3.1 Intended usage

ISO/IEC/IEEE 15288:2015 2.1 "Intended usage" shall apply.

1.3.2 Full conformance

1.3.2.1 Full conformance to outcomes

ISO/IEC/IEEE 15288:2015 2.2.1 "Full conformance to outcomes" shall apply.

1.3.2.2 Full conformance to tasks

ISO/IEC/IEEE 15288:2015 2.2.2 "Full conformance to tasks" shall apply.

1.3.3 Tailored conformance

ISO/IEC/IEEE 15288:2015 2.3 "Tailored conformance" shall apply with the following additions:

The agreement between the acquirer and supplier shall include the systems engineering requirements based on the tailoring (or other adaptation) of the requirements of this standard to address the program situation.

The assessment of the supplier is based on the compliance to the agreement. The agreement shall include the means by which compliance will be determined (which may include accomplishment of outcomes, completion of tasks, or delivery of outputs).

NOTE—The acquirer request for proposal may include the intended tailoring (or other adaptation) of the systems engineering requirements from this standard. The supplier may propose changes or alternatives during the steps to finalize the agreement.

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

IEEE Std 15288.1-2014
IEEE Standard for Application of Systems Engineering on Defense Programs

IEEE Std 15288.2™-2014, IEEE Standard for Technical Reviews and Audits on Defense Programs.[2]

ISO/IEC/IEEE 15288:2015(E), Systems and software engineering—System life cycle processes.[3]

SAE/EIA-649-1 (2014), Configuration Management Requirements for Defense Contracts.[4]

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[2]IEEE publications are available from The Institute of Electrical and Electronics Engineers, 445 Hoes Lane, Piscataway, NJ 08854, USA (http://standards.ieee.org/).

[3]ISO/IEC publications are available from the ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland (http://www.iso.org/). ISO/IEC publications are available in the United States from the American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, NY 10036, USA (http://www.ansi.org/).

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